

COMMONWEALTH OF KENTUCKY  
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF DUKE ENERGY )  
KENTUCKY, INC. FOR: 1) AN ADJUSTMENT )  
OF THE ELECTRIC RATES; 2) APPROVAL OF )  
AN ENVIRONMENTAL COMPLIANCE PLAN )  
AND SURCHARGE MECHANISM; 3) APPROVAL ) CASE NO.  
OF NEW TARIFFS; 4) APPROVAL OF ACCOUNTING ) 2017-00321  
PRACTICES TO ESTABLISH REGULATORY ASSETS )  
AND LIABILITIES; AND 5) ALL OTHER REQUIRED )  
APPROVALS AND RELIEF )

**ATTORNEY GENERAL’S RESPONSES TO DATA REQUESTS  
OF DUKE ENERGY KENTUCKY, INC.**

Comes now the intervenor, the Attorney General of the Commonwealth of Kentucky, by and through his Office of Rate Intervention, and submits the following responses to data requests of Duke Energy Kentucky, Inc. [“DEK” “Duke” or “Company”], in the above-styled matter.

Respectfully submitted,

ANDY BESHEAR  
ATTORNEY GENERAL



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Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of  
New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
And 5) All Other Required Approvals And Relief

Case No. 2017-00321

Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Counsel as to objection

QUESTION No. 1

Page 1 of

Does the Attorney General have a Joint Defense Agreement with any party to this proceeding?

- (a) If the answer is in the affirmative, provide a copy of said agreement.
- (b) If the answer is in the negative, please state whether the Attorney General has had any conversations with any Intervening Party to this proceeding regarding the company's rate application, revenue requirements, adjustments to the Company's revenue requirements, etc.
- (c) If the answer is in the negative, has Mr. Kollen had any conversations with any other party to his proceeding?
- (d) If the answer is in the affirmative, provide a list of all such conversations, the dates, copies of any emails, letters, opinions, studies, etc. that depict the nature of any conversations between Mr. Kollen and any other party to this proceeding.

RESPONSE:

Objection. These questions seek information that is not relevant to the proceeding. Whether or not the Attorney General has a Joint Defense Agreement or whether he or his experts have had "conversations" with other parties is immaterial to whether or not Duke Energy Kentucky's rates are fair, just and reasonable. Furthermore, the Attorney General objects to the questions on the basis of Work Product and/or Attorney-Client Privileges.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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And 5) All Other Required Approvals And Relief

Case No. 2017-00321

Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Counsel as to objection

QUESTION No. 2

Page 1 of 1

Other than Messrs. Watkins, Kollen, and Baudino, please identify any persons, including experts whom the Attorney General has consulted, retained, or is in the process of retaining with regard to evaluating the Company's Application in this proceeding.

RESPONSE:

Objection. These questions seek information that is not relevant to the proceeding. The Attorney General has provided three (3) expert witnesses for the purposes of providing pre-filed direct testimony on the subject of the Company's Application and its rates and service. The Company has the burden in this matter, not the Attorney General. Furthermore, the Attorney General objects to the questions on the basis of Work Product and/or Attorney-Client Privileges.



Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
And 5) All Other Required Approvals And Relief

Case No. 2017-00321

Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Counsel as to objection

QUESTION No. 3

Page 1 of 1

For each person identified in (prior) response to Interrogatory No. 2 above, please state (1) the subject matter of the discussions/consultations/evaluations; (2) the written opinions of such persons regarding the Company's Application; (3) the facts to which each person relied upon; and (4) a summary of the person's qualifications to render such discussions/consultations/evaluations.

RESPONSE:

See response to Question No. 2.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates; 2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities; And 5) All Other Required Approvals And Relief

Case No. 2017-00321

Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Counsel as to objection

QUESTION No. 4

Page 1 of 1

For each person identified in response to Interrogatory No. 2 above, please identify all proceedings in all jurisdictions in which the witness/persons has offered evidence, including but not limited to, pre-filed testimony, sworn statements, and live testimony. For each response, please provide the following:

- (a) The jurisdiction in which the testimony or statement was pre-filed, offered, given, or admitted into the record;
- (b) The administrative agency and/or court in which the testimony or statement was pre-filed, offered, admitted, or given;
- (c) The date(s) the testimony or statement was pre-filed, offered, admitted, or given;
- (d) The identifying number for the case or proceeding in which the testimony or statement was pre-filed, offered, admitted, or given; and
- (e) Whether the person was cross-examined.

RESPONSE:

See response to Question No. 2.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of  
New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
And 5) All Other Required Approvals And Relief

Case No. 2017-00321

Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Counsel as to objection

QUESTION No. 5

Page 1 of 1

Identify and provide all documents or other evidence that the Attorney General may seek to introduce as exhibits or for purposes of witness examination in the above-captioned matter.

RESPONSE:

Objection. This question seeks information that is covered by the Attorney-Client and/or Work Product privileges.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of  
New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
And 5) All Other Required Approvals And Relief

Case No. 2017-00321

Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen, Rick Baudino & and Glenn Watkins

QUESTION No. 6

Page 1 of 1

Please provide copies of all pre-filed testimony provided by Messrs. Watkins, Kollen, and Baudino in any utility regulatory proceeding in any jurisdiction in the last five years.

RESPONSE:

Mr. Kollen's and Mr. Baudino's expert testimonies are listed in their exhibits. See Attachment "GAW Testimony List" for the Mr. Watkins' expert testimonies.

These testimonies are publicly available in the various state and federal commission websites.

**EXPERT TESTIMONY  
PROVIDED BY  
GLENN A. WATKINS**

YEAR	CASE NAME	JURISDICTION	DOCKET NO.	SUBJECT OF TESTIMONY
1985	SAVANNAH ELECT. & PWR CO.	GA. PSC	3523U	SALES FORECAST, RATE DESIGN ISSUES
1990	CENTRAL MAINE PWR CO.	ME. PUC	89-68	MARGINAL COST OF SERVICE
1990	COMMONWEALTH GAS SERVICES ( Columbia Gas)	VA. SCC	PUE900034	CLASS COST OF SERVICE
1990	WARNER FRUEHAUF	U.S. BANKRUPTCY CT.	n/a	VALUE OF STOCK, COST OF CAPITAL
1991	W. VA. WATER	WVA PSC	91-140-W-42T	RATE DESIGN
1992	S.C. WORKERS COMPENSATION	SC DEPT OF INSUR	92-034	INTERNAL RATE OF RETURN
1992	GRASS v. ATLAS PLUMBING, et.al.	RICHMOND CIRCUIT CT	n/a	DAMAGES, BREACH OF COVENANT NOT TO COMPETE (PROFFERED TEST)
1992	VIRGINIA NATURAL GAS	VA SCC	PUE920031	JURISDICTIONAL & CLASS COST OF SERVICE
1992	ALLSTATE INSURANCE COMPANY (DIRECT)	N.J. DEPT OF INSUR	INS 06174-92	COST ALLOCATIONS, PROFITABILITY
1992	ALLSTATE INSURANCE COMPANY (REBUTTAL)	N.J. DEPT OF INSUR	INS 06174-92	COST ALLOCATIONS, PROFITABILITY
1993	MOUNTAIN FORD v FORD MOTOR COMPANY	FEDERAL DISTRICT CT	n/a	VEHICLE ALLOCATIONS, INVENTORY LEVELS, INCREMENTAL PROFIT, & DAMAGES
1993	SOUTH WEST GAS CO.	AZ. CORP COMM	U-1551-92-253	DIRECT: CLASS COST ALLOCATIONS
1993	SOUTH WEST GAS CO.	AZ. CORP COMM	U-1551-92-253	SURREBUTTAL: CLASS COST ALLOCATIONS
1993	POTOMAC EDISON CO.	VA. SCC	PUE930033	COST ALLOCATIONS,RATE DESIGN
1995	VIRGINIA AMERICAN WATER CO.	VA. SCC	PUE950003	JURISDICTIONAL ALLOCATIONS
1995	NEW JERSEY AMERICAN WATER COMPANY	N.J. B.P.U.	WR95040165	COST ALLOCATIONS,RATE DESIGN
1995	PIEDMONT NATURAL GAS COMPANY	S.C. P.S.C.	95-715-G	COST ALLOCATIONS,RATE DESIGN,WEATHER NORMALIZATION
1995	CYCLE WORLD v. HONDA MOTOR CO.	VA. DMV	None	MARKET PERFORMANCE, FINANCIAL IMPACT OF NEW DEALER
1996	HOUSE BILL # 1513	VA. GEN'L ASSEMBLY	N/A	WATER / WASTEWATER CONNECTION FEES
1996	VIRGINIA AMERICAN WATER CO.	VA. SCC	PUE950003	JURISDICTIONAL ALLOCATIONS
1996	ELIZABETHTOWN WATER CO.	N.J. B.P.U.	WR95110557	COST ALLOCATIONS,RATE DESIGN
1996	ELIZABETHTOWN WATER CO.	N.J. B.P.U.	WR95110557	SURREBUTTAL COST ALLOCATIONS,RATE DESIGN
1996	SOUTH JERSEY GAS CO.	N.J. B.P.U.	GR96010032	CLASS COST OF SERVICE
1996	VIRGINIA LIABILITY INSURANCE COMPETITION	VA. SCC	INS960164	COST ALLOCATIONS, INSURANCE PROFITABILITY
1996	SOUTH JERSEY GAS CO.	N.J. B.P.U.	GR96010032	REBUTTAL - CLASS COST OF SERVICE
1996	HOUSE BILL # 1513	VA. GEN'L ASSEMBLY	N/A	WATER / WASTEWATER CONNECTION FEES
1997	NISSAN v. CRUMPLER NISSAN	VA. DMV	None	MARKET DETERMINATION & PERFORMANCE
1997	PHILADELPHIA SUBURBAN WATER CO. (DIRECT)	PA. PUC	R-00973952	COST ALLOCATIONS,RATE DESIGN,RATE DISCOUNTS
1997	PHILADELPHIA SUBURBAN WATER CO. (REBUTTAL)	PA. PUC	R-00973952	COST ALLOCATIONS,RATE DESIGN,RATE DISCOUNTS
1997	PHILADELPHIA SUBURBAN WATER CO. (SURREBUTTAL)	PA. PUC	R-00973952	COST ALLOCATIONS,RATE DESIGN,RATE DISCOUNTS
1997	VIRGINIA AMERICAN WATER CO.	VA. SCC	PUE970523	JURISDICTIONAL/CLASS ALLOCATIONS
1998	VIRGINIA ELECTRIC POWER COMPANY	VA. SCC	PUE960296	CLASS COST OF SERVICE and TIME DIFFERENTIATED FUEL COSTS
1998	NEW JERSEY AMERICAN WATER COMPANY	N.J. B.P.U.	WR98010015	CLASS COST OF SERVICE,RATE DESIGN, REVENUES
1998	AMERICAN ELECTRIC POWER COMPANY	VA. SCC	PUE960296	CLASS COST OF SERVICE and TIME DIFFERENTIATED FUEL COSTS
1998	FREEMAN WRONGFUL DEATH	FEDERAL DISTRICT CT.		LOST INCOME, WORK EXPECTANCY
1998	EASTERN MAINE ELECTRIC COOPERATIVE	MAINE PUC	98-596	REVENUE REQUIREMENT
1998	CREDIT LIFE/AH RATE FILING	VA. SCC		PRIMA FACIA RATES, LEVEL OF COMPETITION
1999	CREDIT LIFE & A&H LEGISLATION	VA. GEN'L ASSEMBLY	N/A	COST ALLOCATIONS, INSURANCE PROFITABILITY
1999	MILLER VOLKSWAGEN v. VOLKSWAGEN of AMERICA	VA. DMV	None	VEHICLE ALLOCATIONS/CSI
1999	COLUMBIA GAS of VIRGINIA	VA. SCC	PUE980287	RATE STRUCTURE
1999	NCCI (WORKERS COMPENSATION INSURANCE)	VA. SCC	INS990165	WORKERS COMPENSATION RATES
1999	ROANOKE GAS	VA. SCC	PUE980626	Rate Design/ Weather Norm
2000	PERSON-SMITH v. DOMINION REALTY	RICHMOND CIRCUIT	n/a	LOST INCOME
2000	CREDIT LIFE/AH RATE FILING	VA. SCC		PRIMA FACIA RATES, LEVEL OF COMPETITION
2000	UNITED CITIES GAS	VA. SCC		Cost Allocations/ Rate Design
2001	Vermont WORKERS COMPENSATION RATE CASE	VT. INSURANCE COMM.	n/a	WORKERS COMPENSATION RATES
2001	SERRA CHEVROLET v. GENERAL MOTORS CORP.	ALABAMA CIRCUIT CT.	98-2089	ECONOMIC DAMAGES
2001	VIRGINIA POWER ELECTRIC RESTRUCTURING	VA. SCC	PUE000584	RATE Design (UNBUNDLING)
2001	AMERICAN ELECTRIC POWER RESTRUCTURING	VA. SCC	PUE010011	RATE Design (UNBUNDLING)
2001	NCCI (WORKERS COMPENSATION INSURANCE)	VA. SCC	INS010190	WORKERS COMPENSATION RATES
2002	PHILADELPHIA SUBURBAN WATER CO. (DIRECT)	PA. PUC	R00016750	COST ALLOCATIONS AND RATE DESIGN
2002	HAROLD MORRIS PERSONAL INJURY	FED. DIST CT (RICHMOND)	n/a	LOST WAGES
2002	PIEDMONT NATURAL GAS	S.C. PSC	2002-63-G	REVENUE RQMT, COST OF CAPITAL
2002	VIRGINIA AMERICAN WATER COMPANY	VA. SCC	PUE-2002-00375	JURISDICTIONAL/CLASS ALLOCATIONS
2002	ROANOKE GAS COMPANY	VA. SCC	PUE-2002-00373	WEATHER NORMALIZATION RIDER
2002	SOUTH CAROLINA ELECTRIC & GAS (ELECTRIC)	S.C. PSC	2002-223-E	REVENUE RQMT.
2003	NCCI (WORKERS COMPENSATION INSURANCE)	VA. SCC	INS-2003-00157	WORKERS COMPENSATION RATES
2003	CREDIT LIFE/AH RATE FILING	VA. SCC		PRIMA FACIA RATES, LEVEL OF COMPETITION

**EXPERT TESTIMONY  
PROVIDED BY  
GLENN A. WATKINS**

YEAR	CASE NAME	JURISDICTION	DOCKET NO.	SUBJECT OF TESTIMONY
2003	ROANOKE GAS	VA. SCC	PUE-2003-00425	WEATHER NORMALIZATION ADJUSTMENT RIDER
2003	SOUTHWESTERN VIRGINIA GAS CO.	VA. SCC	PUE-2003-00426	WEATHER NORMALIZATION ADJUSTMENT RIDER
2004	SOUTH CAROLINA PIPELINE COMPANY	S.C. PSC	2004-6-G	COST OF GAS AND INTERRUPT. SALES PROGRAM
2004	VIRGINIA AMERICAN WATER COMPANY	VA. SCC	PUE-2003-00539	JURISDICTIONAL/CLASS ALLOCATIONS
2004	SCE&G FUEL CONTRACT	S.C. PSC	2004-126-E	GAS CONTRACT FOR COMBINED CYCLE PLANT
2004	WASHINGTON GAS LIGHT	VA. SCC	PUE-2003-00603	RATE DESIGN/ WNA RIDER
2004	ATMOS ENERGY	VA. SCC	PUE-2003-00507	RATE DESIGN/ WNA RIDER
2004	SCE&G RATE CASE (ELECTRIC)	S.C. PSC	2004-178-E	COST OF CAPITAL/ REV RQMT.
2004	MEDICAL MALPRACTICE LEGISLATION	VA. GENERAL ASSEMBLY	N/A	INDUSTRY RESTRUTURE/ PROFITABILITY
2004	ATLAS HONDA v. HONDA MOTOR CO.	VA. DMV	None	NEW DEALER PROTEST
2004	NCCI (WORKERS COMPENSATION INSURANCE)	VA. SCC	INS-2004-00124	WORKERS COMPENSATION RATES
2004	NATIONAL FUEL GAS DISTRIBUTION	PA. PUC	R00049656	COST ALLOCATIONS/ RATE DESIGN
2005	WASHINGTON GAS LIGHT	VA SCC	PUE-2005-00010	WEATHER NORMALIZATION ADJUSTMENT RIDER
2005	Serra Chevrolet	US Federal Ct.	CV-01-P-2682-S	Dealer incremental profits and costs
2005	NEWTOWN ARTESIAN WATER	PA. PUC		REV. RQMT./ RATE STRUCTURE
2005	CITY OF BETHLEHEM WATER RATE CASE	PA. PUC		REV. RQMT./ RATE STRUCTURE
2005	NCCI (WORKERS COMPENSATION INSURANCE)	VA SCC	INS-2005-00159	WORKERS COMPENSATION RATES
2005	Virginia Natural Gas	VA SCC	PUE-2005-00057	Revenue Requirement/ Alt. Regulation Plan
2006	Olathe Hyundai v. Hyundai Motors of America	KS DMV	None	Dealer impact analysis
2006	Virginia Credit Life & A&H Prima Facia Rates	VA SCC	INS-2006-00013	Market Structure
2006	Columbia Gas of Virginia	VA SCC	PUE-2005-00098	Revenue Requirements/ Alt. Regulation Plan
2006	PPL Gas	PA. PUC	R-00061398	COST ALLOCATIONS/ RATE DESIGN
2006	NCCI (WORKERS COMPENSATION INSURANCE)	VA SCC	INS-2006-00197	WORKERS COMPENSATION RATES
2007	Level of Private Pass. Auto Competition	Ma. Dept of Insur	N/A	Private Pass Auto level of competition
2007	WASHINGTON GAS LIGHT	VA SCC	PUE-2006-00059	Cost Allocations/ Rate Design/ Alt Regulation Plan
2007	Valley Energy	PA. PUC	R-00072349	Cost of Capital/Rate Design
2007	Wellsboro Electric	PA. PUC	R-00072350	Cost of Capital/Rate Design
2007	Citizens' Electric Of Lewisburg, Pa	PA. PUC	R-00072348	Cost of Capital/Rate Design
2007	NCCI (WORKERS COMPENSATION INSURANCE)	VA SCC	INS-2007-00224	WORKERS COMPENSATION RATES
2007	Georgia Power	Ga.PSC	25060-U	Cost Allocations/Rate Design
2008	Columbia Gas of Pennsylvania	PA. PUC	R-2008-2011621	COST ALLOCATIONS/ RATE DESIGN
2008	Greenway Toll Road Investigation	VA. GENERAL ASSEMBLY	N/A	Affiliate Transactions
2008	Puget Sound Energy (Electric)	Wa. UTC	UE-072300	Cost Allocations/Rate Design
2008	Puget Sound Energy (Gas)	Wa. UTC	UE-072301	Cost Allocations/Rate Design
2008	Blue Grass Electric Cooperative	Ky PSC	2008-00011	Cost Allocations/Rate Design
2008	Columbia Gas of Ohio	OH PUC	08-72-GA-AIR, et. al	Cost Allocations/Rate Design
2008	Virginia Natural Gas	Va SCC	PUE-2008-00060	Natl Gas Conservation/ Revenue Decoupling
2008	Equitable Natural Gas	PA. PUC	R-2008-2029325	Cost Allocations/Rate Design/ Discounted Rates
2008	LG&E (Electric)	Ky PSC	2008-000252	Cost Allocations/Rate Design/ Weather Normalization
2008	LG&E (Natural Gas)	Ky PSC	2008-000252	Cost Allocations/Rate Design
2008	Kentucky Utilities	Ky PSC	2008-00251	Cost Allocations/Rate Design/ Weather Normalization
2008	Pike County Natural Gas	PA. PUC	R-2008-2046520	Cost Allocations/Rate Design
2008	Pike County Electric	PA. PUC	R-2008-2046518	Cost Allocations/Rate Design
2008	Newtown Artesian Water	PA. PUC	R-2008-2042293	Revenue Requirement
2009	Leesburg Water & Sewer	Va. Circuit Ct.	Civil Action 42736	Revenue Requirement/ Excess Rates
2009	Central Penn Gas, Inc.	PA. PUC	R-02008-2079675	Cost Allocation/Rate Design
2009	Penn Natural Gas, Inc.	PA. PUC	R-2008-2079660	Cost Allocation/Rate Design
2009	Credit Life/ A&H ratemaking	Va. SCC	n/a	Market Structure and Availability
2009	Fairfax County v. City of Falls Church Virginia	Fairfax Circuit Ct. ( Va.)	CL-2008-16114	Water Revenue Requirement
2009	Avista Utilities ( Electric)	Wa. UTC	UE-090134	Electric rate Design
2009	Avista Utilities ( Gas)	Wa. UTC	UG-090135	Gas Rate design
2009	Columbia Gas of Kentucky	Ky PSC	2009-00141	Cost Allocations/Rate Design
2009	NCCI (Workers Compensation Rates)	VA SCC	INS-2009-00142	Workers Compensation Rates
2009	Duke Energy of Kentucky (Gas)	Ky. PSC	2009-00202	Rate Design
2009	Duke Energy Carolinas (Electric)	NC UC	E-7 Sub 909	Cost Allocations/Rate Design
2009	PacifiCorp	Wa. UTC	UE-090205	Rate Design/Low Income
2009	Puget Sound Energy (Electric)	Wa. UTC	UE-090704	Cost Allocations/Rate Design
2009	Puget Sound Energy (Gas)	Wa. UTC	UG-090705	Cost Allocations/Rate Design

**EXPERT TESTIMONY  
PROVIDED BY  
GLENN A. WATKINS**

YEAR	CASE NAME	JURISDICTION	DOCKET NO.	SUBJECT OF TESTIMONY
2009	United Water of Pennsylvania	PA PUC	2009-212287	Cost Allocations/Rate Design
2010	Aqua Virginia, Inc.	VA SCC	PUE-2009-00059	Rate Design
2010	Kentucky Utilities	Ky PSC	2009-00548	Cost Allocations/Rate Design/ Weather Normalization
2010	LG&E (Electric)	Ky PSC	2009-00549	Cost Allocations/Rate Design
2010	LG&E (Natural Gas)	Ky PSC	2009-00549	Cost Allocations/Rate Design/ Weather Normalization
2010	Philadelphia Gas Works	PA PUC	2009-2139884	Cost Allocations/Rate Design
2010	Columbia Gas of Pennsylvania	PA PUC	2009-2149262	Cost Allocations/Rate Design
2010	PPL Electric Company	PA PUC	2010-2161694	Cost Allocations/Rate Design
2010	York Water Company	PA PUC	2010-2157140	Cost Allocations/Rate Design
2010	Valley Energy, Inc.	PA PUC	2010-2174470	Cost of Capital/Revenue Requirement/Rate Design
2010	NCCI (WORKERS COMPENSATION INSURANCE)	VA SCC	INS-2010-00126	WORKERS COMPENSATION RATES
2010	Columbia Gas of Virginia	VA SCC	PUE-2010-00017	Cost of Capital/Revenue Requirement/Rate Design
2010	Georgia Power Company	GA PSC	Docket No. 31958	Cost Allocations/Rate Design
2010	City of Lancaster, Bureau of Water	PA PUC	R-2010-2179103	Cost of Capital
2011	Columbia Gas of Pennsylvania	PA PUC	R-2010-2215623	Cost Allocations/Rate Design
2011	Owen Electric Cooperative	KY PSC	PUE-2011-00037	Rate Design
2011	Virginia Natural Gas	VA SCC	PUE-2010-00142	Pipeline Prudency/Cost Allocations/Rate Design
2011	United Water of Pennsylvania	PA PUC	2011-2232985	Cost Allocations/Rate Design
2011	PPL Electric Company (Remand)	PA PUC	2010-2161694	Negotiated Industrial Rate
2011	NCCI (WORKERS COMPENSATION INSURANCE)	VA SCC	2011-00163	WORKERS COMPENSATION RATES
2011	Artesian Water Company	DE PSC	11-207	Cost Allocations/Rate Design
2011	Arizona-American Water Company	AZ. CORP COMM	W-01303A-10-0448	Excess Capacity/Need For Facilities
2012	Tidewater Utilities, Inc.	DE PSC	11-397	Cost of Capital/Revenue Requirement/Rate Design
2012	PPL Electric	PA PUC	R-2012-2290597	Cost Allocations/Rate Design
2012	NCCI (WORKERS COMPENSATION INSURANCE)	VA SCC	INS-2012-00144	WORKERS COMPENSATION RATES
2012	Credit Life Accident & Health	VA SCC	INS-2012-00014	Market Structure and Performance
2012	Avista Utilities ( Electric)	Wa. UTC	UE-120436	Electric rate Design
2012	Avista Utilities ( Gas)	Wa. UTC	UG-120437	Gas Rate design
2012	Kentucky Utilities	Ky PSC	2012-00221	Cost Allocations/Rate Design/ Weather Normalization
2012	LG&E (Electric)	Ky PSC	2012-00222	Cost Allocations/Rate Design
2012	LG&E (Natural Gas)	Ky PSC	2012-00222	Cost Allocations/Rate Design/ Weather Normalization
2012	Columbia Gas of Pennsylvania	PA PUC	2012-2321748	Cost Allocations/Rate Design/Revenue Distribution
2013	Virginia Natural Gas - CARE Plan	VA SCC	2012-00118	Energy Conservation and Decoupling
2013	Columbia Gas of Maryland	MD OPC	9316	Cost Allocations/Rate Design
2013	Delmarva Power & Light	DE PSC	12-546	Revenue Requirement/Rate Design
2013	PacifiCorp	Wa. UTC	13-0043	Residential Customer Charges
2013	Gas-On-Gas Competition - Generic Investigation	PA PUC	2012-232-0323	Treatment of Rate Discounts
2013	Northern Virginia Electric Cooperative Pole Attachment Fees	VA SCC	2013-00055	Financial Performance
2013	Georgia Power Company	GA PSC	36989	Cost Allocations/Rate Design
2013	Atmos Energy Kentucky	KY PSC	2013-00148	Cost Allocations/Rate Design
2013	Columbia Gas of Kentucky	KY PSC	2013-00167	Cost Allocations/Rate Design
2013	NCCI (Workers Compensation Insurance)	VA SCC	INS-2013-00158	Workers Compensation Rates
2013	Duquesne Light Company	PA PUC	R-2013-2372129	Cost Allocations/Rate Design
2014	CITY OF BETHLEHEM WATER RATE CASE	PA PUC	R-2013-2390244	Cost of Capital
2014	PEPCO Maryland	MD OPC	9336	Rate Design
2014	Avista Utilities, Inc. (Gas)	Wa. UTC	UG-140189	Cost Allocations/Rate Design
2014	Tidewater Utilities, Inc.	DE PSC	13-466	Cost of Capital/Rate Design
2014	Columbia Gas of Pennsylvania	PA PUC	R-2014-2406274	Cost Allocations/Rate Design
2014	Columbia NAS Pilot	PA PUC	R-2014-2407345	Mains Extension Policy
2014	Emporium Water Company	PA PUC	R-2014-2402324	Cost of Capital
2014	City of Lancaster, Bureau of Water	PA PUC	R-2014-2418872	Cost of Capital
2014	NCCI (Workers Compensation Insurance)	VA SCC	INS-2014-00172	Workers Compensation Rates
2014	Artesian Water Company	DE PSC	14-132	Revenue Requirement/Rate Design
2014	Peoples Service Expansion Tariff	PA PUC	R-2014-2429613	Mains Extension Policy
2014	PacifiCorp	Wa. UTC	UE-140762	Cost Allocations/Rate Design
2015	Exelon/PHI Acquisition	DE PSC	14-193	Merger/Acquisition
2015	Choptank Electric Cooperative	MD OPC	9368	Cost Allocations/Rate Design
2015	PECO Energy Company-Service Expansion Tariff	PA PUC	R-2014-2451772	Mains Extension Policy

**EXPERT TESTIMONY  
PROVIDED BY  
GLENN A. WATKINS**

YEAR	CASE NAME	JURISDICTION	DOCKET NO.	SUBJECT OF TESTIMONY
2015	Indianapolis Power & Light	Indiana OUCC	44576	Cost Allocations/Rate Design
2015	Columbia Gas of Virginia	VA SCC	PUE-2014-00020	Rate Design-Customer Charges
2015	PPL Electric Corporation	PA PUC	R-2015-2469275	Cost Allocations/Rate Design
2015	PECO Energy Company	PA PUC	R-2015-2468981	Cost Allocations/Rate Design
2015	Credit Life/AH Rate Filing	VA SCC	INS-2015-00022	Market Structure and Performance
2015	NCCI (Workers Compensation Insurance)	VA SCC	INS-2015-00064	Workers Compensation Rates
2016	Northern Indiana Public Service Company	Indiana OUCC	Cause No. 44688	Cost Allocations/Rate Design
2016	Washington Suburban Sanitary Complaint Commission	MD OPC	Case No. 9391	Rate Structure
2016	UGI Utilities, Inc. - Gas Division	PA PUC	R-2015-2518438	Cost Allocations/Rate Design
2016	Cascade Natural Gas	WA UTC	UG-152286	Revenue Requirements
2016	Chesapeake Utilities, Inc.	DE PSC	15-1734	Revenue Requirements/Cost Allocations/Rate Design
2016	Suez Water Company	DE PSC	16-0163	Revenue Requirements/Cost Allocations/Rate Design
2016	Avista Utilities, Inc. (Gas & Electric)	WA UTC	UE-160228/UG-160229	Attrition
2016	Anthem/Cigna Merger	VA SCC	INS-2015-00154	Market Structure/Level of Competition
2016	Columbia Gas of Maryland	MD OPC	Case No. 9417	Cost Allocations/Rate Design/Main Line Extensions Policy
2016	Peoples Service Expansion Tariff	PA PUC	R-2016-2542918	Mains Extension Policy
2016	NCCI (Workers Compensation Insurance)	Va SCC	INS-2016-00158	Workers Compensation Rates: Cost of Capital, IRR
2016	Kansas Gas Service	KS CURB	16-KGSG-491-RTS	Cost Allocations/Rate Design
2016	Delmarva Power & Light - Electric	DE PSC	16-0649	Revenue Requirements/Cost Allocations/Rate Design
2016	Delmarva Power & Light - Gas	DE PSC	16-0650	Revenue Requirements/Cost Allocations/Rate Design
2016	Washington Gas Light	VA SCC	PUE-2016-00001	Cost Allocations/Rate Design
2016	Kentucky Utilities	Ky PSC	2016-00370	Cost Allocations/Rate Design
2016	Louisville Gas & Electric	Ky PSC	2016-00371	Cost Allocations/Rate Design
2016	Atlantic City Sewerage	NJ Rate Counsel	WR16100957	Cost of Capital
2017	UGI Penn Natural Gas	PA PUC	R-2016-2580030	Cost Allocations/Rate Design
2017	Puget Sound Energy	WA UTC	UE-170033 & UG-170034	Cost Allocations/Rate Design
2017	Pennsylvania-American Water	PA PUC	R-2017-259583	Cost of Capital
2017	Virginia Natural Gas	VA SCC	PUE-2016-00143	Cost Allocations/Rate Design
2017	Aqua-Limerick Valuations	PA PUC	A-2017-260534	Discounted Cash Flow Valuation
2017	PAWC-McKeesport Valuations	PA PUC	A-2017-2606103	Discounted Cash Flow Valuation
2017	Indiana Michigan Power Company	Indiana OUCC	Cause No. 44967	Cost Allocations/Rate Design
2017	Choptank Electric Cooperative	MD OPC	Case No. 9459	Rate Design
2017	NCCI (Workers Compensation Insurance)	Va SCC	INS-2017-00059	Workers Compensation Rates: Cost of Capital, IRR
2017	Duke Energy Kentucky	Ky PSC	2017-00321	Cost Allocations/Rate Design



Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of  
New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
And 5) All Other Required Approvals And Relief

Case No. 2017-00321

Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen, Rick Baudino & Glenn Watkins

QUESTION No. 7

Page 1 of 1

Please provide copies of any and all documents, analysis, summaries, white papers, work papers, spreadsheets (electronic versions with cells intact), including drafts thereof, as well as any underlying supporting materials created by Messrs. Watkins, Kollen, and Baudino as part of their evaluation of the Company's Application or used in the creation of Messrs. Watkins, Kollen, and Baudino's testimony.

RESPONSE:

A portion of Mr. Kollen's electronic workpapers were filed with the Commission in this docket along with his testimony. The workpaper that was not included in the docket along with testimony is listed below and will be provided on disk to the Commission. The responsive workpaper includes information that was provided to the Attorney General's office under a confidentiality agreement and was filed with the Commission under a pending motion for confidentiality.

Confidential\_AMI\_Benefit\_15\_years.xlsx

With respect to Mr. Watkins, see the attached documents:

BIP Analysis-GAW-3.xls

CCOSS-BIP.xls

CCOSS-P&A.xls

Customer Cost Analysis-GAW-6.xls

Duke Rev Dist-GAW-5.xls

P&A-GAW-4.xls

For Mr. Baudino, see the document responsive to Staff DR 1-21, from the AG.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of  
New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
And 5) All Other Required Approvals And Relief

Case No. 2017-00321

Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen, Rick Baudino & Glenn Watkins

QUESTION No. 8

Page 1 of 2

Please provide copies of any and all documents not created by Messrs. Watkins, Kollen, and Baudino, including but not limited to, analysis, summaries, cases, reports, evaluations, *etc.*, that Messrs. Watkins, Kollen, and Baudino relied upon, referred to, or used in the development of their testimony.

RESPONSE:

Mr. Kollen relied on the Company's Application, testimony and exhibits, discovery responses, and Commission orders in this and other Duke Energy proceedings cited in his testimony, as well Mr. Baudino's testimony in this proceeding.

See relevant pages of Dr. Bonbright's Principles of Public Utility Rates referenced in Mr. Watkins' testimony.

For Mr. Baudino, refer to the material attached to this response and the following Excel documents:

AEE.xlsx	FTS.xlsx
BKH.xlsx	LNT.xlsx
CMS.xlsx	MGEE.xlsx
CNP.xlsx	NWE.xlsx
CPK.xlsx	PCG.xlsx
D.xlsx	PEG.xlsx
DTE.xlsx	SCG.xlsx
DUK.xlsx	SRE.xlsx
ED.xlsx	Value Line Stat. Summ. Nov 30 2017.xlsx
ES.xlsx	VVC.xlsx
FRB_H15-7.xlsx	WEC.xlsx
FTS.TO.xlsx	XEL.xlsx

Please note that Mr. Baudino did not include copies of the Value Line Investment Survey Reports due to copyright restrictions.

Please note that Mr. Baudino did not include the pages from Dr. Morin's *New Regulatory Finance* cited in footnotes 5 and 6 due to copyright restrictions.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of  
New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
And 5) All Other Required Approvals And Relief

Case No. 2017-00321

Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

## QUESTION No. 8

Page 2 of 2

Please note that copies of the materials cited in footnotes 1 through 4 may be obtained using the web addresses in the footnotes.

Please note that Mr. Baudino did not include material cited in footnote 7 from *A Random Walk Down Wall Street* due to copyright restrictions.

# Principles of Public Utility Rates

*Second Edition*

by

JAMES C. BONBRIGHT  
ALBERT L. DANIELSEN  
DAVID R. KAMERSCHEN

*with assistance of*  
JOHN B. LEGLER

**Public Utilities Reports, Inc.**  
Arlington, Virginia

## INTRODUCTION

In this chapter we consider the merits of a general standard of reasonable rates that has received at least verbal support from many sources: judges, public service commissioners, academic economists, and public utility representatives. This is the standard of the hypothetical competitive price. Regulation, it is said, is a substitute for competition. Hence its objective should be to compel a regulated enterprise, despite its possession of complete or partial monopoly, to charge rates approximating those which it would charge if free from regulation, but subject to the market forces of competition.

This is an intriguing proposition in view of the contention, familiar to economists, that, under a wide range of conditions, purely competitive prices are socially optimum prices. One of its possible virtues is that it may offer definite answers to two formidable sets of questions raised in the preceding chapters: first, questions as to the relevant definitions of "cost of service" and "value of service"; and second, questions as to the respective roles of cost factors and of value or demand factors in price determination. Should cost, for example, be taken to mean original cost or replacement cost, marginal cost or average cost, fixed cost or avoidable cost? Let these and similar questions be resolved by a comparison with the types of costs that govern competitive-price determination.

Should differences in rates of charge for different classes of service be based entirely on cost differences or should they depend in part on value differences (differences in the own price elasticity of demand for the respective services)? Again, let the answer depend on whether firms producing multiple products under competition can and do practice price discrimination. And so on with respect to all of the other debated issues of ratemaking policy.

During the years of rapid inflation, the defense of a purely competitive-price standard has come largely from representatives for investor interests or for the public-utility companies, who object to an original-cost rule of ratemaking on the ground that it unfairly deprives utility stockholders of the hedges against inflation said to be enjoyed by the owners of equities in unregulated enterprise. This is a forcible objection, the merits of which will be discussed in the chapters on the rate base and the fair rate of return. But one may surmise that the alternative of a purely competitive price norm would lose its charm for many of these writers were they to face the full implications of its adoption. In a dynamic economy, unrestrained rivalry is supposed to be a pretty tough game, sometimes leading to individual or corporate bankruptcy.

revenues in excess of the revenue requirements established by the cost of service.

In attempting to assess these relative responsibilities, the analyst is offered a wide variety of alternative formulas of apportionment, each of which has received support from some rate experts. Testifying before the ICC in Illinois (1953) in a rate case, Corey noted the existence of twenty-nine such formulae; in their textbook Garfield and Lovejoy (1964, p. 159) mention "20 or more allocation methods"; and Grainger (1972, 1976) discusses several methods of allocating the ready-to-serve costs. Most of them have no claim whatever to validity from the standpoint of cost determination, and only a dubious claim to acceptance as compromise measures of reasonable rates. A harsher critic might use the metaphor of Bentham that these claims are "nonsense upon stilts". Hence, they will not be reviewed in this book. But, for illustrative purposes, we may mention three formulas that have received considerable attention (e.g., Caywood, 1972, or *Gas Rate Fundamentals*, 1978).

**Coincident System Peak Responsibility Formula.** The first and most widely used method is the coincident peak responsibility formula which has modest data requirements and is predominant in the NARUC's *Electric Utility Cost Allocation Manual* (1973) and the *FERC Handbook* (1983). Here, the entire capital costs are imputed to those services that are rendered at the time of system (or subsystem) peak (probably at the time of the *annual* peak if the system's demand curve is relatively flat, a shorter period, e.g. 1-4 months if the system experiences a pronounced peak) and in proportion to the kilowatt demand imposed at this time — an integrated demand rather than an instantaneous demand, measured over some short period such as fifteen minutes or longer. Sometimes a utility may have a *needle peak* or peak within a peak period. Service rendered completely off-peak would be assigned no responsibility whatever for the capacity costs. The allocator must be careful however (Rohr and Waddell, 1983): "Most traditional cost studies . . . involve a bias in the allocation of costs between customer classes with a load factor different than the system load factor" and they propose a controversial fuel offset approach to correct for the bias.

Similarly, Johnson (1980) opines too much emphasis is placed on demand during a few peak hours inasmuch as it neglects the fact that alternative technologies and equipment designs could be adequate to serve anticipated peaks. For instance, the costs of three alternative peaking electric technologies — combustion turbine, coal-fired, or nuclear plant — are drastically different. An anticipated peak demand

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## Dow Jones Utility Average (^DJU)

DJI - DJI Real Time Price. Currency in USD

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As of 11:32AM EST. Market open.

Summary Chart **NEW** Conversations Options Components Historical Data

Time Period: Jan 01, 2016 - Dec 05, 2017 Show: Historical Prices

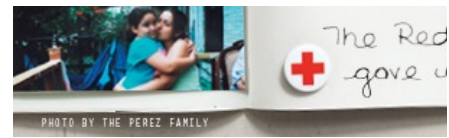
Frequency: Monthly

Apply

Currency in USD

Download Data

Date	Open	High	Low	Close*	Adj Close**	Volume
Dec 01, 2017	771.89	773.88	761.32	762.72	762.72	1,009,900
Oct 31, 2017	754.93	778.80	746.54	770.39	770.39	9,669,100
Sep 30, 2017	725.80	755.00	718.96	753.20	753.20	9,663,100
Aug 31, 2017	743.84	755.37	716.62	723.60	723.60	8,383,200
Jul 31, 2017	726.96	750.32	722.95	743.24	743.24	8,298,100
Jun 30, 2017	708.55	728.03	697.76	726.48	726.48	8,127,400
May 31, 2017	726.30	738.82	704.53	706.91	706.91	9,489,000
Apr 30, 2017	705.17	728.98	691.40	726.62	726.62	9,749,400
Mar 31, 2017	696.69	711.47	691.11	704.35	704.35	8,304,300
Mar 01, 2017	697.83	710.00	683.44	697.28	697.28	10,347,200
Feb 01, 2017	663.92	704.96	654.14	703.16	703.16	8,947,800
Jan 01, 2017	660.03	669.10	648.34	668.87	668.87	8,464,100
Dec 01, 2016	630.15	665.93	622.88	645.86	645.86	9,693,300
Oct 31, 2016	674.91	675.03	616.19	632.67	632.67	3,373,100
Sep 30, 2016	667.33	679.09	638.22	675.23	675.23	2,804,900
Aug 31, 2016	666.55	698.58	655.98	668.13	668.13	3,025,800



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Jul 31, 2016	710.33	712.65	662.38	666.87	666.87	2,997,800
Jun 30, 2016	718.05	723.83	699.03	711.42	711.42	2,667,000
May 31, 2016	658.49	716.57	654.59	716.52	716.52	3,338,400
Apr 30, 2016	654.98	672.40	635.98	659.44	659.44	3,031,700
Mar 31, 2016	667.45	672.28	630.68	654.44	654.44	2,825,000
Mar 01, 2016	623.13	669.46	607.58	668.57	668.57	3,725,100
Feb 01, 2016	610.96	637.93	606.14	620.70	620.70	3,796,100
Jan 01, 2016	574.51	611.91	569.12	611.35	611.35	3,493,900

\*Close price adjusted for splits.    \*\*Adjusted close price adjusted for both dividends and splits.



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**Nasdaq**  
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**Ameren Corporation (AEE)**

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Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	2	1	6	6
Avg. Estimate	0.33	0.48	2.8	3.02
Low Estimate	0.3	0.48	2.8	2.99
High Estimate	0.35	0.48	2.82	3.08
Year Ago EPS	0.13	0.42	2.68	2.8

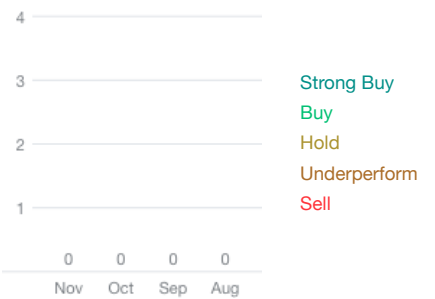
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	2	2	4	4
Avg. Estimate	1.44B	1.57B	6.28B	6.44B
Low Estimate	1.39B	1.56B	6.17B	6.3B
High Estimate	1.49B	1.59B	6.33B	6.53B
Year Ago Sales	1.36B	1.51B	6.08B	6.28B
Sales Growth (year/est)	6.10%	4.00%	3.30%	2.50%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	0.15	0.39	0.7
EPS Actual	0.13	0.42	0.79	1.24
Difference	-0.02	0.03	0.09	-0.09
Surprise %	-13.30%	7.70%	12.90%	-6.80%

EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	0.33	0.48	2.8	3.02
7 Days Ago	0.33	0.48	2.8	3.02



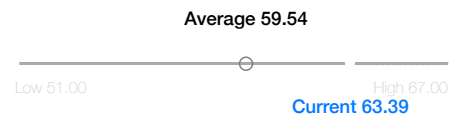
**Recommendation Trends >**



**Recommendation Rating >**



**Analyst Price Targets (6) >**



**Upgrades & Downgrades >**

30 Days Ago	0.16	0.58	2.8	3.02
60 Days Ago	0.2	0.51	2.8	3.01
90 Days Ago	0.2	0.51	2.81	3.01

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	1	N/A	N/A	1
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	AEE	Industry	Sector	S&P 500
Current Qtr.	153.80%	N/A	N/A	0.23
Next Qtr.	14.30%	N/A	N/A	0.24
Current Year	4.50%	N/A	N/A	0.08
Next Year	7.90%	N/A	N/A	0.12
Next 5 Years (per annum)	7.00%	N/A	N/A	0.11
Past 5 Years (per annum)	8.28%	N/A	N/A	N/A

- ↓ **Downgrade** Goldman Sachs: to Sell 6/26/2017
- ↓ **Downgrade** Barclays: to Equal-Weight 5/25/2017
- ↓ **Downgrade** Argus Research: to Hold 4/4/2016
- ↑ **+Upgrade** Barclays: to Overweight 4/4/2016
- ↑ **+Upgrade** Goldman Sachs: to Neutral 7/28/2015
- ↑ **+Upgrade** Argus Research: to Buy 4/27/2015



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Time Period: Apr 01, 2017 - Dec 01, 2017 Show: Historical Prices

Frequency: Monthly

Apply

Currency in USD

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Date	Open	High	Low	Close*	Adj Close**	Volume
Oct 31, 2017	61.98	64.89	61.48	63.96	63.96	26,388,800
Sep 30, 2017	58.14	62.14	57.67	61.99	61.99	25,566,200
Sep 12, 2017	0.44 Dividend					
Aug 31, 2017	60.17	60.91	57.56	57.84	57.42	31,187,800
Jul 31, 2017	56.20	60.79	56.16	59.99	59.56	29,866,800
Jun 30, 2017	54.85	56.67	53.54	56.10	55.69	24,796,300
Jun 12, 2017	0.44 Dividend					
May 31, 2017	56.75	57.21	54.38	54.67	53.85	29,778,700
Apr 30, 2017	54.79	57.09	53.72	56.75	55.90	37,833,000
Mar 31, 2017	54.52	55.68	54.03	54.69	53.87	30,763,500

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.

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Green Energy Tribune

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**S&P 500**  
2,601.42  
-1.00 (-0.04%)



**Dow 30**  
23,580.78  
+22.79 (+0.10%)



**Nasdaq**  
6,878.52  
-10.64 (-0.15%)



**Avista Corporation (AVA)**

NYSE - NYSE Delayed Price. Currency in USD

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**51.87** -0.06 (-0.12%) **51.87** 0.00 (0.00%)

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Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	2	2	2	3
Avg. Estimate	0.51	0.86	1.88	2.07
Low Estimate	0.45	0.8	1.81	2.05
High Estimate	0.57	0.91	1.95	2.11
Year Ago EPS	0.62	0.96	2.15	1.88

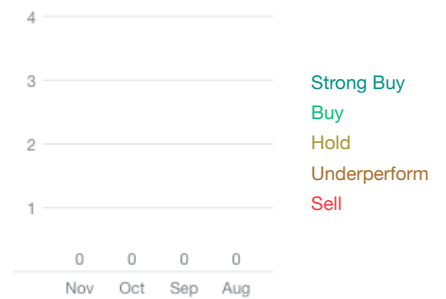
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	1	1	1	1
Avg. Estimate	387.63M	436.9M	1.74B	1.8B
Low Estimate	387.63M	436.9M	1.74B	1.8B
High Estimate	387.63M	436.9M	1.74B	1.8B
Year Ago Sales	402.12M	436.47M	1.44B	1.74B
Sales Growth (year/est)	-3.60%	0.10%	20.40%	3.80%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	0.57	0.82	0.38
EPS Actual	0.62	0.96	0.34	0.07
Difference	0.05	0.14	-0.04	-0.08
Surprise %	8.80%	17.10%	-10.50%	-53.30%

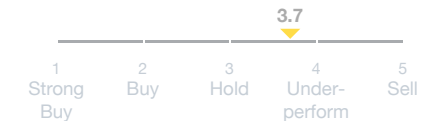
EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	0.51	0.86	1.88	2.07
7 Days Ago	0.51	0.86	1.88	2.07



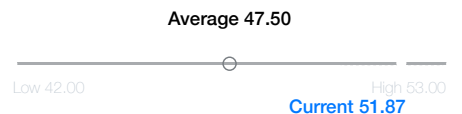
**Recommendation Trends >**



**Recommendation Rating >**



**Analyst Price Targets (2) >**



**Upgrades & Downgrades >**

30 Days Ago	0.52	0.86	1.95	2.06
60 Days Ago	0.5	0.85	1.95	2.05
90 Days Ago	0.5	0.85	1.93	2.03

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	1	N/A	1	1
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	AVA	Industry	Sector	S&P 500
Current Qtr.	-17.70%	N/A	N/A	0.23
Next Qtr.	-10.40%	N/A	N/A	0.24
Current Year	-12.60%	N/A	N/A	0.08
Next Year	10.10%	N/A	N/A	0.12
Next 5 Years (per annum)	5.65%	N/A	N/A	0.11
Past 5 Years (per annum)	2.06%	N/A	N/A	N/A

Initiated	Guggenheim: to Neutral	11/4/2016
Initiated	Mizuho: to Neutral	3/31/2016
↓ Downgrade	UBS: to Sell	3/18/2016
↑ +Upgrade	UBS: to Neutral	12/22/2014
Initiated	CRT Capital: to Fair Value	4/8/2014
↑ +Upgrade	BMO Capital: to Market Perform	1/2/2014

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**Dow 30**  
23,580.78  
+22.79 (+0.10%)



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6,878.52  
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**Black Hills Corporation (BKH)**  
NYSE - NYSE Delayed Price. Currency in USD

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Quote Lookup

**58.05** +0.03 (+0.05%) **58.05** 0.00 (0.00%)  
At close: 4:02PM EST After hours: 4:28PM EST

People also watch  
VVC WGL IDA ATO MGEE

Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	5	1	5	5
Avg. Estimate	1.04	1.2	3.37	3.45
Low Estimate	0.97	1.2	3.32	3.44
High Estimate	1.15	1.2	3.47	3.46
Year Ago EPS	1.07	1.41	3.19	3.37

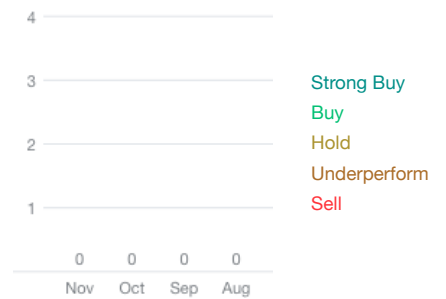
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	2	1	6	5
Avg. Estimate	465.12M	555.63M	1.77B	1.82B
Low Estimate	421.23M	555.63M	1.65B	1.66B
High Estimate	509M	555.63M	1.93B	1.98B
Year Ago Sales	463.8M	554M	1.57B	1.77B
Sales Growth (year/est)	0.30%	0.30%	12.80%	2.50%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	0.99	1.4	0.5
EPS Actual	1.07	1.41	0.41	0.5
Difference	0.08	0.01	-0.09	-0.05
Surprise %	8.10%	0.70%	-18.00%	-9.10%

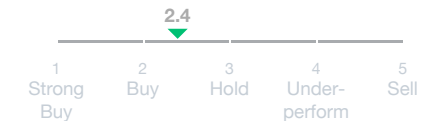
EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	1.04	1.2	3.37	3.45
7 Days Ago	1.07	1.31	3.37	3.51



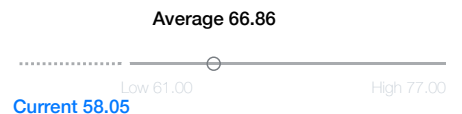
Recommendation Trends >



Recommendation Rating >



Analyst Price Targets (7) >



Upgrades & Downgrades >

30 Days Ago	1.15	1.3	3.5	3.66
60 Days Ago	1.18	1.42	3.58	3.75
90 Days Ago	1.18	1.42	3.57	3.76

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	1	1	1	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	BKH	Industry	Sector	S&P 500
Current Qtr.	-2.80%	N/A	N/A	0.23
Next Qtr.	-14.90%	N/A	N/A	0.24
Current Year	5.60%	N/A	N/A	0.08
Next Year	2.40%	N/A	N/A	0.12
Next 5 Years (per annum)	4.26%	N/A	N/A	0.11
Past 5 Years (per annum)	3.65%	N/A	N/A	N/A

Initiated	Wells Fargo: to Market Perform	10/27/2017
↓ Downgrade	Williams Capital: Buy to Hold	10/6/2017
Initiated	Credit Suisse: to Outperform	1/25/2017
Initiated	Singular Research: to Buy	12/14/2016
Initiated	JP Morgan: to Overweight	4/25/2016
↑ +Upgrade	BMO Capital: to Outperform	1/25/2016

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It's all about Tiger Woods as he returns to competitive golf  
Dan Roberts and Myles Udland discuss



**Black Hills Corporation (BKH)**  
NYSE - NYSE Delayed Price. Currency in USD

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**58.24** -0.27 (-0.46%) **58.24** 0.00 (0.00%)  
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**Hawking's Bold Prediction** SI "E H  
The Motley Fool

Time Period: Apr 01, 2017 - Nov 30, 2017 Show: Historical Prices  
Frequency: Monthly Apply

Download Data

Date	Open	High	Low	Close*	Adj Close**	Volume
Nov 16, 2017	0.475 Dividend					
Oct 31, 2017	65.68	65.71	57.26	58.51	58.03	13,770,100
Sep 30, 2017	68.79	69.79	64.29	65.26	64.73	8,886,800
Aug 31, 2017	70.70	70.97	68.20	68.87	68.31	5,499,400
Aug 16, 2017	0.445 Dividend					
Jul 31, 2017	69.85	71.01	68.03	70.38	69.36	4,891,800
Jun 30, 2017	67.71	70.80	67.08	69.66	68.65	5,119,600
May 31, 2017	69.35	72.02	67.40	67.47	66.50	7,886,500
May 16, 2017	0.445 Dividend					
Apr 30, 2017	68.13	69.83	65.84	69.54	68.09	7,102,500
Mar 31, 2017	66.22	69.22	65.37	68.02	66.60	6,454,500

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.

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-40.76 (-0.17%)

**Nasdaq**  
6,847.59  
-26.39 (-0.38%)



PODCAST

It's all about Tiger Woods as he returns to competitive golf  
Dan Roberts and Myles Udland discuss



**CMS Energy Corporation (CMS)**  
NYSE - NYSE Delayed Price. Currency in USD

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Quote Lookup

**49.74** -0.16 (-0.32%) **49.79** +0.05 (0.10%)  
At close: 4:00PM EST After hours: 4:11PM EST

People also watch  
DTE CNP EIX ETR AEE



Time Period: Apr 01, 2017 - Nov 30, 2017 Show: Historical Prices  
Frequency: Monthly Apply

Currency in USD

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Date	Open	High	Low	Close*	Adj Close**	Volume
Nov 02, 2017	0.333 Dividend					
Oct 31, 2017	48.50	50.85	47.76	49.90	49.55	41,666,500
Sep 30, 2017	46.42	48.92	45.82	48.37	48.03	42,663,500
Aug 31, 2017	48.63	49.11	45.92	46.32	46.00	38,544,500
Aug 02, 2017	0.333 Dividend					
Jul 31, 2017	46.28	48.91	45.98	48.54	47.86	34,702,500
Jun 30, 2017	46.32	47.02	45.34	46.24	45.59	35,865,000
May 31, 2017	47.40	48.37	46.02	46.25	45.60	39,983,300
May 03, 2017	0.333 Dividend					
Apr 30, 2017	45.74	47.70	44.75	47.41	46.40	41,554,900
Mar 31, 2017	44.76	45.85	44.36	45.40	44.43	35,327,500

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.



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2,601.42  
-1.00 (-0.04%)



**Dow 30**  
23,580.78  
+22.79 (+0.10%)



**Nasdaq**  
6,878.52  
-10.64 (-0.15%)



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**CMS Energy Corporation (CMS)**  
NYSE - NYSE Delayed Price. Currency in USD

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Quote Lookup

**49.75** +0.31 (+0.63%) **49.75** -0.01 (-0.02%)  
At close: 4:01PM EST After hours: 4:01PM EST

People also watch  
DTE CNP EIX ETR AEE

Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	7	4	14	15
Avg. Estimate	0.52	0.78	2.17	2.33
Low Estimate	0.51	0.76	2.15	2.31
High Estimate	0.58	0.81	2.19	2.35
Year Ago EPS	0.29	0.71	2.02	2.17

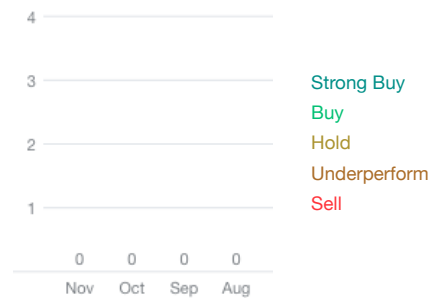
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	4	2	10	10
Avg. Estimate	1.79B	2.02B	6.57B	6.74B
Low Estimate	1.7B	1.92B	6.42B	6.58B
High Estimate	1.85B	2.13B	6.76B	6.95B
Year Ago Sales	1.64B	1.83B	6.4B	6.57B
Sales Growth (year/est)	9.10%	10.70%	2.70%	2.50%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	0.29	0.68	0.39
EPS Actual	0.29	0.71	0.33	0.62
Difference	0	0.03	-0.06	0.06
Surprise %	0.00%	4.40%	-15.40%	10.70%

EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	0.52	0.78	2.17	2.33
7 Days Ago	0.52	0.78	2.17	2.33



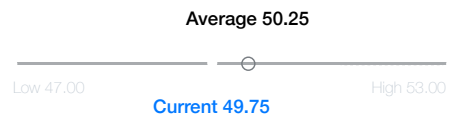
Recommendation Trends >



Recommendation Rating >



Analyst Price Targets (12) >



Upgrades & Downgrades >

30 Days Ago	0.55	0.78	2.17	2.34
60 Days Ago	0.44	0.78	2.17	2.33
90 Days Ago	0.44	0.78	2.17	2.33

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	1	1
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	CMS	Industry	Sector	S&P 500
Current Qtr.	79.30%	N/A	N/A	0.23
Next Qtr.	9.90%	N/A	N/A	0.24
Current Year	7.40%	N/A	N/A	0.08
Next Year	7.40%	N/A	N/A	0.12
Next 5 Years (per annum)	7.44%	N/A	N/A	0.11
Past 5 Years (per annum)	5.25%	N/A	N/A	N/A

Initiated	Bank of America: to Buy	10/24/2017
Initiated	Guggenheim: to Neutral	9/5/2017
Initiated	Morgan Stanley: to Equal-Weight	7/31/2017
↑ +Upgrade	Credit Suisse: Neutral to Outperform	7/24/2017
↑ +Upgrade	UBS: to Buy	1/30/2017
Initiated	Credit Suisse: to Neutral	1/25/2017



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CenterPoint Energy, Inc. (CNP)

NYSE - NYSE Delayed Price. Currency in USD

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29.53 -0.48 (-1.60%) 29.44 -0.08 (-0.28%)  
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Time Period: Apr 01, 2017 - Nov 30, 2017 Show: Historical Prices  
Frequency: Monthly

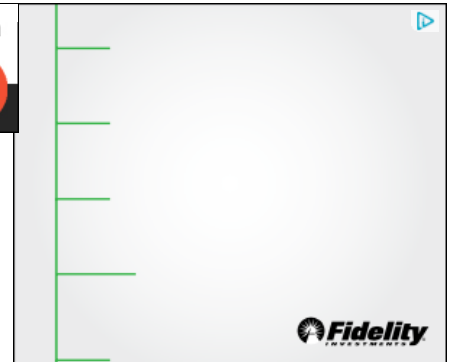
Apply

Currency in USD

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Date	Open	High	Low	Close*	Adj Close**	Volume
Nov 15, 2017	0.268 Dividend					
Oct 31, 2017	29.71	30.07	28.20	30.01	29.74	53,065,600
Sep 30, 2017	29.25	29.97	28.60	29.58	29.32	55,263,000
Aug 31, 2017	29.70	30.45	28.90	29.21	28.95	61,417,800
Aug 14, 2017	0.268 Dividend					
Jul 31, 2017	28.23	30.12	27.61	29.62	29.08	65,340,400
Jun 30, 2017	27.47	28.34	26.98	28.19	27.68	52,597,900
May 31, 2017	28.61	29.08	27.35	27.38	26.88	63,280,200
May 12, 2017	0.268 Dividend					
Apr 30, 2017	28.58	28.73	26.87	28.61	27.82	60,955,100
Mar 31, 2017	27.55	28.86	27.30	28.53	27.74	50,416,700

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.



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**Nasdaq**  
6,878.52  
-10.64 (-0.15%)



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**CenterPoint Energy, Inc. (CNP)**  
NYSE - NYSE Delayed Price. Currency in USD

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Quote Lookup

**29.54 +0.51 (+1.76%)** **29.50 -0.04 (-0.13%)**  
At close: 4:00PM EST After hours: 4:55PM EST

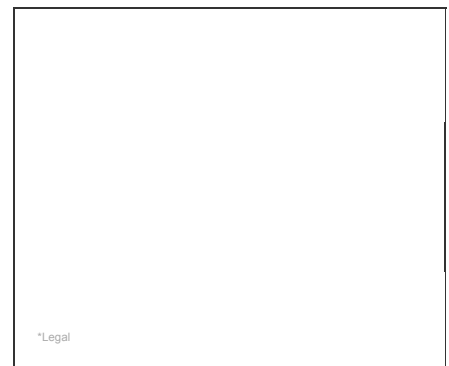
People also watch  
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Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	9	5	9	10
Avg. Estimate	0.29	0.4	1.34	1.44
Low Estimate	0.23	0.38	1.32	1.42
High Estimate	0.37	0.44	1.39	1.48
Year Ago EPS	0.26	0.37	1.16	1.34

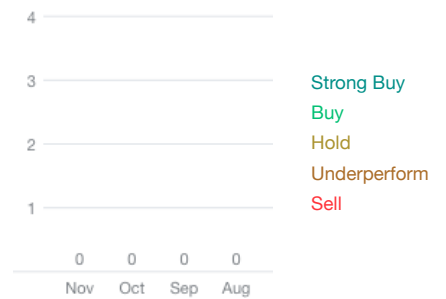
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	5	3	9	9
Avg. Estimate	1.99B	2.61B	8.79B	8.99B
Low Estimate	1B	2.14B	7.86B	8.08B
High Estimate	2.45B	2.89B	9.99B	10.45B
Year Ago Sales	2.08B	2.73B	7.53B	8.79B
Sales Growth (year/est)	-4.40%	-4.40%	16.80%	2.20%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	0.28	0.34	0.22
EPS Actual	0.26	0.37	0.29	0.38
Difference	-0.02	0.03	0.07	-0.01
Surprise %	-7.10%	8.80%	31.80%	-2.60%

EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	0.29	0.4	1.34	1.44
7 Days Ago	0.28	0.39	1.33	1.43



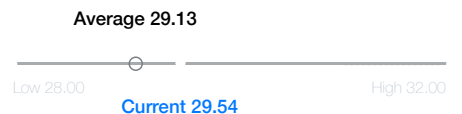
**Recommendation Trends >**



**Recommendation Rating >**



**Analyst Price Targets (15) >**



**Upgrades & Downgrades >**

30 Days Ago	0.29	0.38	1.33	1.42
60 Days Ago	0.28	0.38	1.34	1.42
90 Days Ago	0.28	0.37	1.34	1.42

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	1	1	1	1
Up Last 30 Days	5	4	4	4
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	CNP	Industry	Sector	S&P 500
Current Qtr.	11.50%	N/A	N/A	0.23
Next Qtr.	8.10%	N/A	N/A	0.24
Current Year	15.50%	N/A	N/A	0.08
Next Year	7.50%	N/A	N/A	0.12
Next 5 Years (per annum)	7.38%	N/A	N/A	0.11
Past 5 Years (per annum)	0.35%	N/A	N/A	N/A

<b>↑ +Upgrade</b>	Credit Suisse: Underperform to Neutral	8/14/2017
<b>Initiated</b>	UBS: to Neutral	12/20/2016
<b>↓ Downgrade</b>	Credit Suisse: to Underperform	11/8/2016
<b>Initiated</b>	Guggenheim: to Buy	11/4/2016
<b>Initiated</b>	Evercore ISI Group: to Hold	9/12/2016
<b>↓ Downgrade</b>	Tudor Pickering: to Hold	7/5/2016



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**Dow 30**  
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+22.79 (+0.10%)



**Nasdaq**  
6,878.52  
-10.64 (-0.15%)



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**Chesapeake Utilities Corporation (CPK)**

NYSE - NYSE Delayed Price. Currency in USD

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Quote Lookup

**83.15** **+0.80 (+0.97%)** **83.15** **0.00 (0.00%)**

At close: 4:02PM EST

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Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	7	3	6	6
Avg. Estimate	0.89	1.4	2.87	3.43
Low Estimate	0.73	1.29	2.81	3.35
High Estimate	0.96	1.58	2.91	3.48
Year Ago EPS	0.73	1.17	2.86	2.87

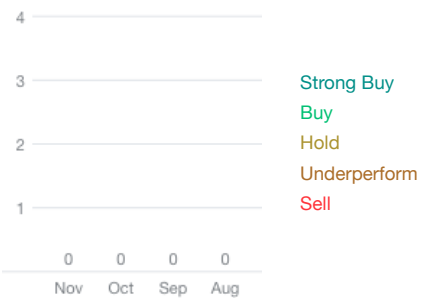
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	3	2	5	5
Avg. Estimate	163.47M	227M	580.74M	652.66M
Low Estimate	142M	213M	519M	562M
High Estimate	194.7M	241M	631.9M	808.5M
Year Ago Sales	141.87M	185.16M	498.86M	580.74M
Sales Growth (year/est)	15.20%	22.60%	16.40%	12.40%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	0.73	1.41	0.52
EPS Actual	0.73	1.17	0.37	0.42
Difference	0	-0.24	-0.15	0.07
Surprise %	0.00%	-17.00%	-28.80%	20.00%

EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	0.89	1.4	2.87	3.43
7 Days Ago	0.89	1.4	2.87	3.43



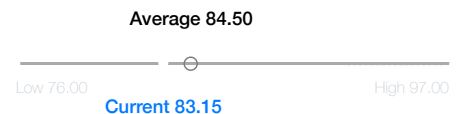
**Recommendation Trends >**



**Recommendation Rating >**



**Analyst Price Targets (6) >**



**Upgrades & Downgrades >**

30 Days Ago	0.9	1.41	2.85	3.42
60 Days Ago	0.89	1.32	2.85	3.42
90 Days Ago	0.89	1.32	2.85	3.42

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	3	2
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	CPK	Industry	Sector	S&P 500
Current Qtr.	21.90%	N/A	N/A	0.23
Next Qtr.	19.70%	N/A	N/A	0.24
Current Year	0.30%	N/A	N/A	0.08
Next Year	19.50%	N/A	N/A	0.12
Next 5 Years (per annum)	8.10%	N/A	N/A	0.11
Past 5 Years (per annum)	5.75%	N/A	N/A	N/A

Initiated	RBC Capital: to Sector Perform	4/26/2017
Initiated	Ladenburg Thalmann: to Neutral	12/9/2016
Initiated	Wells Fargo: to Market Perform	11/29/2016
↑ +Upgrade	Janney Capital: to Buy	8/8/2016
Initiated	BB&T Capital: to Buy	6/22/2016
↓ Downgrade	Janney Capital: to Neutral	3/3/2016



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NYSE - NYSE Delayed Price. Currency in USD

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84.75 -0.80 (-0.94%) 84.75 0.00 (0.00%)

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Time Period: Apr 01, 2017 - Dec 01, 2017 Show: Historical Prices

Frequency: Monthly

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Currency in USD

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Date	Open	High	Low	Close*	Adj Close**	Volume
Oct 31, 2017	81.00	86.35	78.60	85.55	85.55	870,400
Sep 30, 2017	78.40	82.15	77.65	80.55	80.55	991,100
Sep 14, 2017				0.325 Dividend		
Aug 31, 2017	79.60	81.95	76.95	78.25	77.93	1,194,500
Jul 31, 2017	77.60	81.10	77.15	79.45	79.12	925,900
Jun 30, 2017	75.10	77.60	74.80	77.25	76.93	934,600
Jun 13, 2017				0.325 Dividend		
May 31, 2017	74.10	77.75	73.65	74.95	74.32	1,487,200
Apr 30, 2017	73.35	74.85	70.85	74.25	73.62	1,013,000
Mar 31, 2017	69.10	74.85	68.65	73.30	72.68	916,400

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.

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2,601.42  
-1.00 (-0.04%)



**Dow 30**  
23,580.78  
+22.79 (+0.10%)



**Nasdaq**  
6,878.52  
-10.64 (-0.15%)



**Dominion Energy, Inc. (D)**

NYSE - NYSE Delayed Price. Currency in USD

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Quote Lookup

**82.96** +0.75 (+0.91%) **82.96** 0.00 (0.00%)

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Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	10	5	17	19
Avg. Estimate	0.9	1.13	3.58	4.03
Low Estimate	0.8	1.06	3.48	3.94
High Estimate	0.95	1.18	3.65	4.11
Year Ago EPS	0.99	0.97	3.8	3.58

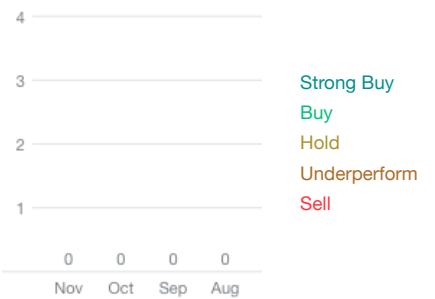
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	6	3	10	11
Avg. Estimate	3.36B	3.82B	12.95B	14.33B
Low Estimate	3.13B	3.76B	12.39B	13.37B
High Estimate	3.58B	3.93B	14.07B	15.21B
Year Ago Sales	3.08B	3.38B	11.73B	12.95B
Sales Growth (year/est)	9.10%	12.90%	10.40%	10.70%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	1	0.96	0.67
EPS Actual	0.99	0.97	0.67	1.04
Difference	-0.01	0.01	0	0.02
Surprise %	-1.00%	1.00%	0.00%	2.00%

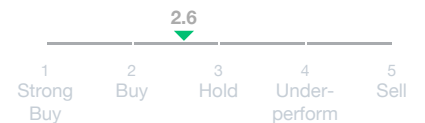
EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	0.9	1.13	3.58	4.03
7 Days Ago	0.9	1.13	3.58	4.03



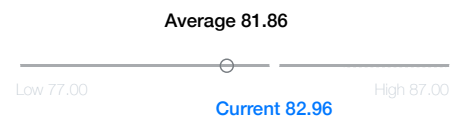
**Recommendation Trends >**



**Recommendation Rating >**



**Analyst Price Targets (14) >**



**Upgrades & Downgrades >**

30 Days Ago	0.92	1.13	3.59	4.03
60 Days Ago	0.92	1.11	3.63	4.05
90 Days Ago	0.91	1.1	3.64	4.06

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	N/A	1
Up Last 30 Days	1	1	4	5
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	D	Industry	Sector	S&P 500
Current Qtr.	-9.10%	N/A	N/A	0.23
Next Qtr.	16.50%	N/A	N/A	0.24
Current Year	-5.80%	N/A	N/A	0.08
Next Year	12.60%	N/A	N/A	0.12
Next 5 Years (per annum)	3.64%	N/A	N/A	0.11
Past 5 Years (per annum)	3.05%	N/A	N/A	N/A

↓ Downgrade	Tudor Pickering: Buy to Hold	4/3/2017
Initiated	Credit Suisse: to Outperform	1/25/2017
↓ Downgrade	Morgan Stanley: Overweight to Equal-Weight	8/8/2016
↓ Downgrade	JP Morgan: Overweight to Neutral	6/16/2016
↓ Downgrade	Citigroup: Buy to Neutral	2/2/2016
Initiated	Scotia Howard Weil: to Sector Outperform	11/17/2015

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6,847.59  
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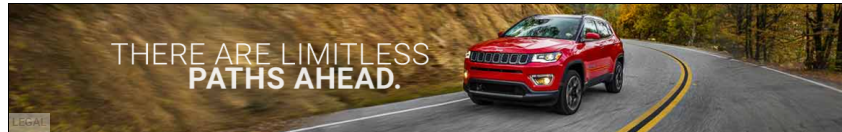
Quote Lookup

**83.57** -0.56 (-0.67%) **83.57** 0.00 (0.00%)

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Date	Open	High	Low	Close*	Adj Close**	Volume
Nov 30, 2017	0.77 Dividend					
Oct 31, 2017	81.41	84.34	80.01	84.13	83.36	40,550,000
Sep 30, 2017	77.20	82.13	75.75	81.14	80.40	47,646,000
Aug 31, 2017	78.90	79.95	76.23	76.93	76.22	51,253,100
Aug 30, 2017	0.755 Dividend					
Jul 31, 2017	77.27	80.67	76.56	78.77	77.31	44,061,200
Jun 30, 2017	76.94	77.57	75.40	77.18	75.75	38,862,700
May 31, 2017	80.77	81.65	76.17	76.63	75.21	66,075,000
May 31, 2017	0.755 Dividend					
Apr 30, 2017	77.45	81.30	76.39	80.77	78.54	45,273,500
Mar 31, 2017	77.14	78.46	76.25	77.43	75.29	41,940,600

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.

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-1.00 (-0.04%)

**Dow 30**  
23,580.78  
+22.79 (+0.10%)

**Nasdaq**  
6,878.52  
-10.64 (-0.15%)



**DTE Energy Company (DTE)**  
NYSE - NYSE Delayed Price. Currency in USD

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Quote Lookup

**113.64** +0.99 (+0.88%) **112.84** -0.80 (-0.70%)  
At close: 4:03PM EST After hours: 4:17PM EST

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Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	6	3	8	12
Avg. Estimate	1.19	1.79	5.52	5.71
Low Estimate	1.15	1.67	5.49	5.6
High Estimate	1.22	1.88	5.55	5.77
Year Ago EPS	0.81	1.79	5.28	5.52

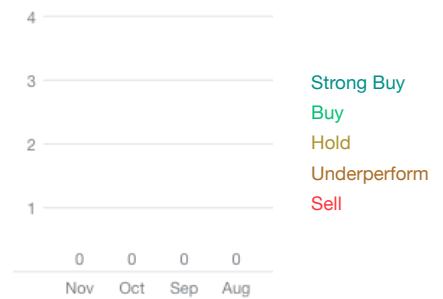
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	3	2	4	7
Avg. Estimate	2.15B	3.26B	11.11B	11.64B
Low Estimate	1.33B	3.12B	10.67B	10.67B
High Estimate	3.09B	3.39B	11.38B	12.94B
Year Ago Sales	2.87B	3.24B	10.63B	11.11B
Sales Growth (year/est)	-25.10%	0.70%	4.60%	4.70%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	0.86	1.56	1
EPS Actual	0.81	1.79	1.07	1.48
Difference	-0.05	0.23	0.07	-0.08
Surprise %	-5.80%	14.70%	7.00%	-5.10%

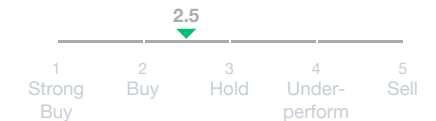
EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	1.19	1.79	5.52	5.71
7 Days Ago	1.19	1.79	5.52	5.71



**Recommendation Trends >**



**Recommendation Rating >**



**Analyst Price Targets (10) >**



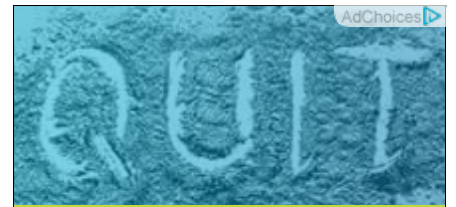
**Upgrades & Downgrades >**

30 Days Ago	1.19	1.78	5.49	5.71
60 Days Ago	0.96	1.71	5.42	5.71
90 Days Ago	0.92	1.71	5.41	5.71

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	1	N/A	1
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	DTE	Industry	Sector	S&P 500
Current Qtr.	46.90%	N/A	N/A	0.23
Next Qtr.	N/A	N/A	N/A	0.24
Current Year	4.50%	N/A	N/A	0.08
Next Year	3.40%	N/A	N/A	0.12
Next 5 Years (per annum)	4.91%	N/A	N/A	0.11
Past 5 Years (per annum)	6.09%	N/A	N/A	N/A

Initiated	Credit Suisse: to Neutral	1/25/2017
↓ Downgrade	UBS: to Neutral	1/9/2017
↑ +Upgrade	Bank of America: to Buy	11/22/2016
Initiated	Jefferies: to Buy	11/14/2016
↑ +Upgrade	Barclays: to Overweight	1/13/2016
Initiated	Goldman Sachs: to Neutral	4/13/2015



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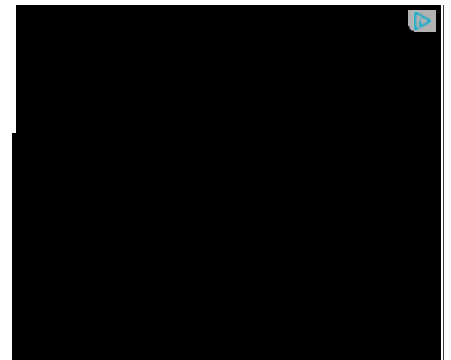
Time Period: Apr 01, 2017 - Nov 30, 2017 Show: Historical Prices  
Frequency: Monthly Apply

Currency in USD

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Date	Open	High	Low	Close*	Adj Close**	Volume
Oct 31, 2017	110.94	116.21	109.58	115.57	115.57	19,534,800
Sep 30, 2017	107.76	113.27	106.21	110.46	110.46	23,472,900
Sep 15, 2017	0.825 Dividend					
Aug 31, 2017	112.50	113.71	106.21	107.36	106.57	15,945,600
Jul 31, 2017	107.30	112.58	106.16	112.32	111.49	15,324,000
Jun 30, 2017	106.05	108.00	104.19	107.06	106.27	18,043,400
Jun 15, 2017	0.825 Dividend					
May 31, 2017	109.38	111.35	105.13	105.79	104.22	18,334,600
Apr 30, 2017	104.76	109.89	103.28	109.52	107.90	14,545,100
Mar 31, 2017	101.95	105.81	100.97	104.59	103.04	18,041,600

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.



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**Dow 30**  
24,231.59  
-40.76 (-0.17%)



**Nasdaq**  
6,847.59  
-26.39 (-0.38%)



PODCAST

**It's all about Tiger Woods as he returns to competitive golf**  
Dan Roberts and Myles Udland discuss



**Duke Energy Corporation (DUK)**  
NYSE - NYSE Delayed Price. Currency in USD

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Frequency: Monthly

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Currency in USD

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Date	Open	High	Low	Close*	Adj Close**	Volume
Nov 16, 2017	0.89 Dividend					
Oct 31, 2017	88.56	91.80	87.56	89.18	88.30	55,420,500
Sep 30, 2017	84.07	88.64	83.52	88.31	87.44	49,411,000
Aug 31, 2017	87.48	88.40	83.40	83.92	83.10	48,247,900
Aug 16, 2017	0.89 Dividend					
Jul 31, 2017	85.15	87.95	84.65	87.30	85.56	48,437,700
Jun 30, 2017	83.78	85.33	82.72	85.12	83.42	43,839,600
May 31, 2017	85.48	87.49	83.59	83.59	81.92	59,173,100
May 17, 2017	0.855 Dividend					
Apr 30, 2017	82.51	86.01	81.85	85.68	83.11	55,606,900
Mar 31, 2017	81.90	83.35	81.27	82.50	80.02	43,650,400

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.

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**88.88 +0.10 (+0.11%)** **88.35 -0.53 (-0.60%)**

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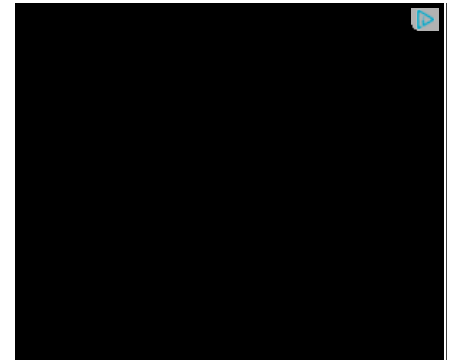
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Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	8	6	13	18
Avg. Estimate	0.9	1.11	4.56	4.83
Low Estimate	0.76	0.91	4.52	4.68
High Estimate	0.95	1.28	4.6	4.94
Year Ago EPS	0.81	1.04	4.69	4.56

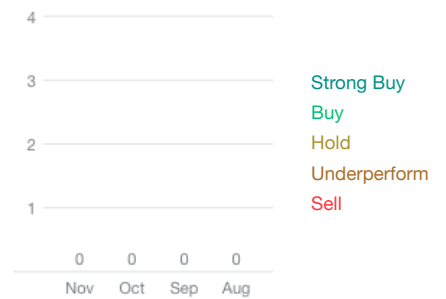
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	5	4	11	12
Avg. Estimate	7.04B	6.16B	24.64B	25.55B
Low Estimate	5.75B	6.07B	23.51B	24.23B
High Estimate	9.62B	6.25B	27.39B	28.93B
Year Ago Sales	4.82B	5.73B	22.74B	24.64B
Sales Growth (year/est)	46.10%	7.50%	8.30%	3.70%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	0.81	1.03	1.01
EPS Actual	0.81	1.04	1.01	1.59
Difference	0	0.01	0	0.04
Surprise %	0.00%	1.00%	0.00%	2.60%

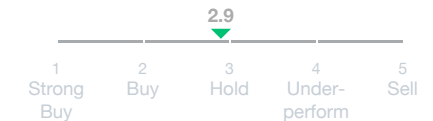
EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	0.9	1.11	4.56	4.83
7 Days Ago	0.9	1.11	4.56	4.84



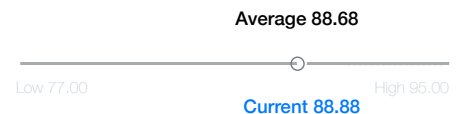
Recommendation Trends >



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Analyst Price Targets (14) >



Upgrades & Downgrades >

30 Days Ago	0.94	1.11	4.58	4.84
60 Days Ago	0.9	1.14	4.6	4.83
90 Days Ago	0.9	1.14	4.6	4.84

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	1	N/A	2	N/A
Down Last 30 Days	N/A	1	1	1
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	DUK	Industry	Sector	S&P 500
Current Qtr.	11.10%	N/A	N/A	0.23
Next Qtr.	6.70%	N/A	N/A	0.24
Current Year	-2.80%	N/A	N/A	0.08
Next Year	5.90%	N/A	N/A	0.12
Next 5 Years (per annum)	3.23%	N/A	N/A	0.11
Past 5 Years (per annum)	2.23%	N/A	N/A	N/A

- ↑ **+Upgrade** Goldman Sachs: to Buy 6/26/2017

---

- Initiated** Credit Suisse: to Neutral 1/25/2017

---

- ↓ **Downgrade** Citigroup: to Sell 1/11/2017

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- ↓ **Downgrade** Bank of America: to Underperform 11/22/2016

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- ↓ **Downgrade** Argus Research: to Hold 4/6/2016

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- ↓ **Downgrade** JP Morgan: to Neutral 2/19/2016



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**Consolidated Edison, Inc. (ED)**  
NYSE - NYSE Delayed Price. Currency in USD

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Quote Lookup

**87.50** +0.60 (+0.69%) **87.50** 0.00 (0.00%)  
At close: 4:01PM EST After hours: 5:57PM EST

Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	6	3	12	14
Avg. Estimate	0.75	1.29	4.09	4.26
Low Estimate	0.7	1.19	4.04	4.17
High Estimate	0.78	1.39	4.1	4.29
Year Ago EPS	0.68	1.27	3.96	4.09

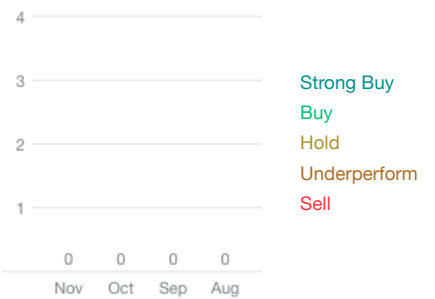
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	2	1	6	9
Avg. Estimate	3.24B	3.22B	12.08B	12.74B
Low Estimate	3.21B	3.22B	11.6B	11.69B
High Estimate	3.28B	3.22B	12.49B	14.8B
Year Ago Sales	2.71B	3.23B	12.07B	12.08B
Sales Growth (year/est)	19.80%	-0.40%	0.00%	5.50%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	0.66	1.19	0.62
EPS Actual	0.68	1.27	0.58	1.47
Difference	0.02	0.08	-0.04	-0.04
Surprise %	3.00%	6.70%	-6.50%	-2.60%

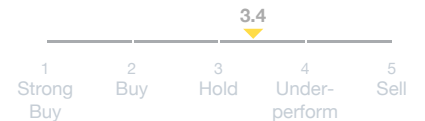
EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	0.75	1.29	4.09	4.26
7 Days Ago	0.75	1.31	4.09	4.26



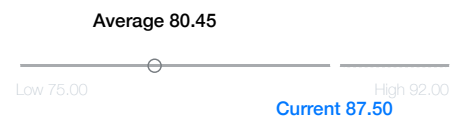
Recommendation Trends >



Recommendation Rating >



Analyst Price Targets (11) >



Upgrades & Downgrades >

30 Days Ago	0.71	1.31	4.08	4.25
60 Days Ago	0.71	1.31	4.09	4.26
90 Days Ago	0.7	1.31	4.09	4.26

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	2	N/A	3	3
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	ED	Industry	Sector	S&P 500
Current Qtr.	10.30%	N/A	N/A	0.23
Next Qtr.	1.60%	N/A	N/A	0.24
Current Year	3.30%	N/A	N/A	0.08
Next Year	4.20%	N/A	N/A	0.12
Next 5 Years (per annum)	3.23%	N/A	N/A	0.11
Past 5 Years (per annum)	0.43%	N/A	N/A	N/A

- ↓ Downgrade Evercore ISI Group: In-Line to Underperform 9/26/2017
- ↓ Downgrade Jefferies: to Hold 6/13/2017
- Initiated Credit Suisse: to Underperform 1/25/2017
- ↑ +Upgrade Deutsche Bank: to Hold 10/24/2016
- ↑ +Upgrade Evercore ISI Group: to Hold 9/27/2016
- ↑ +Upgrade Jefferies: to Buy 9/14/2016

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Currency in USD

Date	Open	High	Low	Close*	Adj Close**	Volume
Nov 14, 2017				0.69 Dividend		
Oct 31, 2017	85.85	89.58	85.27	89.04	88.34	35,919,500
Sep 30, 2017	80.89	86.33	80.26	86.05	85.38	31,256,700
Aug 31, 2017	84.44	86.16	80.02	80.68	80.05	28,774,200
Aug 14, 2017				0.69 Dividend		
Jul 31, 2017	82.94	84.92	82.04	84.27	82.92	30,658,600
Jun 30, 2017	81.14	82.98	80.04	82.86	81.53	27,548,500
May 31, 2017	82.77	85.13	80.67	80.82	79.52	33,712,100
May 15, 2017				0.69 Dividend		
Apr 30, 2017	79.30	83.25	78.42	82.79	80.76	32,006,600
Mar 31, 2017	77.75	80.10	77.14	79.28	77.33	30,850,400

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.



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-1.00 (-0.04%)

**Dow 30**  
23,580.78  
+22.79 (+0.10%)

**Nasdaq**  
6,878.52  
-10.64 (-0.15%)



**Eversource Energy (ES)**

NYSE - NYSE Delayed Price. Currency in USD

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Quote Lookup

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Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	10	7	15	15
Avg. Estimate	0.76	0.88	3.13	3.32
Low Estimate	0.67	0.85	3.03	3.23
High Estimate	0.8	0.97	3.2	3.35
Year Ago EPS	0.72	0.82	2.96	3.13

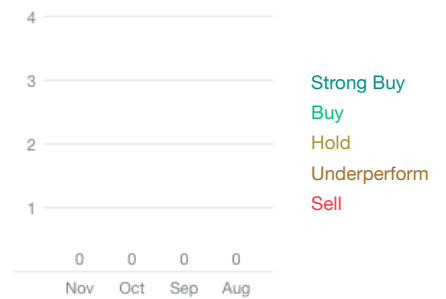
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	4	3	8	9
Avg. Estimate	1.85B	2.18B	7.75B	8.08B
Low Estimate	1.82B	2.13B	7.68B	7.87B
High Estimate	1.9B	2.23B	7.84B	8.59B
Year Ago Sales	1.78B	2.11B	7.64B	7.75B
Sales Growth (year/est)	4.40%	3.60%	1.40%	4.20%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	0.74	0.82	0.67
EPS Actual	0.72	0.82	0.72	0.82
Difference	-0.02	0	0.05	-0.01
Surprise %	-2.70%	0.00%	7.50%	-1.20%

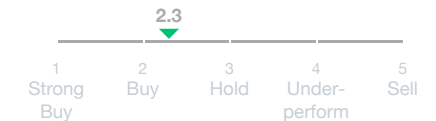
EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	0.76	0.88	3.13	3.32
7 Days Ago	0.76	0.88	3.14	3.32



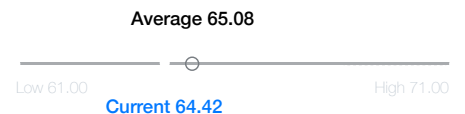
**Recommendation Trends >**



**Recommendation Rating >**



**Analyst Price Targets (12) >**



**Upgrades & Downgrades >**

30 Days Ago	0.75	0.88	3.14	3.31
60 Days Ago	0.75	0.89	3.15	3.32
90 Days Ago	0.76	0.89	3.15	3.32

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	3	1	1	1
Down Last 30 Days	N/A	N/A	1	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	ES	Industry	Sector	S&P 500
Current Qtr.	5.60%	N/A	N/A	0.23
Next Qtr.	7.30%	N/A	N/A	0.24
Current Year	5.70%	N/A	N/A	0.08
Next Year	6.10%	N/A	N/A	0.12
Next 5 Years (per annum)	5.91%	N/A	N/A	0.11
Past 5 Years (per annum)	4.97%	N/A	N/A	N/A

Initiated	Credit Suisse: to Neutral	1/25/2017
↑ +Upgrade	Deutsche Bank: to Buy	12/20/2016
↑ +Upgrade	Janney Capital: to Buy	8/1/2016
↓ Downgrade	Janney Capital: to Neutral	3/31/2016
↓ Downgrade	Macquarie: to Neutral	2/8/2016
↓ Downgrade	Barclays: to Equal-Weight	2/8/2016

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2,642.22  
-5.36 (-0.20%)



**Dow 30**  
24,231.59  
-40.76 (-0.17%)



**Nasdaq**  
6,847.59  
-26.39 (-0.38%)



PODCAST

It's all about Tiger Woods as he returns to competitive golf  
Dan Roberts and Myles Udland discuss



**Eversource Energy (ES)**

NYSE - NYSE Delayed Price. Currency in USD

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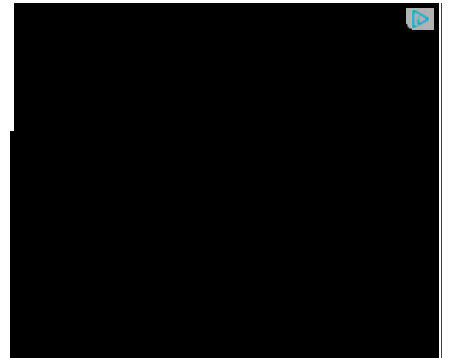
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Date	Open	High	Low	Close*	Adj Close**	Volume
Oct 31, 2017	62.79	66.15	61.98	64.85	64.85	35,734,000
Sep 30, 2017	60.51	62.84	59.59	62.64	62.64	34,819,900
Sep 18, 2017	0.475 Dividend					
Aug 31, 2017	63.18	64.19	60.01	60.44	59.98	30,969,100
Jul 31, 2017	60.93	63.67	60.37	63.00	62.52	31,065,800
Jun 30, 2017	60.74	61.56	59.55	60.79	60.33	23,539,500
May 31, 2017	62.10	63.34	60.52	60.71	60.25	30,491,400
May 26, 2017	0.475 Dividend					
Apr 30, 2017	59.58	62.19	58.11	62.07	61.13	25,486,100
Mar 31, 2017	58.76	60.50	58.27	59.40	58.50	26,738,600

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.



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**Dow 30**  
23,580.78  
+22.79 (+0.10%)



**Nasdaq**  
6,878.52  
-10.64 (-0.15%)



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**Exelon Corporation (EXC)**

NYSE - NYSE Delayed Price. Currency in USD

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**41.65** +0.02 (+0.05%) **41.65** 0.00 (0.00%)

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Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	10	6	14	16
Avg. Estimate	0.61	0.78	2.65	2.89
Low Estimate	0.56	0.68	2.61	2.71
High Estimate	0.63	0.92	2.68	3.01
Year Ago EPS	0.44	0.65	2.68	2.65

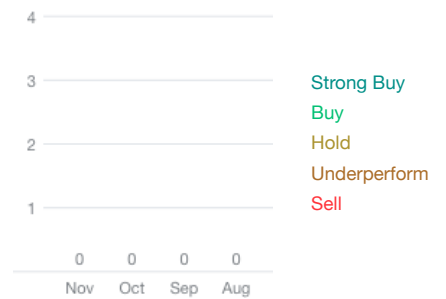
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	6	4	9	11
Avg. Estimate	8.42B	8.24B	31.82B	32.48B
Low Estimate	6.73B	6.88B	26.31B	26.84B
High Estimate	9.58B	9.19B	35.87B	36.99B
Year Ago Sales	8.05B	8.71B	31.91B	31.82B
Sales Growth (year/est)	4.60%	-5.40%	-0.30%	2.10%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	0.45	0.62	0.53
EPS Actual	0.44	0.65	0.54	0.85
Difference	-0.01	0.03	0.01	-0.01
Surprise %	-2.20%	4.80%	1.90%	-1.20%

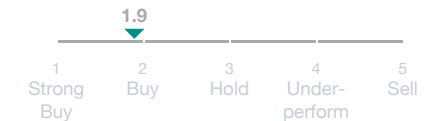
EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	0.61	0.78	2.65	2.89
7 Days Ago	0.61	0.78	2.65	2.89



**Recommendation Trends >**



**Recommendation Rating >**



**Analyst Price Targets (16) >**



**Upgrades & Downgrades >**

30 Days Ago	0.63	0.79	2.69	2.87
60 Days Ago	0.61	0.79	2.69	2.86
90 Days Ago	0.61	0.8	2.69	2.86

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	2	3	1	7
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	EXC	Industry	Sector	S&P 500
Current Qtr.	38.60%	N/A	N/A	0.23
Next Qtr.	20.00%	N/A	N/A	0.24
Current Year	-1.10%	N/A	N/A	0.08
Next Year	9.10%	N/A	N/A	0.12
Next 5 Years (per annum)	0.84%	N/A	N/A	0.11
Past 5 Years (per annum)	-0.20%	N/A	N/A	N/A

↓ Downgrade	Goldman Sachs: Neutral to Sell	10/11/2017
↑ +Upgrade	UBS: to Buy	5/15/2017
↓ Downgrade	Wells Fargo: to Market Perform	4/5/2017
↓ Downgrade	Morgan Stanley: to Equal-Weight	3/28/2017
↑ +Upgrade	KeyBanc: to Overweight	2/14/2017
Initiated	Credit Suisse: to Outperform	1/25/2017



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24,231.59  
-40.76 (-0.17%)



**Nasdaq**  
6,847.59  
-26.39 (-0.38%)



PODCAST

It's all about Tiger Woods as he returns to competitive golf

Dan Roberts and Myles Udland discuss



**Exelon Corporation (EXC)**

NYSE - NYSE Delayed Price. Currency in USD

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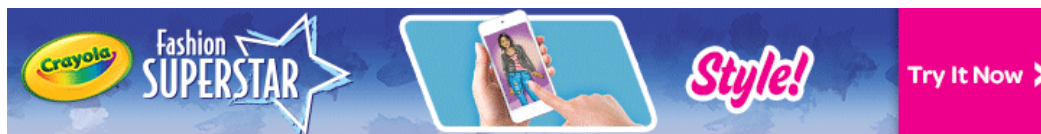
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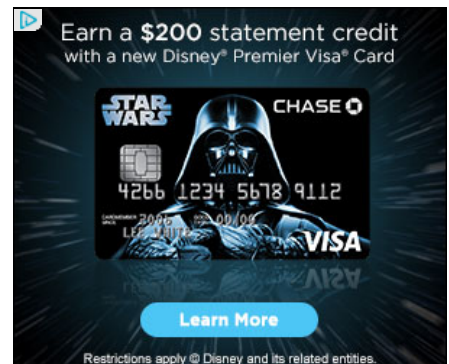
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Date	Open	High	Low	Close*	Adj Close**	Volume
Nov 14, 2017				0.328 Dividend		
Oct 31, 2017	40.32	42.67	39.47	41.71	41.38	96,677,200
Sep 30, 2017	37.81	40.38	37.55	40.21	39.90	101,862,300
Aug 31, 2017	37.95	38.50	36.63	37.67	37.38	110,727,400
Aug 11, 2017				0.328 Dividend		
Jul 31, 2017	38.48	38.78	37.25	37.87	37.25	91,924,100
Jun 30, 2017	36.20	38.50	35.37	38.34	37.71	91,111,600
May 31, 2017	36.25	37.44	35.80	36.07	35.48	93,124,200
May 11, 2017				0.328 Dividend		
Apr 30, 2017	34.65	36.45	33.30	36.31	35.37	135,837,900
Mar 31, 2017	35.95	36.47	34.53	34.63	33.73	87,882,200

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.



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**Dow 30**  
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**Nasdaq**  
6,847.59  
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**It's all about Tiger Woods as he returns to competitive golf**  
Dan Roberts and Myles Udland discuss



**Fortis Inc. (FTS)**

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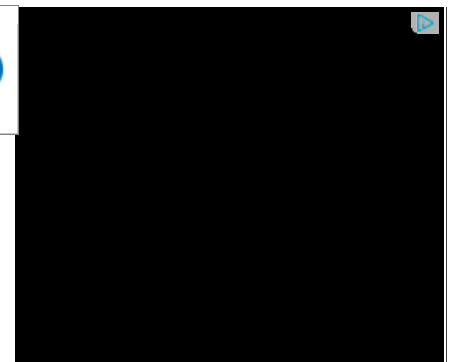
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Date	Open	High	Low	Close*	Adj Close**	Volume
Nov 17, 2017	<b>0.333 Dividend</b>					
Oct 31, 2017	36.90	38.24	36.13	36.80	36.48	4,870,700
Sep 30, 2017	35.86	37.56	35.62	36.83	36.51	4,256,200
Aug 31, 2017	36.77	37.67	35.33	35.77	35.46	3,736,600
Aug 17, 2017	<b>0.317 Dividend</b>					
Jul 31, 2017	36.42	36.96	35.01	36.58	35.94	3,472,100
Jun 30, 2017	35.12	36.60	34.25	36.46	35.83	3,241,600
May 31, 2017	32.98	35.73	32.91	35.15	34.54	3,922,400
Apr 30, 2017	32.54	33.04	31.72	32.88	32.31	3,284,000
Mar 31, 2017	32.94	33.99	32.28	32.52	31.96	3,267,600

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.



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**S&P 500**  
2,601.42  
-1.00 (-0.04%)

**Dow 30**  
23,580.78  
+22.79 (+0.10%)

**Nasdaq**  
6,878.52  
-10.64 (-0.15%)

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**Fortis Inc. (FTS)**

NYSE - NYSE Delayed Price. Currency in USD

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Quote Lookup

**37.70** -0.13 (-0.34%) **37.70** +0.01 (0.03%)

At close: 4:01PM EST

After hours: 4:01PM EST

Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	1	0	1	1
Avg. Estimate	0.57	0	2.49	2.59
Low Estimate	0.57	0	2.49	2.59
High Estimate	0.57	0	2.49	2.59
Year Ago EPS	N/A	N/A	N/A	2.49

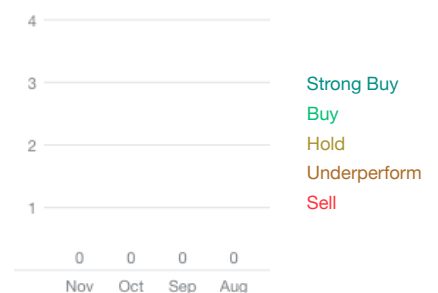
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	0	0	1	1
Avg. Estimate	N/A	N/A	8.26B	8.47B
Low Estimate	N/A	N/A	8.26B	8.47B
High Estimate	N/A	N/A	8.26B	8.47B
Year Ago Sales	N/A	N/A	N/A	8.26B
Sales Growth (year/est)	N/A	N/A	N/A	2.50%

Earnings History	Invalid Date		6/29/2017		9/29/2017	
	EPS Est.	N/A	N/A	0.47	0.57	
EPS Actual	N/A	N/A	0.48	0.48		
Difference	N/A	N/A	0.01	-0.09		
Surprise %	N/A	N/A	2.10%	-15.80%		

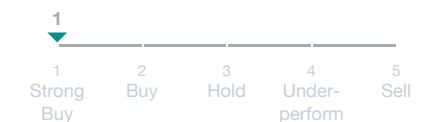
EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	0.57	0	2.49	2.59
7 Days Ago	0.57	0	2.47	2.57



**Recommendation Trends >**



**Recommendation Rating >**



**Analyst Price Targets (1) >**



**Upgrades & Downgrades >**

Initiated JP Morgan: to Neutral 2/27/2017

30 Days Ago	0.59	0	2.41	2.54
60 Days Ago	0.6	0	2.45	2.56
90 Days Ago	0.62	0	2.51	2.63

<b>EPS Revisions</b>	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

<b>Growth Estimates</b>	FTS	Industry	Sector	S&P 500
Current Qtr.	N/A	N/A	N/A	0.23
Next Qtr.	N/A	N/A	N/A	0.24
Current Year	N/A	N/A	N/A	0.08
Next Year	4.00%	N/A	N/A	0.12
Next 5 Years (per annum)	N/A	N/A	N/A	0.11
Past 5 Years (per annum)	N/A	N/A	N/A	N/A

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US Markets close in 6 hrs and 2 mins

<b>S&amp;P 500</b> 2,685.43 +6.18 (+0.23%)	<b>Dow 30</b> 24,798.49 +71.84 (+0.29%)	<b>Nasdaq</b> 6,975.09 +14.13 (+0.20%)	<b>Russell 2000</b> 1,543.39 +3.31 (+0.22%)
--	---	--	---

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**Fortis Inc. (FTS.TO)**

Toronto - Toronto Delayed Price. Currency in CAD

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Quote Lookup

**45.97** **-0.26 (-0.56%)**

As of 9:25AM EST. Market open

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Time Period: **Dec 21, 2016 - Dec 21, 2017** Show: **Historical Prices**

Frequency: **Monthly** [Apply](#)

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Date	Open	High	Low	Close*	Adj Close**	Volume
Dec 21, 2017	46.27	46.27	45.99	45.99	45.99	56,229
Dec 01, 2017	47.60	47.96	46.00	46.23	46.23	12,744,300
Nov 17, 2017	<b>0.425 Dividend</b>					
Oct 31, 2017	47.66	48.73	46.53	47.50	47.08	14,516,800
Sep 30, 2017	44.84	47.78	44.45	47.51	47.09	13,133,000
Aug 31, 2017	45.61	45.80	44.01	44.78	44.39	18,616,000
Aug 17, 2017	<b>0.4 Dividend</b>					
Jul 31, 2017	45.43	46.43	45.06	45.69	44.90	15,095,600
Jun 30, 2017	45.55	45.66	43.98	45.46	44.67	13,049,700
May 31, 2017	44.54	47.06	44.42	45.58	44.79	20,317,000
May 17, 2017	<b>0.4 Dividend</b>					
Apr 30, 2017	44.52	45.04	43.12	44.47	43.30	22,773,200
Mar 31, 2017	43.96	45.13	43.70	44.42	43.26	12,637,400

**need for retirement?**

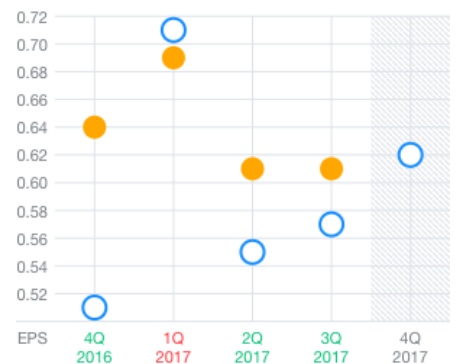
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**Earnings >**

Actual  Estimate

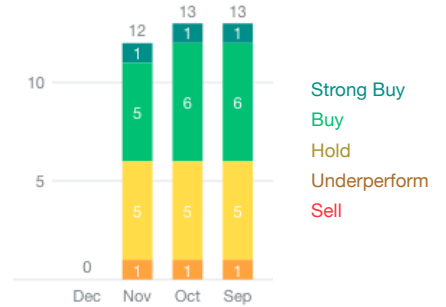


Mar 01, 2017	42.32	44.44	41.95	44.07	42.91	23,887,800
Feb 14, 2017	<b>0.4 Dividend</b>					
Feb 01, 2017	41.76	43.50	41.35	42.13	40.64	20,223,900
Jan 01, 2017	41.59	41.91	40.59	41.84	40.36	15,824,000
Dec 01, 2016	-	-	-	-	-	-

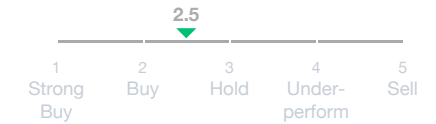
\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.



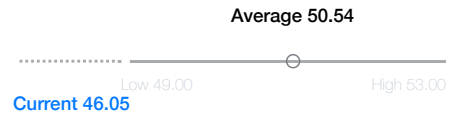
**Recommendation Trends >**



**Recommendation Rating >**



**Analyst Price Targets (12) >**



**Company Profile**

Fortis Place  
 Suite 1100  
 St. John's, NF A1B 3T2  
 Canada  
 709-737-2800  
<http://www.fortisinc.com>  
 Sector: **Utilities**  
 Industry: **Electric Utilities**  
 Full Time Employees: **8,000**

Fortis Inc. operates as an electric and gas utility company in Canada, the United States, and the Caribbean. It generates, transmits, and distributes electricity to approximately 420,000 retail customers in a territory comprising approximately 2,991 square kilometers located in southeastern Arizona, including the greater Tucson metropolitan



area in Pima county, as well as parts of Cochise county; and 95,000 retail customers in Arizonas Mohave and Santa Cruz counties with an aggregate capacity of 2,994 megawatts (MW) comprising 54 MW of solar capacity. The company also sells wholesale electricity to other entities in the western United States; owns gas-fired and hydroelectric generating capacity totaling 64 MW; and distributes natural gas to approximately 994,000 customers in approximately 135 communities in British Columbia, Canada. In addition, it owns and operates the electricity distribution system that serves approximately 549,000 customers in southern and central Alberta; owns 4 hydroelectric generating facilities with a combined capacity of 225 MW; and provides operation, maintenance, and management services to hydroelectric generating facilities. Further, the company distributes electricity in the island portion of Newfoundland and Labrador serving approximately 264,000 customers with an installed generating capacity of 139 MW; and on Prince Edward Island serving approximately 79,000 customers through generating facilities with a combined capacity of 145 MW. Additionally, it provides integrated electric utility service to approximately 65,000 customers in Fort Erie, Cornwall, Gananoque, Port Colborne, and the District of Algoma in Ontario; approximately 43,200 customers on Grand Cayman, Cayman Islands; and approximately 15,000 customers on certain islands in Turks and Caicos, as well as holds long-term contracted generation assets in British Columbia and Belize, and Aitken Creek. Fortis Inc. was founded in 1885 and is headquartered in St. John's, Canada.

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2,601.42  
-1.00 (-0.04%)



**Dow 30**  
23,580.78  
+22.79 (+0.10%)



**Nasdaq**  
6,878.52  
-10.64 (-0.15%)



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**Alliant Energy Corporation (LNT)**  
NYSE - NYSE Delayed Price. Currency in USD

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Quote Lookup

**44.61** +0.39 (+0.88%) **44.53** -0.08 (-0.18%)  
At close: 4:01PM EST After hours: 4:11PM EST

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Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	3	2	6	6
Avg. Estimate	0.34	0.57	1.94	2.12
Low Estimate	0.31	0.45	1.92	2.1
High Estimate	0.36	0.69	1.96	2.13
Year Ago EPS	0.28	0.44	1.88	1.94

Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	1	1	3	4
Avg. Estimate	878.57M	1.09B	3.44B	3.6B
Low Estimate	878.57M	1.09B	3.4B	3.51B
High Estimate	878.57M	1.09B	3.5B	3.69B
Year Ago Sales	797M	853.9M	3.32B	3.44B
Sales Growth (year/est)	10.20%	27.50%	3.70%	4.40%

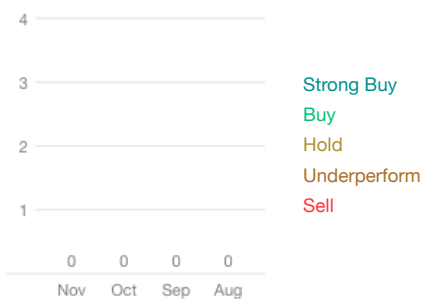
Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	0.28	0.43	0.38
EPS Actual	0.28	0.44	0.41	0.75
Difference	0	0.01	0.03	-0.11
Surprise %	0.00%	2.30%	7.90%	-12.80%

EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	0.34	0.57	1.94	2.12
7 Days Ago	0.3	0.46	1.97	2.13

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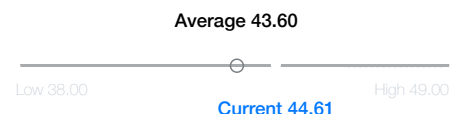
Recommendation Trends >



Recommendation Rating >



Analyst Price Targets (5) >



Upgrades & Downgrades >

30 Days Ago	0.31	0.46	2	2.13
60 Days Ago	0.28	0.46	2.01	2.13
90 Days Ago	0.28	0.46	2.01	2.13

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	1	1	N/A	N/A
Up Last 30 Days	2	1	N/A	N/A
Down Last 30 Days	N/A	N/A	2	1
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	LNT	Industry	Sector	S&P 500
Current Qtr.	21.40%	N/A	N/A	0.23
Next Qtr.	29.50%	N/A	N/A	0.24
Current Year	3.20%	N/A	N/A	0.08
Next Year	9.30%	N/A	N/A	0.12
Next 5 Years (per annum)	6.75%	N/A	N/A	0.11
Past 5 Years (per annum)	2.44%	N/A	N/A	N/A

Initiated	Jefferies: to Hold	5/26/2017
Initiated	UBS: to Neutral	3/16/2017
↓ Downgrade	Macquarie: to Neutral	1/24/2017
Initiated	Guggenheim: to Neutral	11/4/2016
↓ Downgrade	Barclays: to Equal-Weight	6/10/2016
↑ +Upgrade	Barclays: to Overweight	12/17/2015



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Dan Roberts and Myles Udland discuss



### Alliant Energy Corporation (LNT)

NYSE - NYSE Delayed Price. Currency in USD

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Quote Lookup

**44.83** -0.28 (-0.62%) **44.83** 0.00 (0.00%)

At close: 4:00PM EST

After hours: 4:00PM EST

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Time Period: **Apr 01, 2017 - Dec 01, 2017**

Show: **Historical Prices**

Frequency: **Monthly**

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Currency in USD

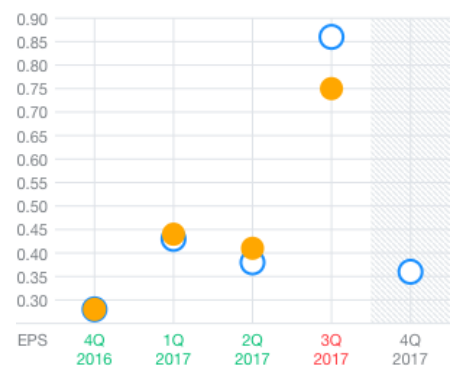
Date	Open	High	Low	Close*	Adj Close**	Volume
Oct 31, 2017	43.24	45.55	42.88	45.11	45.11	30,600,300
Oct 30, 2017	<b>0.315 Dividend</b>					
Sep 30, 2017	41.21	43.97	41.05	43.26	42.95	29,233,900
Aug 31, 2017	42.84	43.69	41.16	41.57	41.27	21,845,700
Jul 31, 2017	40.53	43.23	40.50	42.74	42.43	23,735,700
Jul 27, 2017	<b>0.315 Dividend</b>					
Jun 30, 2017	40.31	41.66	39.36	40.53	39.93	17,756,100
May 31, 2017	41.46	42.19	40.16	40.17	39.57	23,740,000
Apr 30, 2017	39.40	41.71	38.95	41.47	40.85	38,654,100
Apr 26, 2017	<b>0.315 Dividend</b>					
Mar 31, 2017	39.63	40.22	39.21	39.32	38.43	23,229,300

\*Close price adjusted for splits.

\*\*Adjusted close price adjusted for both dividends and splits.

#### Earnings >

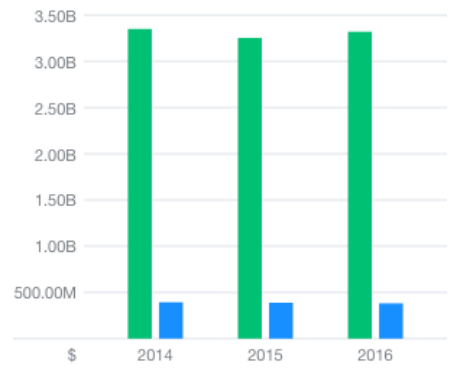
Actual  Estimate



#### Financials >

**Annual** Quarterly

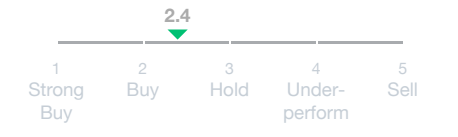
Revenue Earnings



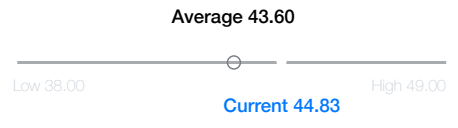
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**Recommendation Rating >**



**Analyst Price Targets (5) >**



**Upgrades & Downgrades >**

Initiated	Jefferies: to Hold	5/26/2017
Initiated	UBS: to Neutral	3/16/2017
↓ Downgrade	Macquarie: to Neutral	1/24/2017
Initiated	Guggenheim: to Neutral	11/4/2016
	Barclays: to Equal-	

## Company Profile

4902 North Biltmore

Lane

Madison, WI 53718

United States

608-458-3311

<http://www.alliantenergy.com>

Sector: **Utilities**

Industry: **Electric Utilities**

Full Time Employees: **3,978**

Alliant Energy Corporation operates as a utility holding company that provides regulated electricity and natural gas services to residential, commercial, industrial, and wholesale customers in the Midwest region of the United States. It operates through three segments: Electric, Gas, and Other. The company, through its subsidiary, Interstate Power and Light Company (IPL), primarily generates and distributes electricity, and distributes and transports natural gas to retail customers in Iowa; sells electricity to wholesale customers in Minnesota, Illinois, and Iowa; and generates and distributes steam in Cedar Rapids, Iowa. Alliant Energy, through its subsidiary, Wisconsin Power and Light Company (WPL), generates and distributes electricity, and distributes and transports natural gas in Wisconsin; and sells electricity to wholesale customers in Wisconsin. As of December 31, 2016, IPL supplied electricity to 490,000 retail customers and natural gas to 220,000 retail customers; and WPL supplied electricity to 470,000 retail customers and natural gas to 190,000 retail customers. It offers electric utility services to retail customers in food and industrial manufacturing, chemical, and paper industries. In addition, the company holds investments in various businesses, which provide freight services through a short-line railway between Cedar Rapids and Iowa City, Iowa; a barge terminal and hauling services on the Mississippi River; and other transfer and storage services. Further, it owns a non-regulated 347 megawatt (MW) natural gas-fired electric generating unit near Sheboygan Falls, Wisconsin; and owns the non-regulated 99 MW Franklin County wind farm located in Franklin County, Iowa. Alliant Energy Corporation was founded in 1917 and is headquartered in Madison, Wisconsin.

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**S&P 500**  
2,601.42  
-1.00 (-0.04%)



**Dow 30**  
23,580.78  
+22.79 (+0.10%)



**Nasdaq**  
6,878.52  
-10.64 (-0.15%)



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**MGE Energy, Inc. (MGEE)**

NasdaqGS - NasdaqGS Delayed Price. Currency in USD

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Quote Lookup

**64.90** -0.25 (-0.38%) **64.90** 0.00 (0.00%)

At close: 4:00PM EST

After hours: 4:28PM EST

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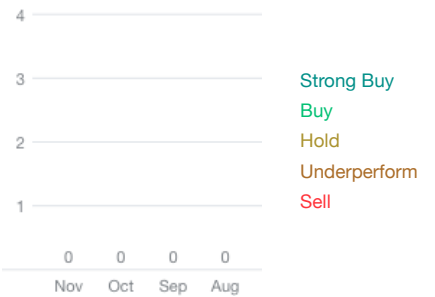
Earnings Estimate	Currency in USD			
	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	0	0	0	0
Avg. Estimate	0	0	0	0
Low Estimate	0	0	0	0
High Estimate	0	0	0	0
Year Ago EPS	N/A	N/A	N/A	N/A

Revenue Estimate	Currency in USD			
	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	0	0	0	0
Avg. Estimate	N/A	N/A	N/A	N/A
Low Estimate	N/A	N/A	N/A	N/A
High Estimate	N/A	N/A	N/A	N/A
Year Ago Sales	N/A	N/A	N/A	N/A
Sales Growth (year/est)	N/A	N/A	N/A	N/A

Earnings History	Invalid Date			
	Invalid Date	Invalid Date	Invalid Date	Invalid Date
EPS Est.	N/A	N/A	N/A	N/A
EPS Actual	N/A	N/A	N/A	N/A
Difference	N/A	N/A	N/A	N/A
Surprise %	N/A	N/A	N/A	N/A

EPS Trend	Currency in USD			
	Current Qtr.	Next Qtr.	Current Year	Next Year
Current Estimate	0	0	0	0
7 Days Ago	0	0	0	0

Recommendation Trends >



Recommendation Rating >



Analyst Price Targets (1) >

Low 50.00 High 50.00

Upgrades & Downgrades >

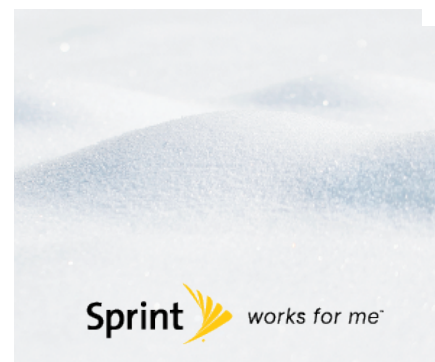


30 Days Ago	0	0	0	0
60 Days Ago	0	0	0	0
90 Days Ago	0	0	0	0

<b>EPS Revisions</b>	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

<b>Growth Estimates</b>	MGEE	Industry	Sector	S&P 500
Current Qtr.	N/A	N/A	N/A	0.23
Next Qtr.	N/A	N/A	N/A	0.24
Current Year	N/A	N/A	N/A	0.08
Next Year	N/A	N/A	N/A	0.12
Next 5 Years (per annum)	4.00%	N/A	N/A	0.11
Past 5 Years (per annum)	5.50%	N/A	N/A	N/A

Initiated Gabelli & Co.: to Hold 10/19/2012



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**S&P 500**  
2,642.22  
-5.36 (-0.20%)

**Dow 30**  
24,231.59  
-40.76 (-0.17%)

**Nasdaq**  
6,847.59  
-26.39 (-0.38%)



PODCAST

It's all about Tiger Woods as he returns to competitive golf  
Dan Roberts and Myles Udland discuss



MGE Energy, Inc. (MGEE)

NasdaqGS - NasdaqGS Delayed Price. Currency in USD

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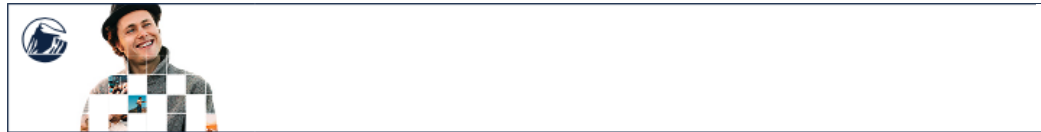
Quote Lookup

**65.60** -0.40 (-0.61%) **65.60** 0.00 (0.00%)

At close: 4:00PM EST

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Time Period: Apr 01, 2017 - Nov 30, 2017 Show: Historical Prices  
Frequency: Monthly

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Currency in USD

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Date	Open	High	Low	Close*	Adj Close**	Volume
Nov 30, 2017	0.323 Dividend					
Oct 31, 2017	66.55	67.70	63.63	66.00	65.68	1,483,300
Sep 30, 2017	64.85	68.10	63.80	66.05	65.73	2,092,700
Aug 31, 2017	63.65	66.50	63.20	64.60	64.29	1,367,700
Aug 30, 2017	0.323 Dividend					
Jul 31, 2017	66.80	67.20	62.01	63.60	62.97	1,165,700
Jun 30, 2017	64.50	68.70	61.80	66.55	65.90	1,615,900
May 31, 2017	65.00	68.60	63.80	64.35	63.72	1,594,700
May 30, 2017	0.308 Dividend					
Apr 30, 2017	64.50	65.33	62.60	65.10	64.15	1,408,000
Mar 31, 2017	65.15	66.10	63.30	64.30	63.36	2,271,600

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.

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2,601.42  
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**Nasdaq**  
6,878.52  
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**Northwestern Corporation (NWE)**

NYSE - NYSE Delayed Price. Currency in USD

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Quote Lookup

**62.59** +0.37 (+0.59%) **62.59** 0.00 (0.00%)

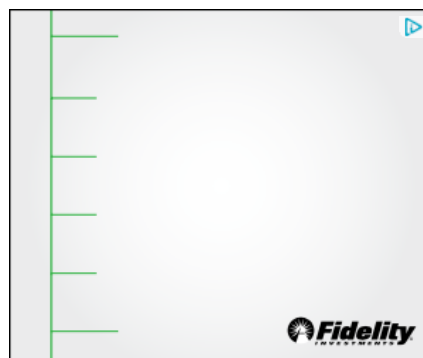
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Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	2	2	2	5
Avg. Estimate	1.04	1.16	3.38	3.43
Low Estimate	1.02	1.15	3.35	3.36
High Estimate	1.06	1.16	3.4	3.5
Year Ago EPS	0.95	1.13	3.11	3.38



Revenue Estimate	Currency in USD									
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Low Estimate	362.09M	377.09M	1.3B	1.33B
High Estimate	362.09M	377.09M	1.32B	1.35B
Year Ago Sales	330.59M	367.31M	1.26B	1.31B
Sales Growth (year/est)	9.50%	2.70%	4.20%	2.20%

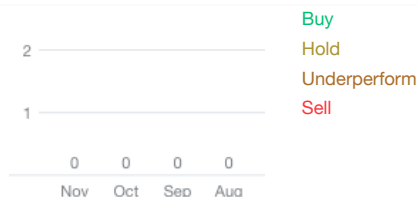
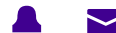
Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
EPS Est.	0.95	1.03	0.63	0.71
EPS Actual	0.95	1.13	0.47	0.74
Difference	0	0.1	-0.16	0.03
Surprise %	0.00%	9.70%	-25.40%	4.20%

EPS Trend	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	1.04	1.16	3.38	3.43
7 Days Ago	1.04	1.16	3.38	3.43

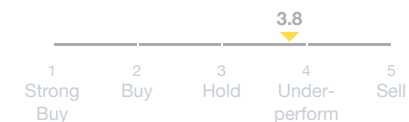
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**Recommendation Rating >**



**Analyst Price Targets (4) >**

Average 56.25



**Upgrades & Downgrades >**

↓ Downgrade Williams Capital: Hold to 7/31/2017

30 Days Ago	1.08	1.16	3.38	3.44
60 Days Ago	1.02	1.16	3.39	3.46
90 Days Ago	1.02	1.16	3.39	3.47

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	1	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	NWE	Industry	Sector	S&P 500
Current Qtr.	9.50%	N/A	N/A	0.23
Next Qtr.	2.70%	N/A	N/A	0.24
Current Year	8.70%	N/A	N/A	0.08
Next Year	1.50%	N/A	N/A	0.12
Next 5 Years (per annum)	2.25%	N/A	N/A	0.11
Past 5 Years (per annum)	8.48%	N/A	N/A	N/A

	Sell	
↓ Downgrade	Credit Suisse: Neutral to Underperform	7/24/2017
Initiated	Credit Suisse: to Neutral	1/25/2017
Initiated	Mizuho: to Neutral	3/31/2016
↓ Downgrade	Ladenburg Thalmann: to Neutral	10/21/2015
↓ Downgrade	Bank of America: to Underperform	7/8/2015



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**S&P 500**  
2,642.22  
-5.36 (-0.20%)

**Dow 30**  
24,231.59  
-40.76 (-0.17%)

**Nasdaq**  
6,847.59  
-26.39 (-0.38%)



PODCAST

**It's all about Tiger Woods as he returns to competitive golf**  
Dan Roberts and Myles Udland discuss



**Northwestern Corporation (NWE)**

NYSE - NYSE Delayed Price. Currency in USD

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Quote Lookup

**63.76** -0.50 (-0.78%) **63.76** 0.00 (0.00%)

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Time Period: Apr 01, 2017 - Nov 30, 2017 Show: Historical Prices

Frequency: Monthly

Apply

Currency in USD

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Date	Open	High	Low	Close*	Adj Close**	Volume
Oct 31, 2017	59.34	64.38	58.46	64.26	64.26	6,713,200
Sep 30, 2017	57.03	59.61	56.44	59.28	59.28	6,812,700
Sep 14, 2017	0.525 Dividend					
Aug 31, 2017	60.43	60.82	56.87	56.94	56.44	5,888,200
Jul 31, 2017	57.99	61.36	57.69	60.32	59.79	9,830,900
Jun 30, 2017	61.27	61.80	57.58	57.79	57.28	8,481,000
Jun 13, 2017	0.525 Dividend					
May 31, 2017	61.79	63.86	60.94	61.02	59.97	6,760,400
Apr 30, 2017	59.96	62.04	59.33	61.96	60.89	6,535,100
Mar 31, 2017	58.66	60.95	58.16	59.78	58.75	8,824,500

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.

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PODCAST

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**PG&E Corporation (PCG)**

NYSE - NYSE Delayed Price. Currency in USD

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**54.13** -0.11 (-0.20%) **54.13** 0.00 (0.00%)

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Time Period: Apr 01, 2017 - Nov 30, 2017 Show: Historical Prices

Frequency: Monthly

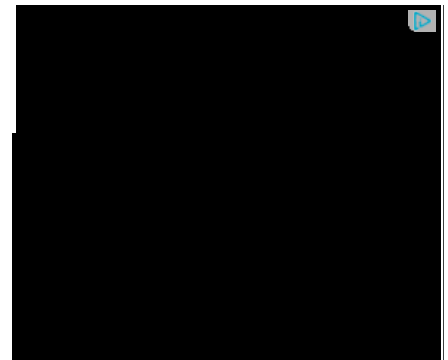
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Currency in USD

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Date	Open	High	Low	Close*	Adj Close**	Volume
Oct 31, 2017	57.61	57.99	52.46	54.24	54.24	119,770,600
Sep 30, 2017	68.29	69.67	49.83	57.77	57.77	192,337,400
Sep 28, 2017	0.53 Dividend					
Aug 31, 2017	70.46	71.57	67.26	68.09	67.56	45,123,400
Jul 31, 2017	67.51	70.58	67.41	70.38	69.83	37,762,500
Jun 30, 2017	66.52	68.28	64.84	67.69	67.16	42,335,700
Jun 28, 2017	0.53 Dividend					
May 31, 2017	68.29	70.32	65.43	66.37	65.33	55,577,800
Apr 30, 2017	67.08	68.48	65.14	68.38	67.31	65,456,500
Mar 31, 2017	66.33	67.83	65.80	67.05	66.00	38,941,800

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.



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**PG&E Corporation (PCG)**

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**54.19** +0.13 (+0.24%) **54.12** -0.07 (-0.14%)

At close: 4:00PM EST

After hours: 4:55PM EST

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Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	8	4	13	15
Avg. Estimate	0.73	0.85	3.68	3.81
Low Estimate	0.57	0.62	3.65	3.72
High Estimate	1.05	1.06	3.72	3.9
Year Ago EPS	1.33	1.06	3.76	3.68

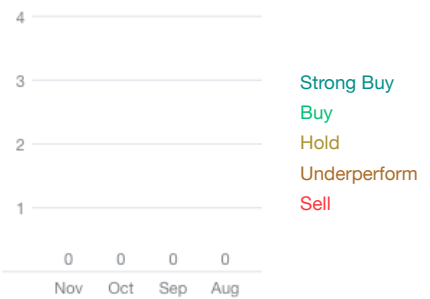
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	4	2	9	10
Avg. Estimate	4.79B	4.12B	17.73B	18.19B
Low Estimate	4.56B	3.86B	17.12B	17.11B
High Estimate	5.14B	4.37B	18.22B	18.98B
Year Ago Sales	4.71B	4.27B	17.67B	17.73B
Sales Growth (year/est)	1.70%	-3.50%	0.40%	2.60%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	1.3	0.81	0.78
EPS Actual	1.33	1.06	0.86	1.12
Difference	0.03	0.25	0.08	0.21
Surprise %	2.30%	30.90%	10.30%	23.10%

EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	0.73	0.85	3.68	3.81
7 Days Ago	0.73	0.85	3.68	3.81

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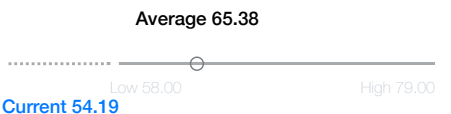
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**Recommendation Rating >**



**Analyst Price Targets (13) >**



**Upgrades & Downgrades >**

30 Days Ago	0.85	0.87	3.67	3.82
60 Days Ago	0.84	0.87	3.68	3.83
90 Days Ago	0.84	0.87	3.67	3.83

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	4	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	PCG	Industry	Sector	S&P 500
Current Qtr.	-45.10%	N/A	N/A	0.23
Next Qtr.	-19.80%	N/A	N/A	0.24
Current Year	-2.10%	N/A	N/A	0.08
Next Year	3.50%	N/A	N/A	0.12
Next 5 Years (per annum)	2.08%	N/A	N/A	0.11
Past 5 Years (per annum)	8.39%	N/A	N/A	N/A

- ↓ Downgrade Goldman Sachs: Conviction Buy to Buy 10/16/2017
- ↓ Downgrade Evercore ISI Group: Buy to In-Line 9/26/2017
- ↑ +Upgrade RBC Capital: to Outperform 7/15/2016
- ↑ +Upgrade Deutsche Bank: to Buy 4/18/2016
- ↑ +Upgrade Goldman Sachs: to Buy 1/27/2016
- ↑ +Upgrade Morgan Stanley: to Overweight 1/26/2016



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**Dow 30**  
23,580.78  
+22.79 (+0.10%)



**Nasdaq**  
6,878.52  
-10.64 (-0.15%)



**Public Service Enterprise Group Incorporated (PEG)**

NYSE - NYSE Delayed Price. Currency in USD

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Quote Lookup

**51.58 +0.02 (+0.04%) 51.58 0.00 (0.00%)**

At close: 4:02PM EST

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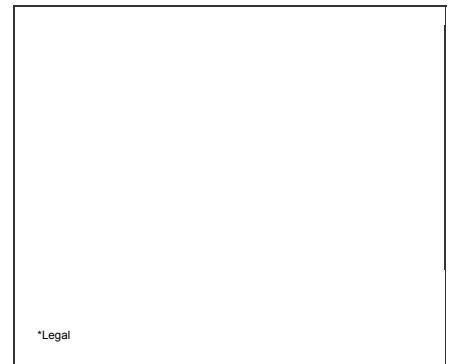
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Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	6	6	13	14
Avg. Estimate	0.56	0.96	2.91	2.96
Low Estimate	0.51	0.92	2.86	2.67
High Estimate	0.61	1.04	2.95	3.16
Year Ago EPS	0.54	0.92	2.9	2.91

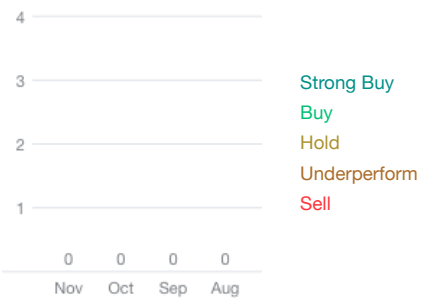
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	3	3	8	10
Avg. Estimate	2.68B	2.81B	9.72B	10.28B
Low Estimate	2.5B	2.68B	9.21B	9.34B
High Estimate	3.01B	3.03B	10.95B	11.69B
Year Ago Sales	2.09B	2.59B	9.06B	9.72B
Sales Growth (year/est)	28.10%	8.40%	7.30%	5.80%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	0.53	0.85	0.58
EPS Actual	0.54	0.92	0.62	0.82
Difference	0.01	0.07	0.04	-0.02
Surprise %	1.90%	8.20%	6.90%	-2.40%

EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	0.56	0.96	2.91	2.96
7 Days Ago	0.56	0.96	2.91	2.95



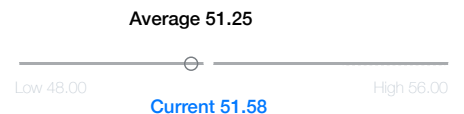
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**Recommendation Rating >**



**Analyst Price Targets (14) >**



**Upgrades & Downgrades >**

30 Days Ago	0.54	0.95	2.92	2.95
60 Days Ago	0.53	0.9	2.92	2.94
90 Days Ago	0.54	0.9	2.92	2.94

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	N/A	1
Up Last 30 Days	2	2	1	6
Down Last 30 Days	N/A	N/A	1	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	PEG	Industry	Sector	S&P 500
Current Qtr.	3.70%	N/A	N/A	0.23
Next Qtr.	4.30%	N/A	N/A	0.24
Current Year	0.30%	N/A	N/A	0.08
Next Year	1.70%	N/A	N/A	0.12
Next 5 Years (per annum)	1.48%	N/A	N/A	0.11
Past 5 Years (per annum)	4.02%	N/A	N/A	N/A

↑ +Upgrade	Wells Fargo: Market Perform to Outperform	11/1/2017
↑ +Upgrade	Barclays: Equal-Weight to Overweight	9/22/2017
↑ +Upgrade	Morgan Stanley: Equal-Weight to Overweight	9/21/2017
↑ +Upgrade	Mizuho: Neutral to Buy	8/11/2017
↓ Downgrade	Wells Fargo: to Market Perform	2/27/2017
↑ +Upgrade	Deutsche Bank: to Buy	12/20/2016



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PODCAST

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Dan Roberts and Myles Udland discuss



Public Service Enterprise Group Incorporated (PEG)

NYSE - NYSE Delayed Price. Currency in USD

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**53.07** +0.01 (+0.02%) **53.07** 0.00 (0.00%)

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Time Period: Apr 01, 2017 - Nov 30, 2017 Show: Historical Prices  
Frequency: Monthly

Apply

Currency in USD

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Date	Open	High	Low	Close*	Adj Close**	Volume
Oct 31, 2017	49.94	53.20	49.17	53.06	53.06	68,081,300
Sep 30, 2017	46.44	49.70	46.05	49.20	49.20	68,028,500
Sep 07, 2017	0.43 Dividend					
Aug 31, 2017	46.95	47.01	45.05	46.25	45.82	53,912,500
Jul 31, 2017	45.09	47.47	44.73	46.84	46.40	44,768,900
Jun 30, 2017	43.10	45.36	41.67	44.97	44.55	59,694,700
Jun 07, 2017	0.43 Dividend					
May 31, 2017	44.93	45.80	42.79	43.01	42.20	59,799,200
Apr 30, 2017	44.10	45.27	42.47	44.91	44.06	66,841,600
Mar 31, 2017	44.31	45.94	43.92	44.05	43.22	60,920,500

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.

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2,601.42  
-1.00 (-0.04%)

**Dow 30**  
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6,878.52  
-10.64 (-0.15%)

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**SCANA Corporation (SCG)**

NYSE - NYSE Delayed Price. Currency in USD

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Quote Lookup

**42.62 +0.76 (+1.82%)** **42.42 -0.20 (-0.47%)**

At close: 4:03PM EST

After hours: 4:44PM EST

People also watch  
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Currency in USD

Earnings Estimate	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	7	6	8	10
Avg. Estimate	0.81	1.09	4.18	3
Low Estimate	0.3	0.92	4.05	2.16
High Estimate	1.03	1.39	4.24	4.2
Year Ago EPS	0.87	1.19	4.16	4.18

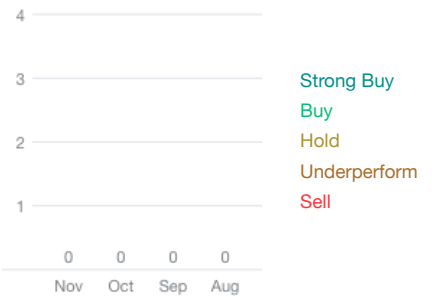
Revenue Estimate	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	3	3	7	7
Avg. Estimate	1.19B	1.2B	4.43B	4.22B
Low Estimate	1.05B	1.08B	4.28B	3.99B
High Estimate	1.26B	1.32B	4.81B	4.53B
Year Ago Sales	1.06B	1.17B	4.23B	4.43B
Sales Growth (year/est)	12.10%	2.20%	4.90%	-4.90%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
EPS Est.	0.9	1.31	0.74	1.19
EPS Actual	0.87	1.19	0.85	1.16
Difference	-0.03	-0.12	0.11	-0.03
Surprise %	-3.30%	-9.20%	14.90%	-2.50%

EPS Trend	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	0.81	1.09	4.18	3
7 Days Ago	0.81	1.09	4.16	3.04

Ad:

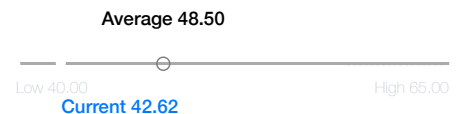
**Recommendation Trends >**



**Recommendation Rating >**



**Analyst Price Targets (9) >**



**Upgrades & Downgrades >**

30 Days Ago	0.91	1.2	4.18	3.64
60 Days Ago	0.93	1.36	4.18	4.12
90 Days Ago	0.93	1.38	4.17	4.31

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	1	1
Up Last 30 Days	1	1	2	2
Down Last 30 Days	1	1	1	2
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	SCG	Industry	Sector	S&P 500
Current Qtr.	-6.90%	N/A	N/A	0.23
Next Qtr.	-8.40%	N/A	N/A	0.24
Current Year	0.50%	N/A	N/A	0.08
Next Year	-28.20%	N/A	N/A	0.12
Next 5 Years (per annum)	5.50%	N/A	N/A	0.11
Past 5 Years (per annum)	4.29%	N/A	N/A	N/A

- ↑ +Upgrade Guggenheim: Sell to Neutral 11/16/2017

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- ↑ +Upgrade Edward Jones: Hold to Buy 11/13/2017

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- ↓ Downgrade Williams Capital: Hold to Sell 9/29/2017

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- ↓ Downgrade Williams Capital: Buy to Hold 9/18/2017

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- ↑ +Upgrade Mizuho: Underperform to Neutral 8/28/2017

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- ↑ +Upgrade Barclays: Equal-Weight to Overweight 8/1/2017

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NYSE - NYSE Delayed Price. Currency in USD

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Quote Lookup

**44.26 +1.09 (+2.52%) 44.26 0.00 (0.00%)**

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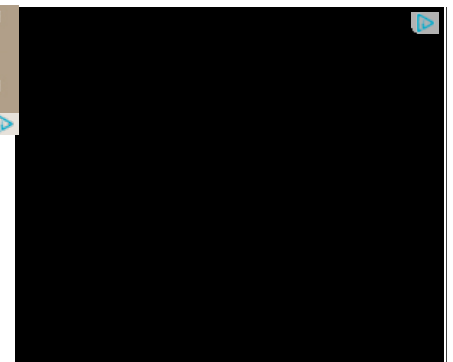
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Date	Open	High	Low	Close*	Adj Close**	Volume
Oct 31, 2017	43.22	46.89	41.15	43.17	43.17	53,099,900
Sep 30, 2017	48.46	50.22	42.75	43.14	43.14	44,954,800
Sep 08, 2017	<b>0.613 Dividend</b>					
Aug 31, 2017	60.56	60.77	48.32	48.49	47.99	33,269,100
Jul 31, 2017	64.81	68.35	59.34	60.38	59.76	34,500,700
Jun 30, 2017	67.26	67.99	60.00	64.37	63.71	22,550,600
Jun 08, 2017	<b>0.613 Dividend</b>					
May 31, 2017	68.18	71.28	66.81	67.01	65.73	17,406,400
Apr 30, 2017	66.42	68.44	64.48	68.20	66.90	25,048,600
Mar 31, 2017	65.35	67.87	64.79	66.31	65.04	22,490,800

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.



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**Dow 30**  
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+22.79 (+0.10%)



**Nasdaq**  
6,878.52  
-10.64 (-0.15%)



**Sempra Energy (SRE)**

NYSE - NYSE Delayed Price. Currency in USD

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**119.43 +0.73 (+0.61%)** **119.37 -0.04 (-0.03%)**

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Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	6	5	9	13
Avg. Estimate	1.43	1.87	5.28	5.55
Low Estimate	1.37	1.72	5.16	5.4
High Estimate	1.51	2.14	5.39	5.72
Year Ago EPS	1.52	1.74	5.05	5.28

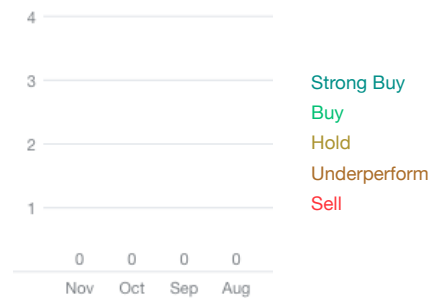
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	4	1	7	8
Avg. Estimate	2.9B	3.26B	11.04B	11.59B
Low Estimate	2.44B	3.26B	10.54B	10.9B
High Estimate	3.13B	3.26B	11.37B	12.23B
Year Ago Sales	2.87B	3.03B	10.18B	11.04B
Sales Growth (year/est)	1.00%	7.60%	8.40%	5.00%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	1.49	1.67	0.86
EPS Actual	1.52	1.74	1.1	1.04
Difference	0.03	0.07	0.24	-0.01
Surprise %	2.00%	4.20%	27.90%	-1.00%

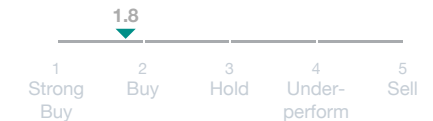
EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	1.43	1.87	5.28	5.55
7 Days Ago	1.43	1.87	5.28	5.55



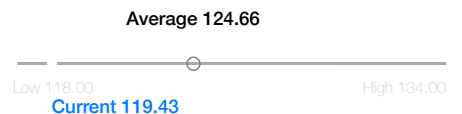
**Recommendation Trends >**



**Recommendation Rating >**



**Analyst Price Targets (11) >**



**Upgrades & Downgrades >**

30 Days Ago	1.37	1.86	5.22	5.55
60 Days Ago	1.42	1.88	5.23	5.56
90 Days Ago	1.41	1.88	5.22	5.58

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	3	2	6	2
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	SRE	Industry	Sector	S&P 500
Current Qtr.	-5.90%	N/A	N/A	0.23
Next Qtr.	7.50%	N/A	N/A	0.24
Current Year	4.60%	N/A	N/A	0.08
Next Year	5.10%	N/A	N/A	0.12
Next 5 Years (per annum)	9.85%	N/A	N/A	0.11
Past 5 Years (per annum)	2.67%	N/A	N/A	N/A

- ↑ +Upgrade Goldman Sachs: Neutral to Buy 10/11/2017

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- ↓ Downgrade Barclays: to Equal-Weight 6/8/2017

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- ↓ Downgrade Goldman Sachs: to Neutral 6/5/2016

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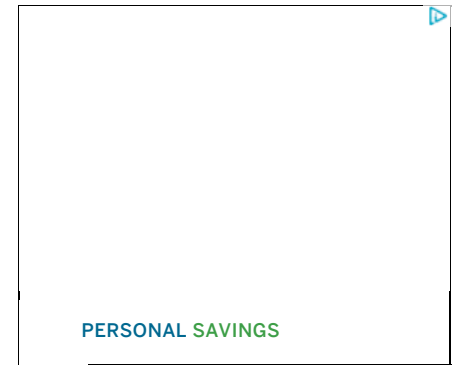
- ↑ +Upgrade Goldman Sachs: to Buy 4/13/2015

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- ↑ +Upgrade ISI Group: to Buy 6/9/2014

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- ↓ Downgrade Citigroup: to Neutral 2/13/2014



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-40.76 (-0.17%)

**Nasdaq**  
6,847.59  
-26.39 (-0.38%)



PODCAST

**It's all about Tiger Woods as he returns to competitive golf**  
Dan Roberts and Myles Udland discuss



**Sempra Energy (SRE)**

NYSE - NYSE Delayed Price. Currency in USD

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**120.48** -0.51 (-0.42%) **120.48** 0.00 (0.00%)

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Date	Open	High	Low	Close*	Adj Close**	Volume
Oct 31, 2017	116.97	122.98	115.91	120.99	120.99	26,050,600
Sep 30, 2017	114.56	117.97	110.00	117.50	117.50	29,967,300
Sep 21, 2017	<b>0.823</b> Dividend					
Aug 31, 2017	118.31	120.17	113.55	114.13	113.32	20,341,000
Jul 31, 2017	113.01	119.66	112.85	117.93	117.10	21,802,400
Jul 05, 2017	<b>0.823</b> Dividend					
Jun 30, 2017	113.13	114.95	110.35	113.01	111.39	17,510,900
May 31, 2017	116.47	117.97	112.11	112.75	111.13	33,364,600
Apr 30, 2017	113.19	116.96	110.03	116.49	114.82	27,067,500
Mar 31, 2017	110.48	113.96	107.86	113.02	111.40	24,410,500

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.

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23,580.78  
+22.79 (+0.10%)



**Nasdaq**  
6,878.52  
-10.64 (-0.15%)



**Vectren Corporation (VVC)**

NYSE - NYSE Delayed Price. Currency in USD

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**67.86 +0.68 (+1.01%)** **67.64 -0.22 (-0.33%)**

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Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	4	3	6	6
Avg. Estimate	0.79	0.74	2.63	2.81
Low Estimate	0.73	0.69	2.6	2.79
High Estimate	0.86	0.81	2.65	2.85
Year Ago EPS	0.84	0.67	2.55	2.63

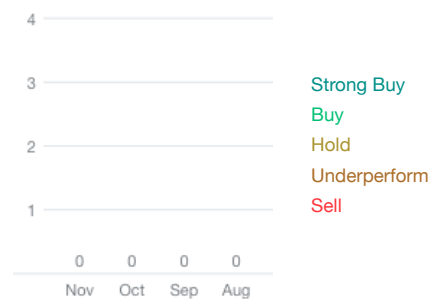
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	1	1	2	3
Avg. Estimate	709.54M	792M	2.6B	2.71B
Low Estimate	709.54M	792M	2.58B	2.68B
High Estimate	709.54M	792M	2.63B	2.77B
Year Ago Sales	699M	624.5M	2.45B	2.6B
Sales Growth (year/est)	1.50%	26.80%	6.30%	4.10%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	0.79	0.65	0.44
EPS Actual	0.84	0.67	0.45	0.75
Difference	0.05	0.02	0.01	0.09
Surprise %	6.30%	3.10%	2.30%	13.60%

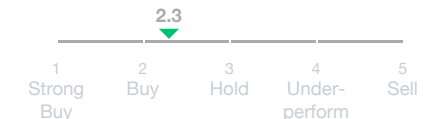
EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	0.79	0.74	2.63	2.81
7 Days Ago	0.81	0.74	2.63	2.81



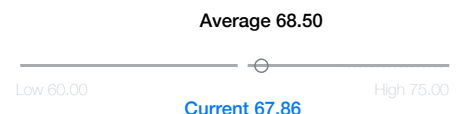
**Recommendation Trends >**



**Recommendation Rating >**



**Analyst Price Targets (4) >**



**Upgrades & Downgrades >**

30 Days Ago	0.85	0.74	2.63	2.81
60 Days Ago	0.85	0.74	2.62	2.8
90 Days Ago	0.85	0.74	2.62	2.8

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	1	N/A
Up Last 30 Days	N/A	N/A	1	N/A
Down Last 30 Days	1	1	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	VVC	Industry	Sector	S&P 500
Current Qtr.	-6.00%	N/A	N/A	0.23
Next Qtr.	10.40%	N/A	N/A	0.24
Current Year	3.10%	N/A	N/A	0.08
Next Year	6.80%	N/A	N/A	0.12
Next 5 Years (per annum)	6.00%	N/A	N/A	0.11
Past 5 Years (per annum)	5.82%	N/A	N/A	N/A

- ↓ Downgrade KeyBanc: to Sector Weight 4/19/2017

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- ↑ +Upgrade KeyBanc: to Overweight 1/12/2017

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- ↑ +Upgrade Citigroup: to Buy 12/14/2016

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- Initiated Guggenheim: to Neutral 11/4/2016

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- ↓ Downgrade Brean Capital: to Hold 10/31/2014

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- ↑ +Upgrade KeyBanc: to Buy 1/16/2014



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-40.76 (-0.17%)



**Nasdaq**  
6,847.59  
-26.39 (-0.38%)



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**Vectren Corporation (VVC)**

NYSE - NYSE Delayed Price. Currency in USD

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**68.92** -0.58 (-0.83%) **68.96** +0.04 (0.06%)

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Frequency: Monthly

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Date	Open	High	Low	Close*	Adj Close**	Volume
Nov 14, 2017	0.45 Dividend					
Oct 31, 2017	68.45	69.58	64.00	69.50	69.04	8,736,200
Sep 30, 2017	66.12	68.84	65.57	68.14	67.68	9,542,700
Aug 31, 2017	65.80	68.30	64.93	65.77	65.33	7,950,200
Aug 11, 2017	0.42 Dividend					
Jul 31, 2017	60.22	67.17	59.45	65.61	64.72	9,516,400
Jun 30, 2017	58.69	60.24	57.48	60.11	59.30	5,245,900
May 31, 2017	61.35	62.79	58.24	58.44	57.65	6,561,000
May 11, 2017	0.42 Dividend					
Apr 30, 2017	59.60	61.87	58.03	61.34	60.09	7,210,500
Mar 31, 2017	58.53	60.47	58.15	59.42	58.20	8,436,900

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.



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+22.79 (+0.10%)



**Nasdaq**  
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-10.64 (-0.15%)



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**WEC Energy Group, Inc. (WEC)**  
NYSE - NYSE Delayed Price. Currency in USD

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People also watch  
**SCG XEL LNT PNW CMS**

Earnings Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	5	4	10	10
Avg. Estimate	0.67	1.04	3.1	3.28
Low Estimate	0.63	0.68	3.06	3.24
High Estimate	0.69	1.17	3.12	3.35
Year Ago EPS	0.61	1.12	2.97	3.1

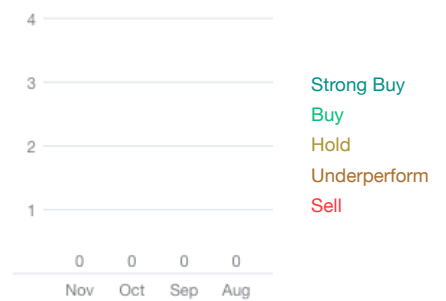
Revenue Estimate	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
No. of Analysts	2	2	5	5
Avg. Estimate	2.01B	2.26B	7.67B	7.81B
Low Estimate	1.99B	2.19B	7.54B	7.6B
High Estimate	2.02B	2.33B	8.02B	8.18B
Year Ago Sales	1.96B	2.3B	7.47B	7.67B
Sales Growth (year/est)	2.30%	-2.10%	2.60%	1.80%

Earnings History	12/30/2016	3/30/2017	6/29/2017	9/29/2017
	EPS Est.	0.61	1.06	0.58
EPS Actual	0.61	1.12	0.63	0.68
Difference	0	0.06	0.05	0.01
Surprise %	0.00%	5.70%	8.60%	1.50%

EPS Trend	Currency in USD			
	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Current Estimate	0.67	1.04	3.1	3.28
7 Days Ago	0.67	1.04	3.1	3.28

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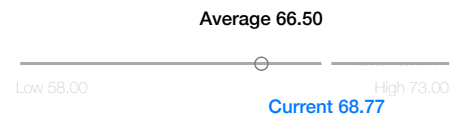
**Recommendation Trends >**



**Recommendation Rating >**



**Analyst Price Targets (8) >**



**Upgrades & Downgrades >**

30 Days Ago	0.68	1.03	3.1	3.28
60 Days Ago	0.68	1.15	3.11	3.28
90 Days Ago	0.68	1.15	3.11	3.29

EPS Revisions	Current Qtr. (Dec 2017)	Next Qtr. (Mar 2018)	Current Year (2017)	Next Year (2018)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	1	3
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	WEC	Industry	Sector	S&P 500
Current Qtr.	9.80%	N/A	N/A	0.23
Next Qtr.	-7.10%	N/A	N/A	0.24
Current Year	4.40%	N/A	N/A	0.08
Next Year	5.80%	N/A	N/A	0.12
Next 5 Years (per annum)	5.27%	N/A	N/A	0.11
Past 5 Years (per annum)	5.00%	N/A	N/A	N/A

- ↓ **Downgrade** Goldman Sachs: to Sell 6/26/2017
- ↓ **Downgrade** Mizuho: to Neutral 2/2/2017
- Initiated** Guggenheim: to Buy 11/4/2016
- ↑ **+Upgrade** UBS: to Neutral 5/9/2016
- ↓ **Downgrade** Deutsche Bank: to Hold 2/5/2016
- ↓ **Downgrade** Goldman Sachs: to Neutral 1/27/2016



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**PODCAST** It's all about Tiger Woods as he returns to competitive golf  
Dan Roberts and Myles Udland discuss



**WEC Energy Group, Inc. (WEC)**  
NYSE - NYSE Delayed Price. Currency in USD

Add to watchlist

Quote Lookup

**69.14** -0.35 (-0.50%) **69.14** +0.02 (0.03%)  
At close: 4:01PM EST After hours: 4:01PM EST

People also watch  
SCG XEL LNT PNW CMS



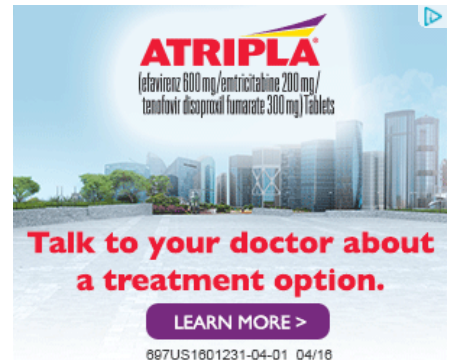
Time Period: Apr 01, 2017 - Nov 30, 2017 Show: Historical Prices  
Frequency: Monthly Apply

Currency in USD

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Date	Open	High	Low	Close*	Adj Close**	Volume
Nov 13, 2017	0.52 Dividend					
Oct 31, 2017	67.70	70.09	66.76	69.49	68.96	32,974,200
Sep 30, 2017	62.93	68.03	62.84	67.39	66.87	34,911,900
Aug 31, 2017	65.39	67.20	62.40	62.78	62.30	33,834,300
Aug 10, 2017	0.52 Dividend					
Jul 31, 2017	62.97	65.71	62.73	65.22	64.20	33,711,400
Jun 30, 2017	61.55	63.50	60.47	62.97	61.98	28,636,300
May 31, 2017	62.60	64.37	61.24	61.38	60.42	30,980,800
May 10, 2017	0.52 Dividend					
Apr 30, 2017	60.55	62.97	60.12	62.76	61.25	35,069,100
Mar 31, 2017	60.46	61.34	59.61	60.52	59.06	35,688,600

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.



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**S&P 500**  
2,601.42  
-1.00 (-0.04%)

**Dow 30**  
23,580.78  
+22.79 (+0.10%)

**Nasdaq**  
6,878.52  
-10.64 (-0.15%)



**Xcel Energy Inc. (XEL)**

NYSE - NYSE Delayed Price. Currency in USD

☆ Add to watchlist

Quote Lookup

**50.86** +0.15 (+0.30%) **50.86** 0.00 (0.01%)

At close: 4:01PM EST

After hours: 4:55PM EST

People also watch  
TE WEC PNW CNP PEG

Earnings Estimate	Currency in USD			
	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	0	0	0	0
Avg. Estimate	0	0	0	0
Low Estimate	0	0	0	0
High Estimate	0	0	0	0
Year Ago EPS	N/A	N/A	N/A	N/A

Revenue Estimate	Currency in USD			
	Current Qtr.	Next Qtr.	Current Year	Next Year
No. of Analysts	0	0	0	0
Avg. Estimate	N/A	N/A	N/A	N/A
Low Estimate	N/A	N/A	N/A	N/A
High Estimate	N/A	N/A	N/A	N/A
Year Ago Sales	N/A	N/A	N/A	N/A
Sales Growth (year/est)	N/A	N/A	N/A	N/A

Earnings History	Invalid Date			
	Invalid Date	Invalid Date	Invalid Date	Invalid Date
EPS Est.	N/A	N/A	N/A	N/A
EPS Actual	N/A	N/A	N/A	N/A
Difference	N/A	N/A	N/A	N/A
Surprise %	N/A	N/A	N/A	N/A

EPS Trend	Currency in USD			
	Current Qtr.	Next Qtr.	Current Year	Next Year
Current Estimate	0	0	0	0
7 Days Ago	0	0	0	0

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**Analyst Price Targets (1) >**



**Upgrades & Downgrades >**

Initiated Mizuho: to Neutral 4/19/2017



30 Days Ago	0	0	0	0
60 Days Ago	0	0	0	0
90 Days Ago	0	0	0	0

EPS Revisions	Current Qtr.	Next Qtr.	Current Year	Next Year
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A
Down Last 90 Days	N/A	N/A	N/A	N/A

Growth Estimates	XEL	Industry	Sector	S&P 500
Current Qtr.	N/A	N/A	N/A	0.23
Next Qtr.	N/A	N/A	N/A	0.24
Current Year	N/A	N/A	N/A	0.08
Next Year	N/A	N/A	N/A	0.12
Next 5 Years (per annum)	N/A	N/A	N/A	0.11
Past 5 Years (per annum)	N/A	N/A	N/A	N/A

↓ Downgrade Barclays: to Equal-Weight 12/2/2016

↑ +Upgrade UBS: to Neutral 9/19/2016

↑ +Upgrade JP Morgan: to Overweight 3/16/2016

↓ Downgrade Baird: to Neutral 3/2/2016

↓ Downgrade UBS: to Sell 2/3/2016



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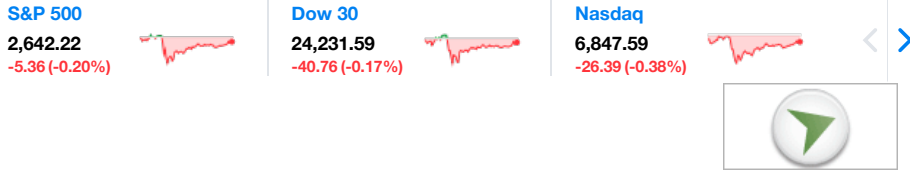
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PODCAST

It's all about Tiger Woods as he returns to competitive golf  
Dan Roberts and Myles Udland discuss



Xcel Energy Inc. (XEL)

NYSE - NYSE Delayed Price. Currency in USD

Add to watchlist

Quote Lookup

51.36 -0.25 (-0.48%) 51.36 0.00 (0.00%)

At close: 4:01PM EST

After hours: 4:20PM EST

People also watch TE WEC PNW CNP PEG



Time Period: Apr 01, 2017 - Nov 30, 2017 Show: Historical Prices

Frequency: Monthly

Apply

Currency in USD

Download Data

Date	Open	High	Low	Close*	Adj Close**	Volume
Oct 31, 2017	49.66	52.22	48.93	51.61	51.61	65,116,200
Sep 30, 2017	47.47	49.83	46.86	49.52	49.52	60,736,400
Sep 14, 2017	0.36 Dividend					
Aug 31, 2017	49.55	50.56	46.69	47.32	46.97	56,723,400
Jul 31, 2017	47.31	49.70	47.18	49.50	49.14	46,744,100
Jun 30, 2017	46.03	47.70	45.18	47.31	46.96	57,827,300
Jun 13, 2017	0.36 Dividend					
May 31, 2017	47.88	48.50	45.79	45.88	45.20	60,333,100
Apr 30, 2017	45.06	48.01	44.47	47.91	47.20	51,196,300
Mar 31, 2017	44.40	45.44	44.00	45.05	44.38	43,567,800

\*Close price adjusted for splits. \*\*Adjusted close price adjusted for both dividends and splits.



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**Ameren Corporation (AEE)**

(Delayed Data from NYSE)

**\$63.39 USD**

+0.41 (0.65%)

Updated Nov 27, 2017 04:00 PM ET

Add to portfolio

Trades from \$1

Zacks Rank:

3-Hold

Style Scores:

Value  Growth  Momentum  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: Utility - Electric Power

[Ameren Corporation \(AEE\) Quote Overview](#) » [Estimates](#) » [Ameren Corporation \(AEE\) Detailed Estimates](#)

**Detailed Estimates**

**Estimates**

Next Report Date	2/15/18	Earnings ESP	0.00%
Current Quarter	0.33	Current Year	2.81
EPS Last Quarter	1.31	Next Year	3.02
Last EPS Surprise	-5.34%	EPS (TTM)	2.58
ABR	2.43	P/E (F1)	22.39

**Growth Estimates**

	AEE	IND	S&P
Current Qtr (12/2017)	150.00	NA	NA
Next Qtr (03/2018)	14.29	NA	NA
Current Year (12/2017)	4.85	2.70	22.65
Next Year (12/2018)	7.36	11.60	11.25
Past 5 Years	0.80	1.70	2.80
Next 5 Years	6.70	8.00	NA
PE	22.39	17.80	926.13
PEG Ratio	3.36	2.23	NA

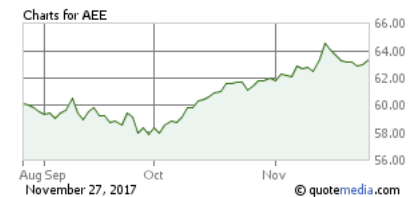
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**Research for AEE**

**Chart for AEE**



**Premium Research for AEE**

**Zacks Rank** ▲ Hold 3

**Zacks Industry Rank** Bottom 25%(198 out of 265)

**Zacks Sector Rank** Bottom 6% (15 out of 16)

**Style Scores**

Predict to see real-time community sentiment

AEE Ameren Corporat...	Tuesday	In a Week	In a Month	In 3 Months

Predicting constitutes acceptance of PredictWallStreet's terms of use.

Earnings ESP 0.00%

Research Reports for AEE [Analyst](#) | [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (ND)	Next Qtr (ND)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	M	NA	6.33B	6.53B
# of Estimates	NA	NA	1	1
High Estimate	NA	NA	6.33B	6.53B
Low Estimate	NA	NA	6.33B	6.53B
Year ago Sales	1.36B	1.51B	6.08B	6.33B
Year over Year Growth Est.	NA	NA	4.13%	3.27%

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.33	0.48	2.81	3.02
# of Estimates	2	1	6	6
Most Recent Consensus	0.35	NA	2.80	3.05
High Estimate	0.35	0.48	2.86	3.05
Low Estimate	0.30	0.48	2.80	3.00
Year ago EPS	0.13	0.42	2.68	2.81
Year over Year Growth Est.	150.00%	14.29%	4.85%	7.36%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	0	0	0
Up Last 30 Days	1	0	0	1
Up Last 60 Days	1	1	0	1
Down Last 7 Days	0	0	0	0
Down Last 30 Days	0	0	0	0
Down Last 60 Days	1	0	0	1

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.33	0.48	2.81	3.02
7 Days Ago	0.33	0.48	2.81	3.02
30 Days Ago	0.30	0.48	2.81	3.01
60 Days Ago	0.22	0.46	2.80	3.02
90 Days Ago	0.22	0.46	2.80	3.02

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.33	0.48	2.80	3.02
Zacks Consensus Estimate	0.33	0.48	2.81	3.02
Earnings ESP	0.00%	0.00%	-0.36%	0.11%

### Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	1.24	0.79	0.42	0.13	NA
Estimate	1.31	0.69	0.42	0.15	NA
Difference	-0.07	0.10	0.00	-0.02	0.00
Surprise	-5.34%	14.49%	0.00%	-13.33%	-1.05%

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## Avista Corporation (AVA)

(Delayed Data from NYSE)

**\$51.87 USD**

-0.06 (-0.12%)

Updated Nov 27, 2017 04:02 PM ET

Add to portfolio

Trades from \$1

Zacks Rank:

3-Hold

Style Scores:

Value  Growth  Momentum  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: Utility - Electric Power

[Avista Corporation \(AVA\) Quote Overview](#) » [Estimates](#) » [Avista Corporation \(AVA\) Detailed Estimates](#)

## Detailed Estimates

## Research for AVA

### Estimates

Next Report Date	2/20/18	Earnings ESP	0.00%
Current Quarter	0.54	Current Year	1.95
EPS Last Quarter	0.15	Next Year	2.02
Last EPS Surprise	-6.67%	EPS (TTM)	2.06
ABR	3.67	P/E (F1)	26.51

Growth Estimates	AVA	IND	S&P
Current Qtr (12/2017)	-12.90	NA	NA
Next Qtr (03/2018)	-7.29	NA	NA
Current Year (12/2017)	-9.30	2.70	22.65
Next Year (12/2018)	3.33	11.60	11.25
Past 5 Years	6.60	1.70	2.80
Next 5 Years	NA	8.00	NA
PE	26.51	17.80	1,334.57
PEG Ratio	NA	2.23	NA

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## Chart for AVA

Charts for AVA



## Premium Research for AVA

Zacks Rank	Hold <b>3</b>
Zacks Industry Rank	Bottom 25%(198 out of 265)
Zacks Sector Rank	Bottom 6% (15 out of 16)
Style Scores	

Predict to see real-time community sentiment

AVA Avista Corporat...	Tuesday	In a Week	In a Month	In 3 Months

Predicting constitutes acceptance of PredictWallStreet's terms of use.

Earnings ESP 0.00%

[Research Report for AVA](#) [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (ND)	Next Qtr (ND)	Current Year (ND)	Next Year (ND)
Zacks Consensus Estimate	M	NA	NA	NA
# of Estimates	NA	NA	NA	NA
High Estimate	NA	NA	NA	NA
Low Estimate	NA	NA	NA	NA
Year ago Sales	402.12M	436.47M	1.44B	NA
Year over Year Growth Est.	NA	NA	NA	NA

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.54	0.89	1.95	2.02
# of Estimates	1	1	2	2
Most Recent Consensus	NA	NA	1.95	2.05
High Estimate	0.54	0.89	1.95	2.05
Low Estimate	0.54	0.89	1.95	1.98
Year ago EPS	0.62	0.96	2.15	1.95
Year over Year Growth Est.	-12.90%	-7.29%	-9.30%	3.33%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	0	0	0
Up Last 30 Days	0	0	0	0
Up Last 60 Days	0	0	0	0
Down Last 7 Days	0	0	0	0
Down Last 30 Days	0	0	0	0
Down Last 60 Days	0	0	0	0

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.54	0.89	1.95	2.02
7 Days Ago	0.54	0.89	1.95	2.02
30 Days Ago	0.54	0.89	1.95	2.05
60 Days Ago	0.54	0.89	1.95	2.05
90 Days Ago	0.54	0.89	1.95	2.05

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.54	0.89	1.95	2.02
Zacks Consensus Estimate	0.54	0.89	1.95	2.02
Earnings ESP	0.00%	0.00%	0.00%	0.00%

### Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	0.14	0.34	0.96	0.62	NA
Estimate	0.15	0.37	0.80	0.60	NA
Difference	-0.01	-0.03	0.16	0.02	0.04
Surprise	-6.67%	-8.11%	20.00%	3.33%	2.14%

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## Black Hills Corporation (BKH)

(Delayed Data from NYSE)

**\$58.05 USD**

+0.03 (0.05%)

Updated Nov 27, 2017 04:02 PM ET

Add to portfolio

Trades from \$1

Zacks Rank:

4-Sell

Style Scores:

Value |  Growth |  Momentum |  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: [Utility](#) - [Electric Power](#)

[Black Hills Corporation \(BKH\) Quote Overview](#) » [Estimates](#) » [Black Hills Corporation \(BKH\) Detailed Estimates](#)

## Detailed Estimates

### Estimates

Next Report Date	2/7/18	Earnings ESP	0.00%
Current Quarter	1.15	Current Year	3.49
EPS Last Quarter	0.55	Next Year	3.58
Last EPS Surprise	-9.09%	EPS (TTM)	3.39
ABR	2.29	P/E (F1)	16.63

Growth Estimates	BKH	IND	S&P
Current Qtr (12/2017)	7.48	NA	NA
Next Qtr (03/2018)	0.00	NA	NA
Current Year (12/2017)	9.30	2.70	22.65
Next Year (12/2018)	2.79	11.60	11.25
Past 5 Years	10.40	1.70	2.80
Next 5 Years	5.60	8.00	NA
PE	16.63	17.80	746.38
PEG Ratio	2.98	2.23	NA

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## Research for BKH

### Chart for BKH



## Premium Research for BKH

<b>Zacks Rank</b>	Sell <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>Zacks Industry Rank</b>	Bottom 25%(198 out of 265)
<b>Zacks Sector Rank</b>	Bottom 6% (15 out of 16)
<b>Style Scores</b>	

Predict to see real-time community sentiment

	Tuesday	In a Week	In a Month	In 3 Months
<b>BKH</b> Black Hills Cor...				

Predicting constitutes acceptance of PredictWallStreet's terms of use.

Earnings ESP 0.00%

Research Report for BKH [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (12/2017)	Next Qtr (ND)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	508.73M	NA	1.77B	1.82B
# of Estimates	1	NA	3	3
High Estimate	508.73M	NA	1.82B	1.92B
Low Estimate	508.73M	NA	1.69B	1.71B
Year ago Sales	463.80M	554.00M	1.57B	1.77B
Year over Year Growth Est.	9.69%	NA	12.32%	3.25%

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	1.15	1.41	3.49	3.58
# of Estimates	3	1	3	5
Most Recent Consensus	1.15	1.41	3.35	3.45
High Estimate	1.18	1.41	3.61	3.69
Low Estimate	1.12	1.41	3.35	3.45
Year ago EPS	1.07	1.41	3.19	3.49
Year over Year Growth Est.	7.48%	0.00%	9.30%	2.79%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	0	0	0
Up Last 30 Days	0	0	0	0
Up Last 60 Days	0	0	0	0
Down Last 7 Days	0	0	0	0
Down Last 30 Days	0	0	2	2
Down Last 60 Days	0	0	1	1

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	1.15	1.41	3.49	3.58
7 Days Ago	1.15	1.41	3.49	3.58
30 Days Ago	1.15	1.41	3.52	3.65
60 Days Ago	1.18	1.41	3.48	3.70
90 Days Ago	1.18	1.41	3.48	3.70

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	1.15	1.41	3.35	3.47
Zacks Consensus Estimate	1.15	1.41	3.49	3.58
Earnings ESP	0.00%	0.00%	-3.92%	-3.32%

### Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	0.50	0.41	1.41	1.07	NA
Estimate	0.55	0.51	1.47	0.99	NA
Difference	-0.05	-0.10	-0.06	0.08	-0.03
Surprise	-9.09%	-19.61%	-4.08%	8.08%	-6.18%

## Annual Estimates By Analyst

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Real time prices by BATS. Delayed quotes by Sungard.

NYSE and AMEX data is at least 20 minutes delayed. NASDAQ data is at least 15 minutes delayed.



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## CMS Energy Corporation (CMS)

(Delayed Data from NYSE)

**\$49.75 USD**

+0.31 (0.63%)

Updated Nov 27, 2017 04:01 PM ET

Add to portfolio

Trades from \$1

Zacks Rank:

3-Hold

Style Scores:

Value |  Growth |  Momentum |  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: Utility - Electric Power

[CMS Energy Corporation \(CMS\) Quote Overview](#) » [Estimates](#) » [CMS Energy Corporation \(CMS\) Detailed Estimates](#)

## Detailed Estimates

### Estimates

Next Report Date	2/1/18	Earnings ESP	<b>8.75%</b>
Current Quarter	0.53	Current Year	2.17
EPS Last Quarter	0.55	Next Year	2.32
Last EPS Surprise	<b>12.73%</b>	EPS (TTM)	1.95
ABR	2.25	P/E (F1)	22.80

Growth Estimates	CMS	IND	S&P
Current Qtr (12/2017)	83.91	NA	NA
Next Qtr (03/2018)	7.75	NA	NA
Current Year (12/2017)	7.28	2.70	22.65
Next Year (12/2018)	7.25	11.60	11.25
Past 5 Years	6.80	1.70	2.80
Next 5 Years	6.50	8.00	NA
PE	22.80	17.80	1,200.88
PEG Ratio	3.52	2.23	NA

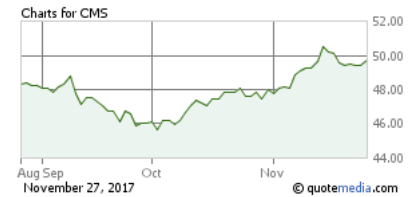
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## Research for CMS

### Chart for CMS



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## Premium Research for CMS

<b>Zacks Rank</b>	<b>Hold</b> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>Zacks Industry Rank</b>	Bottom 25%(198 out of 265)
<b>Zacks Sector Rank</b>	Bottom 6% (15 out of 16)
<b>Style Scores</b>	

Predict to see real-time community sentiment

	Tuesday	In a Week	In a Month	In 3 Months
<b>CMS</b> Cms Energy Corp...				

Predicting constitutes acceptance of PredictWallStreet's terms of use.

Earnings ESP 8.75%

Research Reports for CMS [Analyst](#) | [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (ND)	Next Qtr (ND)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	M	NA	6.55B	6.72B
# of Estimates	NA	NA	3	3
High Estimate	NA	NA	6.65B	6.83B
Low Estimate	NA	NA	6.49B	6.58B
Year ago Sales	1.64B	1.83B	6.40B	6.55B
Year over Year Growth Est.	NA	NA	2.39%	2.58%

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.53	0.77	2.17	2.32
# of Estimates	3	2	7	7
Most Recent Consensus	0.51	NA	2.17	2.32
High Estimate	0.58	0.77	2.17	2.34
Low Estimate	0.51	0.76	2.15	2.31
Year ago EPS	0.29	0.71	2.02	2.17
Year over Year Growth Est.	83.91%	7.75%	7.28%	7.25%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	0	0	0
Up Last 30 Days	0	0	0	0
Up Last 60 Days	2	0	1	1
Down Last 7 Days	0	0	0	0
Down Last 30 Days	0	0	0	1
Down Last 60 Days	1	0	0	3

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.53	0.77	2.17	2.32
7 Days Ago	0.53	0.77	2.17	2.32
30 Days Ago	0.53	0.77	2.17	2.33
60 Days Ago	0.46	0.77	2.17	2.33
90 Days Ago	0.42	0.77	2.17	2.33

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.58	0.77	2.16	2.32
Zacks Consensus Estimate	0.53	0.77	2.17	2.32
Earnings ESP	8.75%	0.65%	-0.33%	-0.40%

### Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	0.62	0.33	0.71	0.29	NA
Estimate	0.55	0.41	0.65	0.29	NA
Difference	0.07	-0.08	0.06	0.00	0.01
Surprise	12.73%	-19.51%	9.23%	0.00%	0.61%

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## CenterPoint Energy, Inc. (CNP)

(Delayed Data from NYSE)

**\$29.54 USD**

+0.51 (1.76%)

Updated Nov 27, 2017 04:00 PM ET

Add to portfolio

Trades from \$1

Zacks Rank:

3-Hold

Style Scores:

Value |  Growth |  Momentum |  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: Utility - Electric Power

[CenterPoint Energy, Inc. \(CNP\) Quote Overview](#) » [Estimates](#) » [CenterPoint Energy, Inc. \(CNP\) Detailed Estimates](#)

## Detailed Estimates

## Research for CNP

### Estimates

Next Report Date	2/27/18	Earnings ESP	0.00%
Current Quarter	0.29	Current Year	1.31
EPS Last Quarter	0.41	Next Year	1.41
Last EPS Surprise	-4.88%	EPS (TTM)	1.31
ABR	3.00	P/E (F1)	22.22

### Growth Estimates

	CNP	IND	S&P
Current Qtr (12/2017)	10.58	NA	NA
Next Qtr (03/2018)	8.11	NA	NA
Current Year (12/2017)	13.08	2.70	22.65
Next Year (12/2018)	7.49	11.60	11.25
Past 5 Years	-0.40	1.70	2.80
Next 5 Years	5.50	8.00	NA
PE	22.22	17.80	1,984.01
PEG Ratio	4.02	2.23	NA

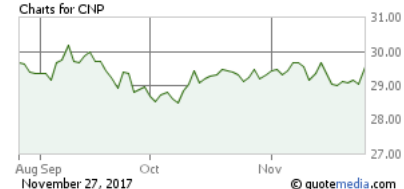
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## Chart for CNP

Charts for CNP



## Premium Research for CNP

Zacks Rank ▼ Hold 3

Zacks Industry Rank Bottom 25%(198 out of 265)

Zacks Sector Rank Bottom 6% (15 out of 16)

Style Scores

Predict to see real-time community sentiment

CNP Centerpoint Ene...	Tuesday	In a Week	In a Month	In 3 Months

Predicting constitutes acceptance of PredictWallStreet's terms of use.

Earnings ESP 0.00%

Research Reports for CNP [Analyst](#) | [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (12/2017)	Next Qtr (ND)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	2.15B	NA	8.75B	8.61B
# of Estimates	2	NA	3	3
High Estimate	2.20B	NA	9.17B	9.25B
Low Estimate	2.11B	NA	7.98B	8.21B
Year ago Sales	2.08B	2.74B	7.53B	8.75B
Year over Year Growth Est.	3.43%	NA	16.17%	-1.60%

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.29	0.40	1.31	1.41
# of Estimates	4	1	6	6
Most Recent Consensus	0.29	NA	NA	NA
High Estimate	0.29	0.40	1.33	1.45
Low Estimate	0.28	0.40	1.25	1.34
Year ago EPS	0.26	0.37	1.16	1.31
Year over Year Growth Est.	10.58%	8.11%	13.08%	7.49%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	0	0	0
Up Last 30 Days	3	0	1	1
Up Last 60 Days	3	1	0	1
Down Last 7 Days	0	0	0	0
Down Last 30 Days	1	0	1	1
Down Last 60 Days	0	0	1	1

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.29	0.40	1.31	1.41
7 Days Ago	0.29	0.40	1.31	1.41
30 Days Ago	0.27	0.40	1.31	1.41
60 Days Ago	0.26	0.40	1.31	1.41
90 Days Ago	0.28	0.39	1.31	1.41

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.29	0.40	1.31	1.41
Zacks Consensus Estimate	0.29	0.40	1.31	1.41
Earnings ESP	0.00%	0.00%	0.02%	0.28%

### Surprise - Reported Earnings History



	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	0.39	0.29	0.37	0.26	NA
Estimate	0.41	0.21	0.36	0.29	NA
Difference	-0.02	0.08	0.01	-0.03	0.01
Surprise	-4.88%	38.10%	2.78%	-10.34%	6.42%

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**Chesapeake Utilities Corporation (CPK)**  
(Delayed Data from NYSE)

Add to portfolio

**\$83.15 USD**  
+0.80 (0.97%)  
Updated Nov 27, 2017 04:02 PM ET

**Zacks Rank:**  
2-Buy  1  2  3  4  5  
**Style Scores:**  
 Value |  Growth |  Momentum |  VGM  
**Industry Rank:**  
Top 44%(116 out of 265)

Industry - Utility - Gas Distribution

[Chesapeake Utilities Corporation \(CPK\) Quote Overview](#) » [Estimates](#) » [Chesapeake Utilities Corporation \(CPK\) Detailed Estimates](#)

**Detailed Estimates**

**Research for CPK**

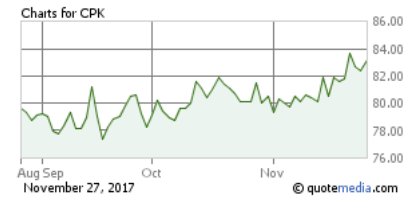
**Estimates**

Next Report Date	2/26/18	Earnings ESP	0.00%
Current Quarter	0.86	Current Year	2.85
EPS Last Quarter	0.35	Next Year	3.44
Last EPS Surprise	20.00%	EPS (TTM)	2.69
ABR	2.57	P/E (F1)	28.99

Growth Estimates	CPK	IND	S&P
Current Qtr (12/2017)	17.35	NA	NA
Next Qtr (03/2018)	15.38	NA	NA
Current Year (12/2017)	-0.26	9.80	22.65
Next Year (12/2018)	20.46	8.40	11.25
Past 5 Years	9.30	0.20	2.80
Next 5 Years	6.00	7.00	NA
PE	28.99	18.30	912.33
PEG Ratio	4.83	2.61	NA

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**Chart for CPK**



**Premium Research for CPK**

<b>Zacks Rank</b>	<b>Buy</b> <input checked="" type="checkbox"/> 2
<b>Zacks Industry Rank</b>	Top 44%(116 out of 265)
<b>Zacks Sector Rank</b>	Bottom 6% (15 out of 16)

Style Scores  Value  Growth  Momentum  VGM

Earnings ESP 0.00%

Research Report for CPK [Snapshot](#)

( = Change in last 30 days)

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Predict to see real-time community sentiment

CPK Chesapeake Util...	Tuesday	In a Week	In a Month	In 3 Months

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## Sales Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	147.85M	213.00M	584.95M	639.35M
# of Estimates	2	1	2	2
High Estimate	153.70M	213.00M	590.90M	647.70M
Low Estimate	142.00M	213.00M	579.00M	631.00M
Year ago Sales	141.87M	185.16M	498.86M	584.95M
Year over Year Growth Est.	4.22%	15.04%	17.26%	9.30%

## Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.86	1.35	2.85	3.44
# of Estimates	3	1	4	5
Most Recent Consensus	0.91	NA	2.87	3.43
High Estimate	0.91	1.35	2.87	3.48
Low Estimate	0.75	1.35	2.82	3.35
Year ago EPS	0.73	1.17	2.86	2.85
Year over Year Growth Est.	17.35%	15.38%	-0.26%	20.46%

## Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	0	0	0
Up Last 30 Days	1	0	2	3
Up Last 60 Days	1	0	2	3
Down Last 7 Days	0	0	0	0
Down Last 30 Days	1	0	0	0
Down Last 60 Days	1	0	0	0

## Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.86	1.35	2.85	3.44
7 Days Ago	0.86	1.35	2.85	3.44
30 Days Ago	0.86	1.35	2.83	3.39
60 Days Ago	0.86	1.35	2.83	3.39
90 Days Ago	0.86	1.35	2.88	3.42

## Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.86	1.35	2.85	3.43
Zacks Consensus Estimate	0.86	1.35	2.85	3.44
Earnings ESP	0.00%	0.00%	0.03%	-0.10%

## Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	0.42	0.37	1.17	0.73	NA
Estimate	0.35	0.55	1.46	0.73	NA
Difference	0.07	-0.18	-0.29	0.00	-0.10
Surprise	20.00%	-32.73%	-19.86%	0.00%	-8.15%

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**BBB Rating: A+**  
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**Dominion Energy Inc. (D)**

(Delayed Data from NYSE)

**\$82.96 USD**

+0.75 (0.91%)

Updated Nov 27, 2017 04:01 PM ET

Add to portfolio

Trades from \$1

Zacks Rank:

3-Hold

Style Scores:

Value |  Growth |  Momentum |  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: Utility - Electric Power

Dominion Energy Inc. (D) Quote Overview » Estimates » Dominion Energy Inc. (D) Detailed Estimates

**Detailed Estimates**

**Research for D**

**Estimates**

Next Report Date	2/7/18	Earnings ESP	0.00%
Current Quarter	0.89	Current Year	3.60
EPS Last Quarter	1.03	Next Year	4.02
Last EPS Surprise	0.97%	EPS (TTM)	3.67
ABR	2.60	P/E (F1)	22.82

**Growth Estimates**

	D	IND	S&P
Current Qtr (12/2017)	-10.35	NA	NA
Next Qtr (03/2018)	18.56	NA	NA
Current Year (12/2017)	-5.23	2.70	22.65
Next Year (12/2018)	11.54	11.60	11.25
Past 5 Years	3.80	1.70	2.80
Next 5 Years	5.60	8.00	NA
PE	22.82	17.80	722.67
PEG Ratio	4.10	2.23	NA

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**Chart for D**

Charts for D



Interactive Chart | Fundamental Charts

**Premium Research for D**

<b>Zacks Rank</b>	Hold <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>Zacks Industry Rank</b>	Bottom 25%(198 out of 265)
<b>Zacks Sector Rank</b>	Bottom 6% (15 out of 16)
<b>Style Scores</b>	

**Predict to see real-time community sentiment**

	Tuesday	In a Week	In a Month	In 3 Months
D Dominion Energy...				

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Earnings ESP 0.00%

Research Reports for D [Analyst](#) | [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (12/2017)	Next Qtr (ND)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	3.22B	NA	12.67B	13.79B
# of Estimates	2	NA	4	4
High Estimate	3.28B	NA	13.12B	14.31B
Low Estimate	3.16B	NA	12.39B	13.37B
Year ago Sales	3.08B	3.38B	11.73B	12.67B
Year over Year Growth Est.	4.49%	NA	8.02%	8.83%

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.89	1.15	3.60	4.02
# of Estimates	4	1	9	9
Most Recent Consensus	0.92	NA	3.60	4.00
High Estimate	0.92	1.15	3.75	4.13
Low Estimate	0.84	1.15	3.52	3.94
Year ago EPS	0.99	0.97	3.80	3.60
Year over Year Growth Est.	-10.35%	18.56%	-5.23%	11.54%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	0	0	1
Up Last 30 Days	1	0	2	3
Up Last 60 Days	1	1	0	1
Down Last 7 Days	0	0	0	0
Down Last 30 Days	3	0	4	1
Down Last 60 Days	3	0	6	1

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.89	1.15	3.60	4.02
7 Days Ago	0.89	1.15	3.60	4.01
30 Days Ago	0.92	1.15	3.62	4.02
60 Days Ago	0.93	1.13	3.64	4.03
90 Days Ago	0.91	1.11	3.64	4.01

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.89	1.15	3.59	4.00
Zacks Consensus Estimate	0.89	1.15	3.60	4.02
Earnings ESP	0.00%	0.00%	-0.39%	-0.34%

### Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	1.04	0.67	0.97	0.99	NA
Estimate	1.03	0.66	0.96	1.00	NA
Difference	0.01	0.01	0.01	-0.01	0.01
Surprise	0.97%	1.52%	1.04%	-1.00%	0.63%

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## DTE Energy Company (DTE)

(Delayed Data from NYSE)

**\$113.64 USD**

+0.99 (0.88%)

Updated Nov 27, 2017 04:03 PM ET

Add to portfolio

Trades from \$1

Zacks Rank:

2-Buy

Style Scores:

Value |  Growth |  Momentum |  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: Utility - Electric Power

[DTE Energy Company \(DTE\) Quotes Overview](#) » [Estimates](#) » [DTE Energy Company \(DTE\) Detailed Estimates](#)

### Detailed Estimates

#### Estimates

Next Report Date	2/8/18	Earnings ESP	0.00%
Current Quarter	1.21	Current Year	5.54
EPS Last Quarter	1.53	Next Year	5.72
Last EPS Surprise	-3.27%	EPS (TTM)	5.15
ABR	2.57	P/E (F1)	20.34

Growth Estimates	DTE	IND	S&P
Current Qtr (12/2017)	49.79	NA	NA
Next Qtr (03/2018)	NA	NA	NA
Current Year (12/2017)	4.89	2.70	22.65
Next Year (12/2018)	3.25	11.60	11.25
Past 5 Years	7.00	1.70	2.80
Next 5 Years	6.00	8.00	NA
PE	20.34	17.80	469.92
PEG Ratio	3.39	2.23	NA

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### Research for DTE

#### Chart for DTE



### Premium Research for DTE

<b>Zacks Rank</b>	<b>Buy</b> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>Zacks Industry Rank</b>	Bottom 25%(198 out of 265)
<b>Zacks Sector Rank</b>	Bottom 6% (15 out of 16)
<b>Style Scores</b>	

Predict to see real-time community sentiment

DTE Dte Energy Comp...	Tuesday	In a Week	In a Month	In 3 Months

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Earnings ESP 0.00%

Research Reports for DTE [Analyst](#) | [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (ND)	Next Qtr (ND)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	M	NA	11.21B	11.36B
# of Estimates	NA	NA	2	2
High Estimate	NA	NA	11.37B	11.64B
Low Estimate	NA	NA	11.05B	11.09B
Year ago Sales	2.87B	3.24B	10.63B	11.21B
Year over Year Growth Est.	NA	NA	5.43%	1.40%

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	1.21	NA	5.54	5.72
# of Estimates	3	NA	5	5
Most Recent Consensus	1.21	NA	5.55	5.75
High Estimate	1.22	NA	5.55	5.75
Low Estimate	1.21	NA	5.50	5.65
Year ago EPS	0.81	1.79	5.28	5.54
Year over Year Growth Est.	49.79%	NA	4.89%	3.25%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	NA	0	0
Up Last 30 Days	0	NA	0	0
Up Last 60 Days	1	0	4	2
Down Last 7 Days	0	NA	0	0
Down Last 30 Days	0	NA	0	0
Down Last 60 Days	0	0	0	0

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	1.21	NA	5.54	5.72
7 Days Ago	1.21	NA	5.54	5.72
30 Days Ago	1.21	NA	5.54	5.72
60 Days Ago	0.93	NA	5.42	5.68
90 Days Ago	0.93	NA	5.42	5.68

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	1.21	NA	5.54	5.72
Zacks Consensus Estimate	1.21	NA	5.54	5.72
Earnings ESP	0.00%	0.00%	0.00%	0.00%

### Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	1.48	1.07	1.79	0.81	NA
Estimate	1.53	0.99	1.57	0.84	NA
Difference	-0.05	0.08	0.22	-0.03	0.06
Surprise	-3.27%	8.08%	14.01%	-3.57%	3.81%

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## Duke Energy Corporation (DUK)

(Delayed Data from NYSE)

**\$88.88 USD**

+0.10 (0.11%)

Updated Nov 27, 2017 04:01 PM ET

Add to portfolio

Trades from \$1

Zacks Rank:

4-Sell

Style Scores:

Value  Growth  Momentum  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: Utility - Electric Power

Duke Energy Corporation (DUK) Quote Overview » Estimates » Duke Energy Corporation (DUK) Detailed Estimates

### Detailed Estimates

### Research for DUK

#### Estimates

Next Report Date	2/15/18	Earnings ESP	0.00%
Current Quarter	0.92	Current Year	4.56
EPS Last Quarter	1.56	Next Year	4.82
Last EPS Surprise	1.92%	EPS (TTM)	4.45
ABR	3.20	P/E (F1)	19.45

#### Growth Estimates

	DUK	IND	S&P
Current Qtr (12/2017)	12.96	NA	NA
Next Qtr (03/2018)	14.90	NA	NA
Current Year (12/2017)	-2.87	2.70	22.65
Next Year (12/2018)	5.80	11.60	11.25
Past 5 Years	1.60	1.70	2.80
Next 5 Years	4.00	8.00	NA
PE	19.45	17.80	571.26
PEG Ratio	4.85	2.23	NA

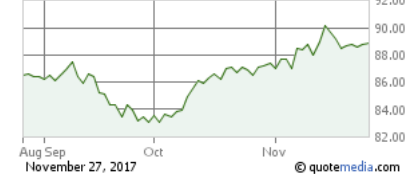
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### Chart for DUK

Charts for DUK



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### Premium Research for DUK

Zacks Rank

▼ Sell 4

Zacks Industry Rank

Bottom 25%(198 out of 265)

Zacks Sector Rank

Bottom 6% (15 out of 16)

Style Scores

Predict to see real-time community sentiment

DUK Duke Energy Cor...	Tuesday	In a Week	In a Month	In 3 Months

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Earnings ESP 0.00%

Research Reports for DUK [Analyst](#) | [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (12/2017)	Next Qtr (ND)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	5.75B	NA	23.90B	24.70B
# of Estimates	1	NA	4	4
High Estimate	5.75B	NA	24.53B	25.28B
Low Estimate	5.75B	NA	23.51B	24.23B
Year ago Sales	5.62B	5.73B	23.55B	23.90B
Year over Year Growth Est.	2.20%	NA	1.47%	3.36%

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.92	1.20	4.56	4.82
# of Estimates	4	2	9	8
Most Recent Consensus	0.92	1.11	4.56	4.80
High Estimate	0.94	1.28	4.60	4.85
Low Estimate	0.89	1.11	4.52	4.77
Year ago EPS	0.81	1.04	4.69	4.56
Year over Year Growth Est.	12.96%	14.90%	-2.87%	5.80%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	0	0	0
Up Last 30 Days	2	1	1	0
Up Last 60 Days	2	2	0	0
Down Last 7 Days	0	0	0	0
Down Last 30 Days	1	0	4	2
Down Last 60 Days	1	0	8	2

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.92	1.20	4.56	4.82
7 Days Ago	0.92	1.20	4.56	4.82
30 Days Ago	0.90	1.19	4.57	4.83
60 Days Ago	0.90	1.18	4.60	4.83
90 Days Ago	0.90	1.18	4.60	4.83

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.92	1.20	4.54	4.81
Zacks Consensus Estimate	0.92	1.20	4.56	4.82
Earnings ESP	0.00%	0.00%	-0.30%	-0.17%

### Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	1.59	1.01	1.04	0.81	NA
Estimate	1.56	1.02	1.06	0.81	NA
Difference	0.03	-0.01	-0.02	0.00	0.00
Surprise	1.92%	-0.98%	-1.89%	0.00%	-0.24%

### Quarterly Estimates By Analyst

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## Consolidated Edison Inc (ED)

(Delayed Data from NYSE)

**\$87.50 USD**

+0.60 (0.69%)

Updated Nov 27, 2017 04:01 PM ET

Add to portfolio

Trades from \$1

Zacks Rank:

2-Buy

Style Scores:

Value |  Growth |  Momentum |  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: Utility - Electric Power

Consolidated Edison Inc (ED) Quote Overview » Estimates » Consolidated Edison Inc (ED) Detailed Estimates

## Detailed Estimates

### Estimates

Next Report Date	2/15/18	Earnings ESP	0.00%
Current Quarter	0.75	Current Year	4.08
EPS Last Quarter	1.54	Next Year	4.26
Last EPS Surprise	-4.55%	EPS (TTM)	4.01
ABR	3.66	P/E (F1)	21.22

Growth Estimates	ED	IND	S&P
Current Qtr (12/2017)	8.70	NA	NA
Next Qtr (03/2018)	9.45	NA	NA
Current Year (12/2017)	3.13	2.70	22.65
Next Year (12/2018)	4.27	11.60	11.25
Past 5 Years	2.00	1.70	2.80
Next 5 Years	3.00	8.00	NA
PE	21.22	17.80	637.22
PEG Ratio	7.07	2.23	NA

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## Premium Research for ED

<b>Zacks Rank</b>	<input checked="" type="checkbox"/> Buy <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>Zacks Industry Rank</b>	Bottom 25%(198 out of 265)
<b>Zacks Sector Rank</b>	Bottom 6% (15 out of 16)
<b>Style Scores</b>	<input checked="" type="checkbox"/> Value   <input checked="" type="checkbox"/> Growth   <input checked="" type="checkbox"/> Momentum   <input checked="" type="checkbox"/> VGM

## Research for ED

### Chart for ED



## Predict to see real-time community sentiment

ED Consolidated Ed...	Tuesday	In a Week	In a Month	In 3 Months

Predicting constitutes acceptance of PredictWallStreet's terms of use.

Earnings ESP 0.00%

Research Reports for ED [Analyst | Snapshot](#)

( = Change in last 30 days)

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## Sales Estimates

	Current Qtr (ND)	Next Qtr (ND)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	M	NA	11.69B	11.92B
# of Estimates	NA	NA	2	2
High Estimate	NA	NA	11.78B	11.94B
Low Estimate	NA	NA	11.60B	11.91B
Year ago Sales	2.71B	3.23B	12.07B	11.69B
Year over Year Growth Est.	NA	NA	-3.19%	2.00%

## Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.75	1.39	4.08	4.26
# of Estimates	2	1	5	6
Most Recent Consensus	0.78	NA	4.10	4.26
High Estimate	0.78	1.39	4.10	4.29
Low Estimate	0.72	1.39	4.04	4.25
Year ago EPS	0.69	1.27	3.96	4.08
Year over Year Growth Est.	8.70%	9.45%	3.13%	4.27%

## Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	0	0	0
Up Last 30 Days	1	0	2	3
Up Last 60 Days	1	0	1	2
Down Last 7 Days	0	0	0	0
Down Last 30 Days	0	0	0	1
Down Last 60 Days	0	0	0	0

## Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.75	1.39	4.08	4.26
7 Days Ago	0.75	1.39	4.08	4.26
30 Days Ago	0.70	1.39	4.07	4.25
60 Days Ago	0.72	1.39	4.08	4.23
90 Days Ago	0.70	1.40	4.07	4.24

## Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.75	1.39	4.08	4.26
Zacks Consensus Estimate	0.75	1.39	4.08	4.26
Earnings ESP	0.00%	0.00%	-0.10%	0.04%

## Surprise - Reported Earnings History

Quarter Ending	Quarter Ending	Quarter Ending	Quarter Ending	Average Surprise
----------------	----------------	----------------	----------------	------------------

	(9/2017)	(6/2017)	(3/2017)	(12/2016)	
Reported	1.47	0.58	1.27	0.69	NA
Estimate	1.54	0.61	1.19	0.67	NA
Difference	-0.07	-0.03	0.08	0.02	0.00
Surprise	-4.55%	-4.92%	6.72%	2.99%	0.06%

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## Eversource Energy (ES)

(Delayed Data from NYSE)

**\$64.42 USD**

+0.09 (0.14%)

Updated Nov 27, 2017 04:03 PM ET

Add to portfolio

Trades from \$1

Zacks Rank:

4-Sell

Style Scores:

Value |  Growth |  Momentum |  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: Utility - Electric Power

Eversource Energy (ES) Quote Overview » Estimates » Eversource Energy (ES) Detailed Estimates

## Detailed Estimates

## Research for ES

### Estimates

Next Report Date	2/20/18	Earnings ESP	-4.49%
Current Quarter	0.78	Current Year	3.15
EPS Last Quarter	0.84	Next Year	3.33
Last EPS Surprise	-2.38%	EPS (TTM)	3.08
ABR	2.33	P/E (F1)	20.25

Growth Estimates	ES	IND	S&P
Current Qtr (12/2017)	8.33	NA	NA
Next Qtr (03/2018)	5.28	NA	NA
Current Year (12/2017)	6.46	2.70	22.65
Next Year (12/2018)	5.61	11.60	11.25
Past 5 Years	5.30	1.70	2.80
Next 5 Years	5.90	8.00	NA
PE	20.25	17.80	825.88
PEG Ratio	3.42	2.23	NA

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## Chart for ES

Charts for ES



## Premium Research for ES

Zacks Rank

▼ Sell 4

Zacks Industry Rank

Bottom 25%(198 out of 265)

Zacks Sector Rank

Bottom 6% (15 out of 16)

Style Scores

Predict to see real-time community sentiment

ES	Tuesday	In a Week	In a Month	In 3 Months
Eversource Ener...				

Predicting constitutes acceptance of PredictWallStreet's terms of use.

Earnings ESP -4.49%

Research Reports for ES [Analyst](#) | [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	1.84B	2.18B	7.86B	8.14B
# of Estimates	1	1	5	5
High Estimate	1.84B	2.18B	8.30B	8.45B
Low Estimate	1.84B	2.18B	7.68B	7.98B
Year ago Sales	1.78B	2.11B	7.64B	7.86B
Year over Year Growth Est.	3.62%	3.45%	2.84%	3.67%

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.78	0.86	3.15	3.33
# of Estimates	5	3	9	9
Most Recent Consensus	NA	NA	3.15	NA
High Estimate	0.85	0.87	3.20	3.35
Low Estimate	0.72	0.85	3.07	3.27
Year ago EPS	0.72	0.82	2.96	3.15
Year over Year Growth Est.	8.33%	5.28%	6.46%	5.61%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	0	0	0
Up Last 30 Days	0	0	0	0
Up Last 60 Days	1	0	0	0
Down Last 7 Days	0	0	0	0
Down Last 30 Days	0	0	0	0
Down Last 60 Days	0	1	2	0

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.78	0.86	3.15	3.33
7 Days Ago	0.78	0.86	3.15	3.33
30 Days Ago	0.78	0.86	3.15	3.33
60 Days Ago	0.78	0.88	3.17	3.33
90 Days Ago	0.78	0.88	3.17	3.34

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.75	0.87	3.15	3.32
Zacks Consensus Estimate	0.78	0.86	3.15	3.33
Earnings ESP	-4.49%	0.77%	0.04%	-0.31%

### Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	0.82	0.72	0.82	0.72	NA
Estimate	0.84	0.68	0.83	0.75	NA
Difference	-0.02	0.04	-0.01	-0.03	-0.01
Surprise	-2.38%	5.88%	-1.20%	-4.00%	-0.43%

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**Exelon Corporation (EXC)**  
(Delayed Data from NYSE)

Add to portfolio

**\$41.65 USD**  
+0.02 (0.05%)  
Updated Nov 27, 2017 04:01 PM ET

**Zacks Rank:**  
3-Hold       
**Style Scores:**  
**Industry Rank:**  
Bottom 25%(198 out of 265)

Industry: Utility - Electric Power

[Exelon Corporation \(EXC\) Quote Overview](#) » [Estimates](#) » [Exelon Corporation \(EXC\) Detailed Estimates](#)

**Detailed Estimates**

**Research for EXC**

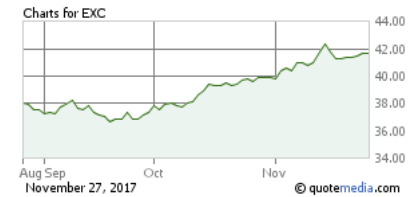
**Estimates**

Next Report Date	2/14/18	Earnings ESP	0.00%
Current Quarter	0.60	Current Year	2.65
EPS Last Quarter	0.86	Next Year	2.86
Last EPS Surprise	-1.16%	EPS (TTM)	2.48
ABR	1.60	P/E (F1)	15.66

Growth Estimates	EXC	IND	S&P
Current Qtr (12/2017)	36.36	NA	NA
Next Qtr (03/2018)	21.54	NA	NA
Current Year (12/2017)	-1.12	2.70	22.65
Next Year (12/2018)	7.83	11.60	11.25
Past 5 Years	-6.00	1.70	2.80
Next 5 Years	4.30	8.00	NA
PE	15.66	17.80	982.05
PEG Ratio	3.61	2.23	NA

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**Chart for EXC**



**Premium Research for EXC**

<b>Zacks Rank</b>	Hold <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>Zacks Industry Rank</b>	Bottom 25%(198 out of 265)
<b>Zacks Sector Rank</b>	Bottom 6% (15 out of 16)
<b>Style Scores</b>	

**Predict to see real-time community sentiment**

EXC Exelon Corporat...	Tuesday	In a Week	In a Month	In 3 Months

Predicting constitutes acceptance of PredictWallStreet's terms of use.

Earnings ESP 0.00%

Research Reports for EXC [Analyst](#) | [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (12/2017)	Next Qtr (ND)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	8.65B	NA	32.45B	32.28B
# of Estimates	1	NA	4	4
High Estimate	8.65B	NA	33.98B	35.10B
Low Estimate	8.65B	NA	30.23B	27.28B
Year ago Sales	7.88B	8.76B	31.36B	32.45B
Year over Year Growth Est.	9.82%	NA	3.46%	-0.51%

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.60	0.79	2.65	2.86
# of Estimates	5	2	8	8
Most Recent Consensus	0.61	0.71	2.65	2.84
High Estimate	0.61	0.87	2.70	2.96
Low Estimate	0.59	0.71	2.63	2.71
Year ago EPS	0.44	0.65	2.68	2.65
Year over Year Growth Est.	36.36%	21.54%	-1.12%	7.83%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	0	0	0
Up Last 30 Days	1	1	0	3
Up Last 60 Days	1	1	0	3
Down Last 7 Days	0	0	0	0
Down Last 30 Days	4	1	6	2
Down Last 60 Days	3	1	4	1

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.60	0.79	2.65	2.86
7 Days Ago	0.60	0.79	2.65	2.86
30 Days Ago	0.64	0.78	2.68	2.85
60 Days Ago	0.61	0.79	2.67	2.84
90 Days Ago	0.61	0.81	2.68	2.85

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.60	0.79	2.64	2.85
Zacks Consensus Estimate	0.60	0.79	2.65	2.86
Earnings ESP	0.00%	0.00%	-0.25%	-0.19%

### Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	0.85	0.54	0.65	0.44	NA
Estimate	0.86	0.52	0.61	0.45	NA
Difference	-0.01	0.02	0.04	-0.01	0.01
Surprise	-1.16%	3.85%	6.56%	-2.22%	1.76%

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**Fortis Inc. (FTS)**

(Delayed Data from NYSE)

**\$37.70 USD**

-0.13 (-0.34%)

Updated Nov 27, 2017 04:01 PM ET

Add to portfolio

Trades from \$1

Zacks Rank:

3-Hold

Style Scores:

Value |  Growth |  Momentum |  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: [Utility](#) - [Electric Power](#)

[Fortis Inc. \(FTS\) Quote Overview](#) » [Fortis Inc. \(FTS\) Detailed Estimates](#)

**Detailed Estimates**

**Estimates**

Next Report Date	2/15/18	Earnings ESP	1.03%
Current Quarter	0.49	Current Year	1.98
EPS Last Quarter	0.46	Next Year	2.04
Last EPS Surprise	6.52%	EPS (TTM)	1.95
ABR	2.00	P/E (F1)	19.08

Growth Estimates	FTS	IND	S&P
Current Qtr (12/2017)	1.04	NA	NA
Next Qtr (03/2018)	NA	NA	NA
Current Year (12/2017)	12.36	2.70	22.65
Next Year (12/2018)	3.29	11.60	11.25
Past 5 Years	NA	1.70	2.80
Next 5 Years	5.50	8.00	NA
PE	19.08	17.80	1,316.02
PEG Ratio	3.47	2.23	NA

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**Research for FTS**

**Chart for FTS**



**Premium Research for FTS**

<b>Zacks Rank</b>	Hold <input checked="" type="checkbox"/>
<b>Zacks Industry Rank</b>	Bottom 25%(198 out of 265)
<b>Zacks Sector Rank</b>	Bottom 6% (15 out of 16)
<b>Style Scores</b>	

Predict to see real-time community sentiment

FTS Fortis Inc	Tuesday	In a Week	In a Month	In 3 Months

Predicting constitutes acceptance of PredictWallStreet's terms of use.

Earnings ESP 1.03%

Research Report for FTS [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (12/2017)	Next Qtr (ND)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	1.72B	NA	6.55B	6.79B
# of Estimates	1	NA	2	2
High Estimate	1.72B	NA	6.59B	6.91B
Low Estimate	1.72B	NA	6.50B	6.66B
Year ago Sales	1.54B	1.72B	5.12B	6.55B
Year over Year Growth Est.	11.53%	NA	27.83%	3.61%

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.49	NA	1.98	2.04
# of Estimates	2	NA	4	4
Most Recent Consensus	0.48	NA	1.94	2.05
High Estimate	0.49	NA	2.03	2.10
Low Estimate	0.48	NA	1.94	1.99
Year ago EPS	0.48	0.53	1.76	1.98
Year over Year Growth Est.	1.04%	NA	12.36%	3.29%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	NA	0	0
Up Last 30 Days	0	NA	1	0
Up Last 60 Days	0	0	1	1
Down Last 7 Days	0	NA	0	0
Down Last 30 Days	1	NA	1	2
Down Last 60 Days	1	0	3	3

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.49	NA	1.98	2.04
7 Days Ago	0.49	NA	1.98	2.04
30 Days Ago	0.49	NA	1.98	2.06
60 Days Ago	0.50	NA	1.99	2.07
90 Days Ago	0.49	NA	1.95	2.03

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.49	NA	1.97	2.02
Zacks Consensus Estimate	0.49	NA	1.98	2.04
Earnings ESP	1.03%	0.00%	-0.63%	-1.10%

### Surprise - Reported Earnings History



	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	0.49	0.45	0.53	0.48	NA
Estimate	0.46	0.41	0.57	0.36	NA
Difference	0.03	0.04	-0.04	0.12	0.04
Surprise	6.52%	9.76%	-7.02%	33.33%	10.65%

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## Alliant Energy Corporation (LNT)

(Delayed Data from NYSE)

**\$44.61 USD**

+0.39 (0.88%)

Updated Nov 27, 2017 04:01 PM ET

Add to portfolio

Trades from \$1

Zacks Rank:

4-Sell

Style Scores:

Value |  Growth |  Momentum |  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: Utility - Electric Power

[Alliant Energy Corporation \(LNT\) Quote Overview](#) » [Estimates](#) » [Alliant Energy Corporation \(LNT\) Detailed Estimates](#)

## Detailed Estimates

### Estimates

Next Report Date	2/22/18	Earnings ESP	0.00%
Current Quarter	0.34	Current Year	1.96
EPS Last Quarter	0.88	Next Year	2.12
Last EPS Surprise	-14.77%	EPS (TTM)	1.87
ABR	2.67	P/E (F1)	22.52

Growth Estimates	LNT	IND	S&P
Current Qtr (12/2017)	21.43	NA	NA
Next Qtr (03/2018)	NA	NA	NA
Current Year (12/2017)	4.39	2.70	22.65
Next Year (12/2018)	8.15	11.60	11.25
Past 5 Years	5.70	1.70	2.80
Next 5 Years	6.20	8.00	NA
PE	22.52	17.80	1,326.07
PEG Ratio	3.66	2.23	NA

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## Research for LNT

### Chart for LNT



## Premium Research for LNT

<b>Zacks Rank</b>	Sell <input checked="" type="checkbox"/> 4
<b>Zacks Industry Rank</b>	Bottom 25%(198 out of 265)
<b>Zacks Sector Rank</b>	Bottom 6% (15 out of 16)
<b>Style Scores</b>	

Predict to see real-time community sentiment

LNT Alliant Energy ...	Tuesday	In a Week	In a Month	In 3 Months

Predicting constitutes acceptance of PredictWallStreet's terms of use.

Earnings ESP 0.00%

Research Reports for LNT [Analyst](#) | [Snapshot](#)

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### Sales Estimates

	Current Qtr (ND)	Next Qtr (ND)	Current Year (ND)	Next Year (ND)
Zacks Consensus Estimate	M	NA	NA	NA
# of Estimates	NA	NA	NA	NA
High Estimate	NA	NA	NA	NA
Low Estimate	NA	NA	NA	NA
Year ago Sales	797.00M	853.90M	3.32B	NA
Year over Year Growth Est.	NA	NA	NA	NA

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.34	NA	1.96	2.12
# of Estimates	1	NA	4	4
Most Recent Consensus	0.34	NA	1.95	999.00
High Estimate	0.34	NA	2.02	2.15
Low Estimate	0.34	NA	1.93	2.10
Year ago EPS	0.28	0.43	1.88	1.96
Year over Year Growth Est.	21.43%	NA	4.39%	8.15%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	NA	0	0
Up Last 30 Days	1	NA	0	0
Up Last 60 Days	1	0	0	0
Down Last 7 Days	0	NA	1	0
Down Last 30 Days	0	NA	3	0
Down Last 60 Days	0	0	3	1

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.34	NA	1.96	2.12
7 Days Ago	0.34	NA	1.98	2.12
30 Days Ago	0.31	NA	2.01	2.13
60 Days Ago	0.31	NA	2.00	2.13
90 Days Ago	0.31	NA	2.00	2.13

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.34	NA	1.94	2.11
Zacks Consensus Estimate	0.34	NA	1.96	2.12
Earnings ESP	0.00%	0.00%	-0.98%	-0.43%

### Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	0.75	0.41	0.43	0.28	NA
Estimate	0.88	0.39	0.45	0.28	NA
Difference	-0.13	0.02	-0.02	0.00	-0.03
Surprise	-14.77%	5.13%	-4.44%	0.00%	-3.52%

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## MGE Energy Inc. (MGEE)

(Delayed Data from NSDQ)

**\$64.90 USD**

-0.25 (-0.38%)

Updated Nov 27, 2017 03:59 PM ET

Add to portfolio

Trades from \$1

Zacks Rank:

3-Hold

Style Scores:

Value |  Growth |  Momentum |  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: [Utility](#) - [Electric Power](#)

[MGE Energy Inc. \(MGEE\) Quote Overview](#) » [Estimates](#) » [MGE Energy Inc. \(MGEE\) Detailed Estimates](#)

## Detailed Estimates

### Estimates

Next Report Date	2/23/18	Earnings ESP	0.00%
Current Quarter	NA	Current Year	2.20
EPS Last Quarter	NA	Next Year	2.30
Last EPS Surprise	NA	EPS (TTM)	2.20
ABR	3.00	P/E (F1)	29.50

Growth Estimates	MGEE	IND	S&P
Current Qtr (12/2017)	NA	NA	NA
Next Qtr (03/2018)	NA	NA	NA
Current Year (12/2017)	0.92	2.70	22.65
Next Year (12/2018)	4.55	11.60	11.25
Past 5 Years	4.30	1.70	2.80
Next 5 Years	NA	8.00	NA
PE	29.50	17.80	1,182.92
PEG Ratio	NA	2.23	NA

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## Premium Research for MGEE

**Zacks Rank** Hold

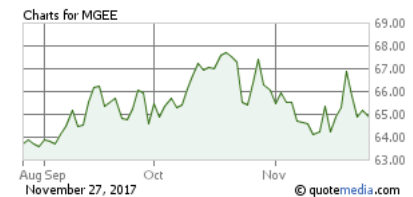
**Zacks Industry Rank** Bottom 25%(198 out of 265)

**Zacks Sector Rank** Bottom 6% (15 out of 16)

**Style Scores**  Value |  Growth |  Momentum |  VGM

## Research for MGEE

### Chart for MGEE



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Predict to see real-time community sentiment

MGEE Mge Energy Inc.	Tuesday	In a Week	In a Month	In 3 Months

Predicting constitutes acceptance of PredictWallStreet's terms of use.

Earnings ESP 0.00%

Research Report for MGEE [Snapshot](#)

( = Change in last 30 days)

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## Sales Estimates

	Current Qtr (ND)	Next Qtr (ND)	Current Year (ND)	Next Year (ND)
Zacks Consensus Estimate	M	NA	NA	NA
# of Estimates	NA	NA	NA	NA
High Estimate	NA	NA	NA	NA
Low Estimate	NA	NA	NA	NA
Year ago Sales	138.93M	156.82M	544.74M	NA
Year over Year Growth Est.	NA	NA	NA	NA

## Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	NA	NA	2.20	2.30
# of Estimates	NA	NA	1	1
Most Recent Consensus	NA	NA	2.20	2.30
High Estimate	NA	NA	2.20	2.30
Low Estimate	NA	NA	2.20	2.30
Year ago EPS	0.42	0.56	2.18	2.20
Year over Year Growth Est.	NA	NA	0.92%	4.55%

## Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	NA	NA	0	0
Up Last 30 Days	NA	NA	0	0
Up Last 60 Days	0	0	0	0
Down Last 7 Days	NA	NA	0	0
Down Last 30 Days	NA	NA	0	0
Down Last 60 Days	0	0	0	0

## Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	NA	NA	2.20	2.30
7 Days Ago	NA	NA	2.20	2.30
30 Days Ago	NA	NA	NA	NA
60 Days Ago	NA	NA	2.20	2.30
90 Days Ago	NA	NA	2.20	2.30

## Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	NA	NA	2.20	2.30
Zacks Consensus Estimate	NA	NA	2.20	2.30
Earnings ESP	0.00%	0.00%	0.00%	0.00%

## Surprise - Reported Earnings History

Quarter Ending	Quarter Ending	Quarter Ending	Quarter Ending	Average Surprise
----------------	----------------	----------------	----------------	------------------

	(9/2017)	(6/2017)	(3/2017)	(12/2016)	
Reported	0.77	0.45	0.56	0.42	NA
Estimate	NA	NA	NA	NA	NA
Difference	NA	NA	NA	NA	NA
Surprise	NA	NA	NA	NA	NA

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## NorthWestern Corporation (NWE)

(Delayed Data from NYSE)

**\$62.59 USD**

+0.37 (0.60%)

Updated Nov 27, 2017 04:02 PM ET

Add to portfolio

Trades from \$1

Zacks Rank:

3-Hold

Style Scores:

Value |  Growth |  Momentum |  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: Utility - Electric Power

[NorthWestern Corporation \(NWE\) Quote Overview](#) » [Estimates](#) » [NorthWestern Corporation \(NWE\) Detailed Estimates](#)

## Detailed Estimates

### Estimates

Next Report Date	2/15/18	Earnings ESP	1.96%
Current Quarter	1.02	Current Year	3.39
EPS Last Quarter	0.70	Next Year	3.43
Last EPS Surprise	7.14%	EPS (TTM)	3.31
ABR	3.75	P/E (F1)	18.31

Growth Estimates	NWE	IND	S&P
Current Qtr (12/2017)	6.25	NA	NA
Next Qtr (03/2018)	2.65	NA	NA
Current Year (12/2017)	2.63	2.70	22.65
Next Year (12/2018)	1.13	11.60	11.25
Past 5 Years	7.40	1.70	2.80
Next 5 Years	1.50	8.00	NA
PE	18.31	17.80	768.42
PEG Ratio	11.91	2.23	NA

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## Research for NWE

### Chart for NWE



## Premium Research for NWE

Zacks Rank ▲ Hold 3

Zacks Industry Rank Bottom 25%(198 out of 265)

Zacks Sector Rank Bottom 6% (15 out of 16)

Style Scores

Predict to see real-time community sentiment

	Tuesday	In a Week	In a Month	In 3 Months
NWE Northwestern Co...				

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Earnings ESP 1.96%

Research Report for NWE [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (ND)	Next Qtr (ND)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	M	NA	1.30B	1.33B
# of Estimates	NA	NA	1	1
High Estimate	NA	NA	1.30B	1.33B
Low Estimate	NA	NA	1.30B	1.33B
Year ago Sales	330.59M	367.31M	1.26B	1.30B
Year over Year Growth Est.	NA	NA	3.32%	2.16%

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	1.02	1.16	3.39	3.43
# of Estimates	2	1	3	4
Most Recent Consensus	NA	NA	3.40	3.50
High Estimate	1.04	1.16	3.41	3.50
Low Estimate	1.00	1.16	3.35	3.36
Year ago EPS	0.96	1.13	3.30	3.39
Year over Year Growth Est.	6.25%	2.65%	2.63%	1.13%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	0	0	0
Up Last 30 Days	0	0	0	0
Up Last 60 Days	0	0	0	0
Down Last 7 Days	0	0	0	0
Down Last 30 Days	0	0	0	0
Down Last 60 Days	0	0	0	0

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	1.02	1.16	3.39	3.43
7 Days Ago	1.02	1.16	3.39	3.43
30 Days Ago	1.02	1.16	3.39	3.43
60 Days Ago	1.02	1.16	3.40	3.44
90 Days Ago	1.02	1.16	3.40	3.45

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	1.04	1.16	3.41	3.44
Zacks Consensus Estimate	1.02	1.16	3.39	3.43
Earnings ESP	1.96%	0.00%	0.69%	0.44%

### Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	0.75	0.47	1.13	0.96	NA
Estimate	0.70	0.62	1.06	0.96	NA
Difference	0.05	-0.15	0.07	0.00	-0.01
Surprise	7.14%	-24.19%	6.60%	0.00%	-2.61%

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Visit [www.zacksdata.com](http://www.zacksdata.com) to get our data and content for your mobile app or website.

Real time prices by BATS. Delayed quotes by Sungard.

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## Pacific Gas & Electric Co. (PCG)

(Delayed Data from NYSE)

**\$54.19 USD**

+0.13 (0.24%)

Updated Nov 27, 2017 04:00 PM ET

Add to portfolio

Trades from \$1

Zacks Rank:

3-Hold

Style Scores:

Value  Growth  Momentum  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: Utility - Electric Power

[Pacific Gas & Electric Co. \(PCG\) Quote Overview](#) » [Estimates](#) » [Pacific Gas & Electric Co. \(PCG\) Detailed Estimates](#)

### Detailed Estimates

#### Estimates

Next Report Date	2/15/18	Earnings ESP	-6.34%
Current Quarter	0.71	Current Year	3.69
EPS Last Quarter	0.94	Next Year	3.79
Last EPS Surprise	19.15%	EPS (TTM)	4.37
ABR	2.06	P/E (F1)	14.60

Growth Estimates	PCG	IND	S&P
Current Qtr (12/2017)	-46.62	NA	NA
Next Qtr (03/2018)	0.00	NA	NA
Current Year (12/2017)	-1.86	2.70	22.65
Next Year (12/2018)	2.71	11.60	11.25
Past 5 Years	2.00	1.70	2.80
Next 5 Years	4.30	8.00	NA
PE	14.60	17.80	705.26
PEG Ratio	3.41	2.23	NA

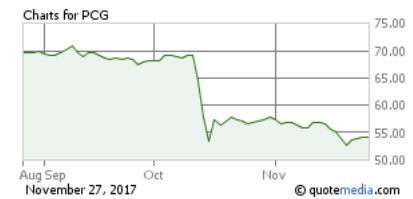
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### Research for PCG

#### Chart for PCG



### Premium Research for PCG

<b>Zacks Rank</b>	▼ Hold <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>Zacks Industry Rank</b>	Bottom 25%(198 out of 265)
<b>Zacks Sector Rank</b>	Bottom 6% (15 out of 16)
<b>Style Scores</b>	

Predict to see real-time community sentiment

PCG Pacific Gas & E...	Tuesday	In a Week	In a Month	In 3 Months

Predicting constitutes acceptance of PredictWallStreet's terms of use.

Earnings ESP -6.34%

Research Reports for PCG [Analyst](#) | [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (12/2017)	Next Qtr (ND)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	4.56B	NA	17.91B	18.47B
# of Estimates	1	NA	4	4
High Estimate	4.56B	NA	18.22B	18.68B
Low Estimate	4.56B	NA	17.60B	18.37B
Year ago Sales	4.71B	4.27B	17.67B	17.91B
Year over Year Growth Est.	-3.16%	NA	1.38%	3.12%

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.71	1.06	3.69	3.79
# of Estimates	3	1	6	6
Most Recent Consensus	999.00	NA	999.00	999.00
High Estimate	0.80	1.06	3.73	3.85
Low Estimate	0.66	1.06	3.65	3.74
Year ago EPS	1.33	1.06	3.76	3.69
Year over Year Growth Est.	-46.62%	0.00%	-1.86%	2.71%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	0	0	0
Up Last 30 Days	0	0	3	0
Up Last 60 Days	0	0	2	1
Down Last 7 Days	0	0	0	0
Down Last 30 Days	2	0	0	2
Down Last 60 Days	2	0	0	2

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.71	1.06	3.69	3.79
7 Days Ago	0.71	1.06	3.69	3.79
30 Days Ago	0.80	1.06	3.68	3.81
60 Days Ago	0.79	1.06	3.68	3.81
90 Days Ago	0.77	1.06	3.67	3.82

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.67	1.06	3.70	3.77
Zacks Consensus Estimate	0.71	1.06	3.69	3.79
Earnings ESP	-6.34%	0.00%	0.20%	-0.46%

### Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	1.12	0.86	1.06	1.33	NA
Estimate	0.94	0.79	0.83	1.29	NA
Difference	0.18	0.07	0.23	0.04	0.13
Surprise	19.15%	8.86%	27.71%	3.10%	14.71%

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## Public Service Enterprise Group Incorporated (PEG)

(Delayed Data from NYSE)

Add to portfolio

Trades from \$1

**\$51.58 USD**

+0.02 (0.04%)

Updated Nov 27, 2017 04:02 PM ET

Zacks Rank:

3-Hold

Style Scores:

Value |  Growth |  Momentum |  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: Utility - Electric Power

[Public Service Enterprise Group Incorporated \(PEG\) Quote Overview](#) » [Estimates](#) » [Public Service Enterprise Group Incorporated \(PEG\) Detailed Estimates](#)

## Detailed Estimates

### Estimates

Next Report Date	2/23/18	Earnings ESP	0.00%
Current Quarter	0.56	Current Year	2.92
EPS Last Quarter	0.84	Next Year	2.98
Last EPS Surprise	-2.38%	EPS (TTM)	2.90
ABR	1.40	P/E (F1)	17.64

### Growth Estimates

	PEG	IND	S&P
Current Qtr (12/2017)	3.70	NA	NA
Next Qtr (03/2018)	1.09	NA	NA
Current Year (12/2017)	0.55	2.70	22.65
Next Year (12/2018)	2.33	11.60	11.25
Past 5 Years	0.90	1.70	2.80
Next 5 Years	2.70	8.00	NA
PE	17.64	17.80	892.46
PEG Ratio	6.43	2.23	NA

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## Research for PEG

### Chart for PEG



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## Premium Research for PEG

Zacks Rank

▼ Hold 3

Zacks Industry Rank

Bottom 25%(198 out of 265)

Zacks Sector Rank

Bottom 6% (15 out of 16)

Style Scores  Value  Growth  Momentum  **VGM**

Earnings ESP 0.00%

Research Reports for PEG [Analyst | Snapshot](#)

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Predict to see real-time community sentiment

PEG Public Service ...	Tuesday	In a Week	In a Month	In 3 Months

Predicting constitutes acceptance of PredictWallStreet's terms of use.

### Sales Estimates

	Current Qtr (12/2017)	Next Qtr (ND)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	2.50B	NA	9.41B	9.97B
# of Estimates	1	NA	3	3
High Estimate	2.50B	NA	9.52B	10.50B
Low Estimate	2.50B	NA	9.21B	9.41B
Year ago Sales	2.09B	2.59B	9.06B	9.41B
Year over Year Growth Est.	19.43%	NA	3.82%	6.00%

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.56	0.93	2.92	2.98
# of Estimates	4	1	5	5
Most Recent Consensus	0.54	NA	999.00	2.95
High Estimate	0.61	0.93	2.95	3.07
Low Estimate	0.51	0.93	2.88	2.95
Year ago EPS	0.54	0.92	2.90	2.92
Year over Year Growth Est.	3.70%	1.09%	0.55%	2.33%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	0	0	0
Up Last 30 Days	1	1	1	2
Up Last 60 Days	2	1	0	2
Down Last 7 Days	0	0	0	0
Down Last 30 Days	1	0	2	2
Down Last 60 Days	1	0	2	1

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.56	0.93	2.92	2.98
7 Days Ago	0.56	0.93	2.92	2.98
30 Days Ago	0.54	0.91	2.92	2.97
60 Days Ago	0.53	0.91	2.91	2.96
90 Days Ago	0.54	0.90	2.92	2.94

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.56	0.93	2.91	2.99
Zacks Consensus Estimate	0.56	0.93	2.92	2.98
Earnings ESP	0.00%	0.00%	-0.29%	0.29%

### Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	0.82	0.62	0.92	0.54	NA
Estimate	0.84	0.57	0.84	0.52	NA
Difference	-0.02	0.05	0.08	0.02	0.03
Surprise	-2.38%	8.77%	9.52%	3.85%	4.94%

## Annual Estimates By Analyst

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## Scana Corporation (SCG)

(Delayed Data from NYSE)

**\$42.62 USD**

+0.76 (1.82%)

Updated Nov 27, 2017 04:03 PM ET

Add to portfolio

Trades from \$1

Zacks Rank:

5-Strong Sell

Style Scores:

Value  Growth  Momentum  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: Utility - Electric Power

Scana Corporation (SCG) Quote Overview » Estimates » Scana Corporation (SCG) Detailed Estimates

## Detailed Estimates

### Estimates

Next Report Date	2/15/18	Earnings ESP	0.00%
Current Quarter	0.99	Current Year	4.17
EPS Last Quarter	1.17	Next Year	3.12
Last EPS Surprise	-0.85%	EPS (TTM)	4.07
ABR	2.57	P/E (F1)	10.44

Growth Estimates	SCG	IND	S&P
Current Qtr (12/2017)	13.79	NA	NA
Next Qtr (03/2018)	-15.97	NA	NA
Current Year (12/2017)	0.16	2.70	22.65
Next Year (12/2018)	-25.20	11.60	11.25
Past 5 Years	6.50	1.70	2.80
Next 5 Years	3.50	8.00	NA
PE	10.44	17.80	624.58
PEG Ratio	2.98	2.23	NA

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## Research for SCG

### Chart for SCG



## Premium Research for SCG

<b>Zacks Rank</b>	<b>Strong Sell</b> <input checked="" type="checkbox"/>
<b>Zacks Industry Rank</b>	Bottom 25%(198 out of 265)
<b>Zacks Sector Rank</b>	Bottom 6% (15 out of 16)
<b>Style Scores</b>	

Predict to see real-time community sentiment

SCG Scana Corporati...	Tuesday	In a Week	In a Month	In 3 Months

Predicting constitutes acceptance of PredictWallStreet's terms of use.

Earnings ESP 0.00%

Research Reports for SCG [Analyst](#) | [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (ND)	Next Qtr (ND)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	M	NA	4.48B	4.27B
# of Estimates	NA	NA	3	3
High Estimate	NA	NA	4.81B	4.53B
Low Estimate	NA	NA	4.29B	3.99B
Year ago Sales	1.06B	1.17B	4.23B	4.48B
Year over Year Growth Est.	NA	NA	6.03%	-4.71%

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.99	1.00	4.17	3.12
# of Estimates	4	1	6	6
Most Recent Consensus	0.99	NA	4.22	3.60
High Estimate	1.03	1.00	4.24	3.80
Low Estimate	0.95	1.00	4.05	2.44
Year ago EPS	0.87	1.19	4.16	4.17
Year over Year Growth Est.	13.79%	-15.97%	0.16%	-25.20%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	0	0	0
Up Last 30 Days	0	0	0	0
Up Last 60 Days	0	0	0	0
Down Last 7 Days	0	0	0	0
Down Last 30 Days	0	1	1	3
Down Last 60 Days	2	1	3	5

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.99	1.00	4.17	3.12
7 Days Ago	0.99	1.00	4.17	3.12
30 Days Ago	0.98	1.02	4.17	3.41
60 Days Ago	1.01	1.55	4.17	3.99
90 Days Ago	1.03	1.55	4.17	4.31

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.99	1.00	4.11	2.85
Zacks Consensus Estimate	0.99	1.00	4.17	3.12
Earnings ESP	0.00%	0.00%	-1.36%	-8.56%

### Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	1.16	0.85	1.19	0.87	NA
Estimate	1.17	0.74	1.37	0.93	NA
Difference	-0.01	0.11	-0.18	-0.06	-0.04
Surprise	-0.85%	14.86%	-13.14%	-6.45%	-1.40%

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## Sempra Energy (SRE)

(Delayed Data from NYSE)

**\$119.43 USD**

+0.73 (0.62%)

Updated Nov 27, 2017 04:03 PM ET

Add to portfolio

Trades from \$1

**Zacks Rank:**

3-Hold

**Style Scores:**

Value |  Growth |  Momentum |  VGM

**Industry Rank:**

Top 44%(116 out of 265)

[Industry - Utility - Gas Distribution](#)

[Sempra Energy \(SRE\) Quote Overview](#) » [Estimates](#) » [Sempra Energy \(SRE\) Detailed Estimates](#)

## Detailed Estimates

### Estimates

Next Report Date	2/27/18	Earnings ESP	1.96%
Current Quarter	1.36	Current Year	5.21
EPS Last Quarter	1.04	Next Year	5.55
Last EPS Surprise	0.00%	EPS (TTM)	5.40
ABR	2.17	P/E (F1)	22.77

Growth Estimates	SRE	IND	S&P
Current Qtr (12/2017)	-10.31	NA	NA
Next Qtr (03/2018)	1.15	NA	NA
Current Year (12/2017)	3.17	9.80	22.65
Next Year (12/2018)	6.59	8.40	11.25
Past 5 Years	3.50	0.20	2.80
Next 5 Years	8.70	7.00	NA
PE	22.77	18.30	499.50
PEG Ratio	2.62	2.61	NA

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## Research for SRE

### Chart for SRE



[Interactive Chart](#) | [Fundamental Charts](#)

## Premium Research for SRE

<b>Zacks Rank</b>	Hold <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>Zacks Industry Rank</b>	Top 44%(116 out of 265)
<b>Zacks Sector Rank</b>	Bottom 6% (15 out of 16)
<b>Style Scores</b>	

Predict to see real-time community sentiment

SRE Sempra Energy	Tuesday	In a Week	In a Month	In 3 Months

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Earnings ESP 1.96%

Research Reports for SRE [Analyst](#) | [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (12/2017)	Next Qtr (ND)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	3.13B	NA	11.21B	11.71B
# of Estimates	1	NA	3	3
High Estimate	3.13B	NA	11.46B	12.13B
Low Estimate	3.13B	NA	10.81B	11.20B
Year ago Sales	2.87B	3.03B	10.18B	11.21B
Year over Year Growth Est.	8.92%	NA	10.11%	4.40%

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	1.36	1.76	5.21	5.55
# of Estimates	3	1	6	6
Most Recent Consensus	1.37	NA	5.23	5.60
High Estimate	1.41	1.76	5.28	5.72
Low Estimate	1.31	1.76	5.15	5.47
Year ago EPS	1.52	1.74	5.05	5.21
Year over Year Growth Est.	-10.31%	1.15%	3.17%	6.59%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	0	0	0
Up Last 30 Days	2	0	3	1
Up Last 60 Days	1	0	3	2
Down Last 7 Days	0	0	0	0
Down Last 30 Days	0	0	0	1
Down Last 60 Days	1	0	0	1

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	1.36	1.76	5.21	5.55
7 Days Ago	1.36	1.76	5.21	5.55
30 Days Ago	1.34	1.76	5.17	5.55
60 Days Ago	1.35	1.76	5.17	5.50
90 Days Ago	1.31	1.76	5.15	5.56

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	1.39	1.76	5.24	5.52
Zacks Consensus Estimate	1.36	1.76	5.21	5.55
Earnings ESP	1.96%	0.00%	0.64%	-0.54%

### Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	1.04	1.10	1.74	1.52	NA
Estimate	1.04	0.80	1.59	1.42	NA
Difference	0.00	0.30	0.15	0.10	0.14
Surprise	0.00%	37.50%	9.43%	7.04%	13.49%

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**BBB Rating: A+**  
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## Vectren Corporation (VVC)

(Delayed Data from NYSE)

**\$67.86 USD**

+0.68 (1.01%)

Updated Nov 27, 2017 04:02 PM ET

Add to portfolio

Trades from \$1

Zacks Rank:

3-Hold

Style Scores:

Value  Growth  Momentum  VGM

Industry Rank:

Top 44%(116 out of 265)

[Industry - Utility - Gas Distribution](#)

[Vectren Corporation \(VVC\) Quote Overview](#) » [Estimates](#) » [Vectren Corporation \(VVC\) Detailed Estimates](#)

## Detailed Estimates

### Estimates

Next Report Date	2/28/18	Earnings ESP	0.00%
Current Quarter	0.80	Current Year	2.62
EPS Last Quarter	0.67	Next Year	2.81
Last EPS Surprise	11.94%	EPS (TTM)	2.71
ABR	2.43	P/E (F1)	25.77

Growth Estimates	VVC	IND	S&P
Current Qtr (12/2017)	-4.76	NA	NA
Next Qtr (03/2018)	NA	NA	NA
Current Year (12/2017)	2.75	9.80	22.65
Next Year (12/2018)	7.25	8.40	11.25
Past 5 Years	7.50	0.20	2.80
Next 5 Years	5.70	7.00	NA
PE	25.77	18.30	993.29
PEG Ratio	4.55	2.61	NA

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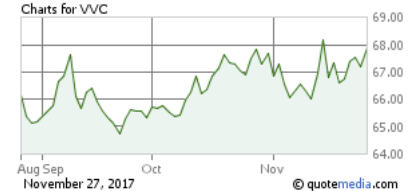
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## Research for VVC

### Chart for VVC

Charts for VVC



## Premium Research for VVC

<b>Zacks Rank</b>	Hold <b>3</b>
<b>Zacks Industry Rank</b>	Top 44%(116 out of 265)
<b>Zacks Sector Rank</b>	Bottom 6% (15 out of 16)
<b>Style Scores</b>	

Predict to see real-time community sentiment

VVC Vectren Corpora...	Tuesday	In a Week	In a Month	In 3 Months

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Earnings ESP 0.00%

Research Report for VVC [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (ND)	Next Qtr (ND)	Current Year (ND)	Next Year (ND)
Zacks Consensus Estimate	M	NA	NA	NA
# of Estimates	NA	NA	NA	NA
High Estimate	NA	NA	NA	NA
Low Estimate	NA	NA	NA	NA
Year ago Sales	699.00M	624.50M	2.45B	NA
Year over Year Growth Est.	NA	NA	NA	NA

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.80	NA	2.62	2.81
# of Estimates	1	NA	5	5
Most Recent Consensus	NA	NA	2.65	2.85
High Estimate	0.80	NA	2.65	2.85
Low Estimate	0.80	NA	2.60	2.80
Year ago EPS	0.84	0.67	2.55	2.62
Year over Year Growth Est.	-4.76%	NA	2.75%	7.25%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	NA	0	0
Up Last 30 Days	0	NA	0	0
Up Last 60 Days	0	0	0	0
Down Last 7 Days	0	NA	0	0
Down Last 30 Days	0	NA	0	0
Down Last 60 Days	0	0	0	0

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.80	NA	2.62	2.81
7 Days Ago	0.80	NA	2.62	2.81
30 Days Ago	0.80	NA	2.62	2.81
60 Days Ago	0.80	NA	2.62	2.81
90 Days Ago	0.80	NA	2.62	2.80

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.80	NA	2.61	2.80
Zacks Consensus Estimate	0.80	NA	2.62	2.81
Earnings ESP	0.00%	0.00%	-0.51%	-0.36%

### Surprise - Reported Earnings History



	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	0.75	0.45	0.67	0.84	NA
Estimate	0.67	0.43	0.65	0.78	NA
Difference	0.08	0.02	0.02	0.06	0.05
Surprise	11.94%	4.65%	3.08%	7.69%	6.84%

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## WEC Energy Group, Inc. (WEC)

(Delayed Data from NYSE)

**\$68.77 USD**

+0.24 (0.35%)

Updated Nov 27, 2017 04:00 PM ET

Add to portfolio



Zacks Rank:

2-Buy

Style Scores:

Value |  Growth |  Momentum |  VGM

Industry Rank:

Bottom 25%(198 out of 265)

Industry: Utility - Electric Power

WEC Energy Group, Inc. (WEC) Quote Overview » Estimates » WEC Energy Group, Inc. (WEC) Detailed Estimates

### Detailed Estimates

### Research for WEC

#### Estimates

Next Report Date	2/7/18	Earnings ESP	-3.08%
Current Quarter	0.65	Current Year	3.09
EPS Last Quarter	0.67	Next Year	3.29
Last EPS Surprise	1.49%	EPS (TTM)	3.04
ABR	2.40	P/E (F1)	22.08

Growth Estimates	WEC	IND	S&P
Current Qtr (12/2017)	6.56	NA	NA
Next Qtr (03/2018)	NA	NA	NA
Current Year (12/2017)	4.11	2.70	22.65
Next Year (12/2018)	6.25	11.60	11.25
Past 5 Years	6.60	1.70	2.80
Next 5 Years	5.30	8.00	NA
PE	22.08	17.80	841.61
PEG Ratio	4.14	2.23	NA

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### Chart for WEC

Charts for WEC



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### Premium Research for WEC

<b>Zacks Rank</b>	<b>Buy</b> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<b>Zacks Industry Rank</b>	Bottom 25%(198 out of 265)
<b>Zacks Sector Rank</b>	Bottom 6% (15 out of 16)
<b>Style Scores</b>	

Predict to see real-time community sentiment

WEC Wec Energy Grou...	Tuesday	In a Week	In a Month	In 3 Months

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Earnings ESP -3.08%

Research Reports for WEC [Analyst](#) | [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (ND)	Next Qtr (ND)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	M	NA	7.71B	7.85B
# of Estimates	NA	NA	3	3
High Estimate	NA	NA	8.01B	8.16B
Low Estimate	NA	NA	7.54B	7.60B
Year ago Sales	1.96B	2.30B	7.47B	7.71B
Year over Year Growth Est.	NA	NA	3.15%	1.84%

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.65	NA	3.09	3.29
# of Estimates	2	NA	9	9
Most Recent Consensus	0.67	NA	3.10	3.30
High Estimate	0.67	NA	3.10	3.35
Low Estimate	0.63	NA	3.06	3.21
Year ago EPS	0.61	1.12	2.97	3.09
Year over Year Growth Est.	6.56%	NA	4.11%	6.25%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	NA	0	0
Up Last 30 Days	0	NA	0	1
Up Last 60 Days	0	0	0	2
Down Last 7 Days	0	NA	0	0
Down Last 30 Days	0	NA	1	0
Down Last 60 Days	1	0	0	0

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.65	NA	3.09	3.29
7 Days Ago	0.65	NA	3.09	3.29
30 Days Ago	0.67	NA	3.10	3.28
60 Days Ago	0.70	NA	3.10	3.28
90 Days Ago	0.68	1.15	3.10	3.28

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.63	NA	3.06	3.26
Zacks Consensus Estimate	0.65	NA	3.09	3.29
Earnings ESP	-3.08%	0.00%	-1.04%	-0.78%

### Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	0.68	0.63	1.12	0.61	NA
Estimate	0.67	0.59	1.06	0.62	NA
Difference	0.01	0.04	0.06	-0.01	0.03
Surprise	1.49%	6.78%	5.66%	-1.61%	3.08%

## Annual Estimates By Analyst

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**Xcel Energy Inc. (XEL)**

(Delayed Data from NYSE)

**\$50.86 USD**

+0.15 (0.30%)

Updated Nov 27, 2017 04:01 PM ET

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Trades from \$1

Zacks Rank:

3-Hold

Style Scores:

Value |  Growth |  Momentum |  VGM

Industry Rank:

Bottom 25%(198 out of 265)

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**Detailed Estimates**

**Estimates**

Next Report Date	2/1/18	Earnings ESP	10.35%
Current Quarter	0.44	Current Year	2.31
EPS Last Quarter	0.92	Next Year	2.44
Last EPS Surprise	5.43%	EPS (TTM)	2.34
ABR	2.45	P/E (F1)	21.90

Growth Estimates	XEL	IND	S&P
Current Qtr (12/2017)	-3.33	NA	NA
Next Qtr (03/2018)	8.51	NA	NA
Current Year (12/2017)	4.41	2.70	22.65
Next Year (12/2018)	5.91	11.60	11.25
Past 5 Years	5.10	1.70	2.80
Next 5 Years	5.50	8.00	NA
PE	21.90	17.80	1,127.81
PEG Ratio	4.01	2.23	NA

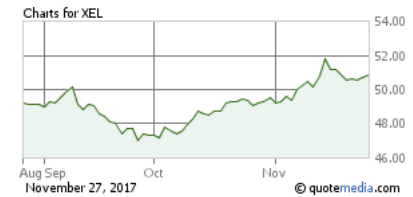
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**Research for XEL**

**Chart for XEL**



**Premium Research for XEL**

**Zacks Rank** ▲ Hold **3**

**Zacks Industry Rank** Bottom 25%(198 out of 265)

**Zacks Sector Rank** Bottom 6% (15 out of 16)

**Style Scores**

Predict to see real-time community sentiment

XEL Xcel Energy Inc...	Tuesday	In a Week	In a Month	In 3 Months

Predicting constitutes acceptance of PredictWallStreet's terms of use.

Earnings ESP 10.35%

Research Reports for XEL [Analyst](#) | [Snapshot](#)

( = Change in last 30 days)

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### Sales Estimates

	Current Qtr (12/2017)	Next Qtr (ND)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	3.00B	NA	11.71B	12.09B
# of Estimates	1	NA	5	5
High Estimate	3.00B	NA	12.01B	12.32B
Low Estimate	3.00B	NA	11.27B	11.56B
Year ago Sales	2.79B	2.95B	11.11B	11.71B
Year over Year Growth Est.	7.32%	NA	5.44%	3.19%

### Earnings Estimates

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Zacks Consensus Estimate	0.44	0.51	2.31	2.44
# of Estimates	4	2	8	8
Most Recent Consensus	0.41	NA	2.30	2.45
High Estimate	0.48	0.52	2.32	2.48
Low Estimate	0.41	0.50	2.30	2.42
Year ago EPS	0.45	0.47	2.21	2.31
Year over Year Growth Est.	-3.33%	8.51%	4.41%	5.91%

### Agreement - Estimate Revisions

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Up Last 7 Days	0	0	0	0
Up Last 30 Days	0	0	0	0
Up Last 60 Days	1	0	1	0
Down Last 7 Days	0	0	0	0
Down Last 30 Days	0	1	0	1
Down Last 60 Days	3	1	3	4

### Magnitude - Consensus Estimate Trend

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Current	0.44	0.51	2.31	2.44
7 Days Ago	0.44	0.51	2.31	2.44
30 Days Ago	0.44	0.52	2.31	2.45
60 Days Ago	0.46	0.52	2.31	2.45
90 Days Ago	0.47	0.52	2.31	2.46

### Upside - Most Accurate Estimate Versus Zacks Consensus

	Current Qtr (12/2017)	Next Qtr (3/2018)	Current Year (12/2017)	Next Year (12/2018)
Most Accurate Estimate	0.48	0.52	2.32	2.42
Zacks Consensus Estimate	0.44	0.51	2.31	2.44
Earnings ESP	10.35%	1.96%	0.54%	-0.97%

### Surprise - Reported Earnings History

	Quarter Ending (9/2017)	Quarter Ending (6/2017)	Quarter Ending (3/2017)	Quarter Ending (12/2016)	Average Surprise
Reported	0.97	0.45	0.47	0.45	NA
Estimate	0.92	0.43	0.50	0.44	NA
Difference	0.05	0.02	-0.03	0.01	0.01
Surprise	5.43%	4.65%	-6.00%	2.27%	1.59%

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## Corporate Bond Yield Averages

	AV. CORP.	CORPORATE BY RATINGS				CORPORATE BY GROUPS			PUBLIC UTILITY BONDS				INDUSTRIAL BONDS				RAILROAD BONDS						
		Aaa	Aa	A	Baa	P.U.	IND.	R.R.	Aaa	Aa	A	Baa	Aaa	Aa	A	Baa	Aaa	Aa	A	Baa			
<b>2002</b>																							
Jan.	7.38	6.55	7.03	7.50	7.87	7.69	7.07	---	Jan.	---	7.28	7.66	8.13	Jan.	6.55	6.78	7.35	7.60	Jan.	---	---	---	---
Feb.	7.32	6.51	6.95	7.37	7.89	7.62	7.02	---	Feb.	---	7.14	7.54	8.18	Feb.	6.51	6.76	7.20	7.59	Feb.	---	---	---	---
Mar.	7.57	6.81	7.22	7.62	8.11	7.83	7.30	---	Mar.	---	7.42	7.76	8.32	Mar.	6.81	7.02	7.47	7.89	Mar.	---	---	---	---
Apr.	7.49	6.76	7.16	7.49	8.04	7.74	7.23	---	Apr.	---	7.38	7.57	8.26	Apr.	6.76	6.93	7.40	7.81	Apr.	---	---	---	---
May	7.49	6.75	7.20	7.43	8.09	7.76	7.22	---	May	---	7.43	7.52	8.33	May	6.75	6.95	7.33	7.84	May	---	---	---	---
June	7.36	6.64	7.08	7.25	7.96	7.67	7.06	---	June	---	7.33	7.42	8.26	June	6.64	6.83	7.09	7.67	June	---	---	---	---
July	7.27	6.53	6.98	7.14	7.90	7.54	6.99	---	July	---	7.22	7.31	8.07	July	6.53	6.74	6.97	7.71	July	---	---	---	---
Aug.	7.06	6.37	6.84	6.95	7.58	7.34	6.77	---	Aug.	---	7.10	7.17	7.74	Aug.	6.37	6.57	6.73	7.42	Aug.	---	---	---	---
Sep.	6.87	6.15	6.63	6.76	7.40	7.23	6.51	---	Sep.	---	6.98	7.08	7.62	Sep.	6.15	6.27	6.43	7.17	Sep.	---	---	---	---
Oct.	7.08	6.33	6.74	6.95	7.74	7.43	6.72	---	Oct.	---	7.07	7.23	8.00	Oct.	6.33	6.40	6.67	7.48	Oct.	---	---	---	---
Nov.	7.01	6.31	6.71	6.89	7.62	7.31	6.70	---	Nov.	---	7.03	7.14	7.76	Nov.	6.31	6.39	6.63	7.47	Nov.	---	---	---	---
Dec.	6.90	6.21	6.63	6.80	7.45	7.20	6.59	---	Dec.	---	6.94	7.07	7.61	Dec.	6.21	6.32	6.53	7.28	Dec.	---	---	---	---
<b>2003</b>																							
Jan.	6.84	6.17	6.59	6.76	7.35	7.13	6.54	---	Jan.	---	6.87	7.06	7.47	Jan.	6.17	6.30	6.46	7.23	Jan.	---	---	---	---
Feb.	6.62	5.95	6.34	6.63	7.06	6.92	6.31	---	Feb.	---	6.66	6.93	7.17	Feb.	5.95	6.02	6.33	6.94	Feb.	---	---	---	---
Mar.	6.53	5.89	6.28	6.54	6.95	6.80	6.26	---	Mar.	---	6.56	6.79	7.05	Mar.	5.89	6.04	6.30	6.84	Mar.	---	---	---	---
Apr.	6.44	5.74	6.22	6.45	6.85	6.68	6.18	---	Apr.	---	6.47	6.64	6.94	Apr.	5.74	5.97	6.26	6.76	Apr.	---	---	---	---
May	6.02	5.22	5.85	6.08	6.38	6.35	5.70	---	May	---	6.20	6.36	6.47	May	5.22	5.48	5.79	6.29	May	---	---	---	---
June	5.85	4.97	5.72	5.92	6.19	6.21	5.49	---	June	---	6.12	6.21	6.30	June	4.97	5.31	5.62	6.07	June	---	---	---	---
July	6.26	5.49	6.07	6.34	6.62	6.54	5.98	---	July	---	6.37	6.57	6.67	July	5.49	5.77	6.11	6.56	July	---	---	---	---
Aug.	6.57	5.87	6.31	6.63	7.01	6.78	6.35	---	Aug.	---	6.48	6.78	7.08	Aug.	5.87	6.13	6.48	6.92	Aug.	---	---	---	---
Sep.	6.37	5.72	6.13	6.42	6.79	6.58	6.16	---	Sep.	---	6.30	6.56	6.87	Sep.	5.72	5.95	6.27	6.71	Sep.	---	---	---	---
Oct.	6.32	5.70	6.11	6.33	6.73	6.50	6.14	---	Oct.	---	6.28	6.43	6.79	Oct.	5.70	5.94	6.23	6.67	Oct.	---	---	---	---
Nov.	6.27	5.65	6.08	6.28	6.66	6.44	6.09	---	Nov.	---	6.26	6.37	6.69	Nov.	5.65	5.91	6.18	6.63	Nov.	---	---	---	---
Dec.	6.20	5.65	6.02	6.19	6.60	6.36	6.04	---	Dec.	---	6.18	6.27	6.61	Dec.	5.62	5.85	6.11	6.58	Dec.	---	---	---	---
<b>2004</b>																							
Jan.	6.08	5.54	5.91	6.08	6.44	6.23	5.92	---	Jan.	---	6.06	6.15	6.47	Jan.	5.54	5.74	6.02	6.40	Jan.	---	---	---	---
Feb.	6.00	5.50	5.87	6.04	6.27	6.17	5.83	---	Feb.	---	6.10	6.15	6.28	Feb.	5.50	5.65	5.93	6.24	Feb.	---	---	---	---
Mar.	5.84	5.33	5.70	5.86	6.11	6.01	5.67	---	Mar.	---	5.93	5.97	6.12	Mar.	5.33	5.48	5.75	6.10	Mar.	---	---	---	---
Apr.	6.22	5.73	6.10	6.25	6.46	6.38	6.05	---	Apr.	---	6.33	6.35	6.46	Apr.	5.73	5.85	6.15	6.45	Apr.	---	---	---	---
May	6.51	6.04	6.40	6.54	6.75	6.68	6.34	---	May	---	6.66	6.62	6.75	May	6.04	6.13	6.45	6.73	May	---	---	---	---
June	6.42	6.01	6.21	6.42	6.78	6.53	6.31	---	June	---	6.30	6.46	6.84	June	6.01	6.12	6.37	6.72	June	---	---	---	---
July	6.24	5.82	6.02	6.23	6.62	6.34	6.13	---	July	---	6.09	6.27	6.67	July	5.82	5.94	6.18	6.57	July	---	---	---	---
Aug.	6.08	5.65	5.87	6.08	6.48	6.18	5.98	---	Aug.	---	5.95	6.14	6.45	Aug.	5.65	5.79	6.02	6.47	Aug.	---	---	---	---
Sep.	5.91	5.46	5.73	5.91	6.27	6.01	5.81	---	Sep.	---	5.79	5.98	6.27	Sep.	5.46	5.67	5.84	6.27	Sep.	---	---	---	---
Oct.	5.87	5.47	5.69	5.86	6.21	5.95	5.78	---	Oct.	---	5.74	5.94	6.17	Oct.	5.47	5.63	5.78	6.24	Oct.	---	---	---	---
Nov.	5.89	5.52	5.72	5.88	6.21	5.97	5.80	---	Nov.	---	5.79	5.97	6.16	Nov.	5.52	5.65	5.78	6.25	Nov.	---	---	---	---
Dec.	5.84	5.47	5.69	5.82	6.15	5.93	5.75	---	Dec.	---	5.78	5.92	6.10	Dec.	5.47	5.60	5.72	6.20	Dec.	---	---	---	---
<b>2005</b>																							
Jan.	5.72	5.36	5.58	5.68	6.02	5.80	5.63	---	Jan.	---	5.68	5.78	5.95	Jan.	5.36	5.48	5.58	6.08	Jan.	---	---	---	---
Feb.	5.55	5.20	5.44	5.51	5.82	5.64	5.45	---	Feb.	---	5.55	5.61	5.76	Feb.	5.20	5.32	5.40	5.87	Feb.	---	---	---	---
Mar.	5.77	5.40	5.64	5.73	6.06	5.86	5.67	---	Mar.	---	5.76	5.83	6.01	Mar.	5.40	5.53	5.63	6.11	Mar.	---	---	---	---
Apr.	5.65	5.33	5.44	5.58	6.05	5.72	5.58	---	Apr.	---	5.56	5.64	5.95	Apr.	5.33	5.31	5.52	6.15	Apr.	---	---	---	---
May	5.54	5.15	5.29	5.49	6.01	5.60	5.48	---	May	---	5.39	5.53	5.88	May	5.15	5.18	5.45	6.13	May	---	---	---	---
June	5.35	4.96	5.02	5.33	5.86	5.39	5.31	---	June	---	5.05	5.40	5.70	June	4.96	4.99	5.26	6.01	June	---	---	---	---
July	5.46	5.06	5.14	5.44	5.95	5.50	5.41	---	July	---	5.18	5.51	5.81	July	5.06	5.10	5.37	6.10	July	---	---	---	---
Aug.	5.49	5.09	5.20	5.48	5.96	5.51	5.46	---	Aug.	---	5.23	5.50	5.80	Aug.	5.09	5.16	5.45	6.12	Aug.	---	---	---	---
Sept.	5.53	5.13	5.24	5.50	6.03	5.54	5.51	---	Sept.	---	5.27	5.52	5.83	Sept.	5.13	5.21	5.47	6.22	Sept.	---	---	---	---
Oct.	5.77	5.34	5.46	5.75	6.29	5.79	5.74	---	Oct.	---	5.50	5.79	6.08	Oct.	5.34	5.42	5.70	6.49	Oct.	---	---	---	---
Nov.	5.86	5.42	5.55	5.83	6.39	5.88	5.83	---	Nov.	---	5.59	5.88	6.19	Nov.	5.42	5.52	5.78	6.59	Nov.	---	---	---	---
Dec.	5.81	5.38	5.51	5.84	6.33	5.83	5.80	---	Dec.	---	5.55	5.80	6.14	Dec.	5.38	5.45	5.88	6.51	Dec.	---	---	---	---
<b>2006</b>																							
Jan.	5.75	5.29	5.45	5.79	6.24	5.77	5.73	---	Jan.	---	5.50	5.75	6.06	Jan.	5.29	5.39	5.83	6.41	Jan.	---	---	---	---
Feb.	5.80	5.35	5.51	5.85	6.27	5.83	5.78	---	Feb.	---	5.55	5.82	6.11	Feb.	5.35	5.46	5.87	6.43	Feb.	---	---	---	---
Mar.	5.95	5.52	5.67	5.98	6.41	5.98	5.92	---	Mar.	---	5.71	5.98	6.26	Mar.	5.52	5.64	5.96	6.55	Mar.	---	---	---	---
Apr.	6.26	5.84	6.00	6.27	6.68	6.28	6.23	---	Apr.	---	6.02	6.29	6.54	Apr.	5.84	5.98	6.26	6.82	Apr.	---	---	---	---
May	6.36	5.95	6.13	6.40	6.75	6.39	6.33	---	May	---	6.16	6.42	6.59	May	5.95	6.10	6.37	6.90	May	---	---	---	---
June	6.35	5.89	6.11	6.39	6.78	6.39	6.31	---	June	---	6.16	6.40											



Corporate Bond Yield Averages

AV. CORP.	CORPORATE BY RATINGS				CORPORATE BY GROUPS			PUBLIC UTILITY BONDS				INDUSTRIAL BONDS				RAILROAD BONDS							
	Aaa	Aa	A	Baa	P.U.	IND.	R.R.	Aaa	Aa	A	Baa	Aaa	Aa	A	Baa	Aaa	Aa	A	Baa				
<b>2006</b>																							
Jan.	5.75	5.29	5.45	5.79	6.24	5.77	5.73	---	Jan.	---	5.50	5.75	6.06	Jan.	5.29	5.39	5.83	6.41	Jan.	---	---	---	---
Feb.	5.80	5.35	5.51	5.85	6.27	5.83	5.78	---	Feb.	---	5.55	5.82	6.11	Feb.	5.35	5.46	5.87	6.43	Feb.	---	---	---	---
Mar.	5.95	5.52	5.67	5.98	6.41	5.98	5.92	---	Mar.	---	5.71	5.98	6.26	Mar.	5.52	5.64	5.96	6.55	Mar.	---	---	---	---
Apr.	6.26	5.84	6.00	6.27	6.68	6.28	6.23	---	Apr.	---	6.02	6.29	6.54	Apr.	5.84	5.98	6.26	6.82	Apr.	---	---	---	---
May	6.36	5.95	6.13	6.40	6.75	6.39	6.33	---	May	---	6.16	6.42	6.59	May	5.95	6.10	6.37	6.90	May	---	---	---	---
June	6.35	5.89	6.11	6.39	6.78	6.39	6.31	---	June	---	6.16	6.40	6.61	June	5.89	6.05	6.36	6.94	June	---	---	---	---
July	6.33	5.85	6.08	6.36	6.76	6.37	6.28	---	July	---	6.13	6.37	6.61	July	5.85	6.02	6.35	6.91	July	---	---	---	---
Aug.	6.16	5.68	5.91	6.19	6.59	6.20	6.11	---	Aug.	---	5.97	6.20	6.43	Aug.	5.68	5.85	6.18	6.74	Aug.	---	---	---	---
Sept.	5.98	5.51	5.75	5.98	6.43	6.03	5.94	---	Sept.	---	5.81	6.00	6.26	Sept.	5.51	5.68	5.95	6.59	Sept.	---	---	---	---
Oct.	5.97	5.51	5.74	5.94	6.42	6.01	5.93	---	Oct.	---	5.80	5.98	6.24	Oct.	5.51	5.68	5.90	6.60	Oct.	---	---	---	---
Nov.	5.78	5.33	5.57	5.76	6.20	5.82	5.73	---	Nov.	---	5.61	5.80	6.04	Nov.	5.33	5.52	5.72	6.36	Nov.	---	---	---	---
Dec.	5.79	5.29	5.58	5.78	6.22	5.83	5.74	---	Dec.	---	5.62	5.81	6.05	Dec.	5.29	5.53	5.75	6.38	Dec.	---	---	---	---
<b>2007</b>																							
Jan.	5.92	5.40	5.75	5.93	6.34	5.96	5.88	---	Jan.	---	5.78	5.96	6.16	Jan.	5.40	5.71	5.91	6.52	Jan.	---	---	---	---
Feb.	5.88	5.39	5.72	5.88	6.28	5.91	5.85	---	Feb.	---	5.73	5.90	6.10	Feb.	5.39	5.70	5.86	6.44	Feb.	---	---	---	---
Mar.	5.84	5.30	5.66	5.84	6.27	5.87	5.80	---	Mar.	---	5.66	5.85	6.10	Mar.	5.30	5.66	5.83	6.43	Mar.	---	---	---	---
Apr.	5.99	5.47	5.83	5.99	6.39	6.01	5.96	---	Apr.	---	5.83	5.97	6.24	Apr.	5.47	5.82	6.00	6.54	Apr.	---	---	---	---
May	6.00	5.47	5.85	6.01	6.39	6.03	5.97	---	May	---	5.86	5.99	6.23	May	5.47	5.84	6.04	6.54	May	---	---	---	---
June	6.32	5.79	6.17	6.33	6.70	6.34	6.29	---	June	---	6.18	6.30	6.54	June	5.79	6.15	6.36	6.84	June	---	---	---	---
July	6.26	5.73	6.09	6.30	6.65	6.28	6.24	---	July	---	6.11	6.25	6.49	July	5.73	6.07	6.34	6.81	July	---	---	---	---
Aug.	6.26	5.79	6.06	6.29	6.65	6.28	6.23	---	Aug.	---	6.11	6.24	6.51	Aug.	5.79	6.01	6.35	6.79	Aug.	---	---	---	---
Sept.	6.21	5.74	6.02	6.23	6.59	6.24	6.17	---	Sept.	---	6.10	6.18	6.45	Sept.	5.74	5.93	6.28	6.73	Sept.	---	---	---	---
Oct.	6.12	5.66	5.94	6.13	6.48	6.17	6.06	---	Oct.	---	6.04	6.11	6.36	Oct.	5.66	5.84	6.14	6.60	Oct.	---	---	---	---
Nov.	5.97	5.44	5.78	5.97	6.40	6.04	5.90	---	Nov.	---	5.87	5.97	6.27	Nov.	5.44	5.67	5.97	6.51	Nov.	---	---	---	---
Dec.	6.15	5.49	5.91	6.19	6.65	6.23	6.07	---	Dec.	---	6.03	6.16	6.51	Dec.	5.49	5.78	6.22	6.78	Dec.	---	---	---	---
<b>2008</b>																							
Jan.	6.02	5.33	5.78	6.06	6.54	6.08	5.96	---	Jan.	---	5.87	6.02	6.35	Jan.	5.33	5.68	6.10	6.73	Jan.	---	---	---	---
Feb.	6.24	5.53	5.97	6.26	6.82	6.28	6.19	---	Feb.	---	6.04	6.21	6.60	Feb.	5.53	5.90	6.30	7.04	Feb.	---	---	---	---
Mar.	6.24	5.51	5.90	6.24	6.89	6.29	6.17	---	Mar.	---	5.99	6.21	6.68	Mar.	5.51	5.80	6.27	7.10	Mar.	---	---	---	---
Apr.	6.29	5.55	5.93	6.30	6.97	6.36	6.21	---	Apr.	---	5.99	6.29	6.81	Apr.	5.55	5.86	6.31	7.12	Apr.	---	---	---	---
May	6.30	5.57	6.00	6.30	6.92	6.38	6.22	---	May	---	6.07	6.27	6.79	May	5.57	5.93	6.33	7.05	May	---	---	---	---
June	6.42	5.68	6.11	6.43	7.07	6.50	6.35	---	June	---	6.19	6.38	6.93	June	5.68	6.02	6.48	7.22	June	---	---	---	---
July	6.44	5.67	6.05	6.47	7.16	6.50	6.38	---	July	---	6.13	6.40	6.97	July	5.67	5.97	6.54	7.35	July	---	---	---	---
Aug.	6.42	5.64	6.01	6.46	7.15	6.48	6.35	---	Aug.	---	6.09	6.37	6.98	Aug.	5.64	5.92	6.55	7.31	Aug.	---	---	---	---
Sept.	6.50	5.65	6.03	6.55	7.31	6.59	6.41	---	Sept.	---	6.13	6.49	7.15	Sept.	5.65	5.93	6.60	7.47	Sept.	---	---	---	---
Oct.	7.56	6.28	6.79	7.58	8.88	7.70	7.42	---	Oct.	---	6.95	7.56	8.58	Oct.	6.28	6.63	7.60	9.17	Oct.	---	---	---	---
Nov.	7.65	6.12	6.73	7.68	9.21	7.80	7.49	---	Nov.	---	6.83	7.60	8.98	Nov.	6.12	6.63	7.76	9.44	Nov.	---	---	---	---
Dec.	6.73	5.06	5.81	6.70	8.45	6.87	6.59	---	Dec.	---	5.93	6.54	8.13	Dec.	5.06	5.68	6.85	8.76	Dec.	---	---	---	---
<b>2009</b>																							
Jan.	6.59	5.05	5.84	6.46	8.14	6.77	6.41	---	Jan.	---	6.01	6.39	7.90	Jan.	5.05	5.67	6.52	8.39	Jan.	---	---	---	---
Feb.	6.64	5.27	6.02	6.47	8.08	6.72	6.56	---	Feb.	---	6.11	6.30	7.74	Feb.	5.27	5.93	6.62	8.42	Feb.	---	---	---	---
Mar.	6.84	5.50	6.11	6.66	8.42	6.85	6.83	---	Mar.	---	6.14	6.42	8.00	Mar.	5.50	6.07	6.90	8.84	Mar.	---	---	---	---
Apr.	6.85	5.39	6.17	6.70	8.39	6.90	6.79	---	Apr.	---	6.20	6.48	8.03	Apr.	5.39	6.14	6.90	8.74	Apr.	---	---	---	---
May	6.79	5.54	6.24	6.67	8.06	6.83	6.75	---	May	---	6.23	6.49	7.76	May	5.54	6.24	6.84	8.36	May	---	---	---	---
June	6.52	5.61	6.12	6.39	7.50	6.54	6.49	---	June	---	6.13	6.20	7.30	June	5.61	6.11	6.58	7.69	June	---	---	---	---
July	6.17	5.41	5.71	6.09	7.09	6.15	6.18	---	July	---	5.63	5.97	6.87	July	5.41	5.78	6.20	7.30	July	---	---	---	---
Aug.	5.83	5.26	5.45	5.78	6.58	5.80	5.86	---	Aug.	---	5.33	5.71	6.36	Aug.	5.26	5.56	5.84	6.79	Aug.	---	---	---	---
Sept.	5.61	5.13	5.21	5.56	6.31	5.60	5.62	---	Sept.	---	5.15	5.53	6.12	Sept.	5.13	5.27	5.58	6.50	Sept.	---	---	---	---
Oct.	5.63	5.15	5.24	5.57	6.29	5.64	5.61	---	Oct.	---	5.23	5.55	6.14	Oct.	5.15	5.25	5.59	6.44	Oct.	---	---	---	---
Nov.	5.68	5.19	5.29	5.64	6.32	5.71	5.64	---	Nov.	---	5.33	5.64	6.18	Nov.	5.19	5.26	5.64	6.46	Nov.	---	---	---	---
Dec.	5.78	5.26	5.44	5.77	6.37	5.86	5.71	---	Dec.	---	5.52	5.79	6.26	Dec.	5.26	5.36	5.74	6.47	Dec.	---	---	---	---
<b>2010</b>																							
Jan.	5.76	5.26	5.50	5.76	6.25	5.83	5.69	---	Jan.	---	5.55	5.77	6.16	Jan.	5.26	5.44	5.73	6.33	Jan.	---	---	---	---
Feb.	5.86	5.35	5.62	5.84	6.34	5.94	5.79	---	Feb.	---	5.69	5.87	6.25	Feb.	5.35	5.55	5.80	6.43	Feb.	---	---	---	---
Mar.	5.81	5.27	5.57	5.80	6.27	5.90	5.71	---	Mar.	---	5.64	5.84	6.22	Mar.	5.27	5.49	5.75	6.32	Mar.	---	---	---	---
Apr.	5.80	5.29	5.57	5.78	6.25	5.87	5.71	---	Apr.	---	5.62	5.81	6.19	Apr.	5.29	5.50	5.74	6.32	Apr.	---	---	---	---
May	5.52	4.96	5.25	5.49	6.05	5.59	5.44	---	May	---	5.29	5.50	5.97	May	4.96	5.19	5.47	6.13	May	---	---	---	---
June	5.52	4.88	5.16	5.44	6.23	5.62	5.42	---	June	---	5.22	5.46	6.18	June	4.88	5.11	5.42	6.28	June	---	---	---	---
July	5.32	4.72	4.96	5.25	6.01	5.41	5.23	---	July	---	4.99	5.26	5.98	July	4.72	4.92	5.23	6.04	July	---	---	---	---
Aug.	5.05	4.49	4.72	5.00	5.66	5.10	4.98	---	Aug.	---	4.75	5.01	5.55	Aug.	4.49	4.68	4.98	5.77	Aug.	---	---	---	---
Sept.	5.05	4.53	4.72	5.01	5.66	5.10	5.00	---	Sept.	---	4.74	5.01	5.53	Sept.	4.53	4.70	5.00	5.78	Sept.	---	---	---	---
Oct.	5.15	4.68	4.83	5.09	5.72	5.20	5.08	---	Oct.	---	4.89	5.10	5.62	Oct.	4.68	4.77	5.07	5.81	Oct.	---	---	---	---
Nov.	5.37	4.87	5.07	5.33	5.92	5.45	5.29	---	Nov.	---	5.12	5.37	5.85	Nov.	4.87	5.02	5.29	5.99	Nov.	---	---	---	---
Dec.	5.55	5.02	5.26	5.52	6.10	5.64	5.46	---	Dec.	---	5.32	5.56	6.04	Dec.	5.02	5.19	5.47	6.15	Dec.	---	---	---	---
<b>2011</b>																							
Jan.	5.56	5.04	5.26	5.53	6.09	5.64	5.46	---	Jan.	---	5.29	5.57	6.06	Jan.	5.04	5.22	5.48	6.11	Jan.	---	---	---	---
Feb.	5.66	5.22	5.37	5.64	6.15	5.73	5.58	---	Feb.	---	5.42	5.68	6.10	Feb.	5.22	5.31	5.59	6.19	Feb.	---	---	---	---
Mar.	5.55	5.13	5.28	5.52	6.03	5.62	5.48	---	Mar.	---	5.33	5.56	5.97	Mar.	5.13	5.22							

## Corporate Bond Yield Averages

	AV. CORP.	CORPORATE BY RATINGS				CORPORATE BY GROUPS			PUBLIC UTILITY BONDS				INDUSTRIAL BONDS				RAILROAD BONDS					
		Aaa	Aa	A	Baa	P.U.	IND.	R.R.	Aaa	Aa	A	Baa	Aaa	Aa	A	Baa	Aaa	Aa	A	Baa		
2010																						
Jan.	5.76	5.26	5.50	5.76	6.25	5.83	5.69	----	Jan.	5.55	5.77	6.16	Jan.	5.26	5.44	5.73	6.33	Jan.	----	----	----	----
Feb.	5.86	5.35	5.62	5.84	6.34	5.94	5.79	----	Feb.	5.69	5.87	6.25	Feb.	5.35	5.55	5.80	6.43	Feb.	----	----	----	----
Mar.	5.81	5.27	5.57	5.80	6.27	5.90	5.71	----	Mar.	5.64	5.84	6.22	Mar.	5.27	5.49	5.75	6.32	Mar.	----	----	----	----
Apr.	5.80	5.29	5.57	5.78	6.25	5.87	5.71	----	Apr.	5.62	5.81	6.19	Apr.	5.29	5.50	5.74	6.32	Apr.	----	----	----	----
May	5.52	4.96	5.25	5.49	6.05	5.59	5.44	----	May	5.29	5.50	5.97	May	4.96	5.19	5.47	6.13	May	----	----	----	----
June	5.52	4.88	5.16	5.44	6.23	5.62	5.42	----	June	5.22	5.46	6.18	June	4.88	5.11	5.42	6.28	June	----	----	----	----
July	5.32	4.72	4.96	5.25	6.01	5.41	5.23	----	July	4.99	5.26	5.98	July	4.72	4.92	5.23	6.04	July	----	----	----	----
Aug.	5.05	4.49	4.72	5.00	5.66	5.10	4.98	----	Aug.	4.75	5.01	5.55	Aug.	4.49	4.68	4.98	5.77	Aug.	----	----	----	----
Sept.	5.05	4.53	4.72	5.01	5.66	5.10	5.00	----	Sept.	4.74	5.01	5.53	Sept.	4.53	4.70	5.00	5.78	Sept.	----	----	----	----
Oct.	5.15	4.68	4.83	5.09	5.72	5.20	5.08	----	Oct.	4.89	5.10	5.62	Oct.	4.68	4.77	5.07	5.81	Oct.	----	----	----	----
Nov.	5.37	4.87	5.07	5.33	5.92	5.45	5.29	----	Nov.	5.12	5.37	5.85	Nov.	4.87	5.02	5.29	5.99	Nov.	----	----	----	----
Dec.	5.55	5.02	5.26	5.52	6.10	5.64	5.46	----	Dec.	5.32	5.56	6.04	Dec.	5.02	5.19	5.47	6.15	Dec.	----	----	----	----
2011																						
Jan.	5.56	5.04	5.26	5.53	6.09	5.64	5.46	----	Jan.	5.29	5.57	6.06	Jan.	5.04	5.22	5.48	6.11	Jan.	----	----	----	----
Feb.	5.66	5.22	5.37	5.64	6.15	5.73	5.58	----	Feb.	5.42	5.68	6.10	Feb.	5.22	5.31	5.59	6.19	Feb.	----	----	----	----
Mar.	5.55	5.13	5.28	5.52	6.03	5.62	5.48	----	Mar.	5.33	5.56	5.97	Mar.	5.13	5.22	5.48	6.09	Mar.	----	----	----	----
Apr.	5.56	5.16	5.29	5.52	6.02	5.62	5.49	----	Apr.	5.32	5.55	5.98	Apr.	5.16	5.25	5.48	6.06	Apr.	----	----	----	----
May	5.33	4.96	5.06	5.29	5.78	5.38	5.27	----	May	5.08	5.32	5.74	May	4.96	5.04	5.26	5.81	May	----	----	----	----
June	5.30	4.99	5.04	5.26	5.75	5.33	5.27	----	June	5.04	5.26	5.67	June	4.99	5.02	5.25	5.82	June	----	----	----	----
July	5.30	4.93	5.03	5.26	5.76	5.34	5.25	----	July	5.05	5.27	5.70	July	4.93	4.99	5.25	5.81	July	----	----	----	----
Aug.	4.79	4.37	4.47	4.74	5.36	4.78	4.79	----	Aug.	4.44	4.69	5.22	Aug.	4.37	4.50	4.79	5.49	Aug.	----	----	----	----
Sept.	4.60	4.09	4.23	4.54	5.27	4.61	4.58	----	Sept.	4.24	4.48	5.11	Sept.	4.09	4.21	4.59	5.42	Sept.	----	----	----	----
Oct.	4.60	3.98	4.16	4.54	5.37	4.66	4.54	----	Oct.	4.21	4.52	5.24	Oct.	3.98	4.11	4.56	5.50	Oct.	----	----	----	----
Nov.	4.39	3.87	3.97	4.34	5.14	4.37	4.41	----	Nov.	3.92	4.25	4.93	Nov.	3.87	4.01	4.43	5.34	Nov.	----	----	----	----
Dec.	4.47	3.93	4.03	4.40	5.25	4.47	4.47	----	Dec.	4.00	4.33	5.07	Dec.	3.93	4.06	4.46	5.43	Dec.	----	----	----	----
2012																						
Jan.	4.45	3.85	4.01	4.39	5.23	4.48	4.41	----	Jan.	4.03	4.34	5.06	Jan.	3.85	3.98	4.43	5.39	Jan.	----	----	----	----
Feb.	4.42	3.85	3.99	4.39	5.14	4.47	4.37	----	Feb.	4.02	4.36	5.02	Feb.	3.85	3.96	4.41	5.26	Feb.	----	----	----	----
Mar.	4.54	3.99	4.14	4.51	5.23	4.59	4.50	----	Mar.	4.16	4.48	5.13	Mar.	3.99	4.12	4.53	5.33	Mar.	----	----	----	----
Apr.	4.49	3.96	4.08	4.44	5.19	4.53	4.44	----	Apr.	4.10	4.40	5.11	Apr.	3.96	4.06	4.48	5.27	Apr.	----	----	----	----
May	4.33	3.80	3.91	4.26	5.07	4.36	4.30	----	May	3.92	4.20	4.97	May	3.80	3.90	4.32	5.17	May	----	----	----	----
June	4.22	3.64	3.78	4.14	5.02	4.26	4.18	----	June	3.79	4.08	4.91	June	3.64	3.77	4.18	5.13	June	----	----	----	----
July	4.03	3.40	3.54	3.93	4.87	4.12	3.93	----	July	3.58	3.93	4.85	July	3.40	3.49	3.93	4.89	July	----	----	----	----
Aug.	4.09	3.48	3.61	3.99	4.91	4.18	3.99	----	Aug.	3.65	4.00	4.88	Aug.	3.48	3.57	3.98	4.93	Aug.	----	----	----	----
Sept.	4.09	3.49	3.68	4.01	4.84	4.17	4.00	----	Sept.	3.69	4.02	4.81	Sept.	3.49	3.66	4.00	4.87	Sept.	----	----	----	----
Oct.	3.97	3.47	3.63	3.90	4.58	4.05	3.89	----	Oct.	3.68	3.91	4.54	Oct.	3.47	3.58	3.89	4.62	Oct.	----	----	----	----
Nov.	3.92	3.50	3.57	3.87	4.51	3.95	3.88	----	Nov.	3.60	3.84	4.42	Nov.	3.50	3.54	3.89	4.60	Nov.	----	----	----	----
Dec.	4.05	3.65	3.70	3.98	4.63	4.10	3.99	----	Dec.	3.75	4.00	4.56	Dec.	3.65	3.65	3.96	4.70	Dec.	----	----	----	----
2013																						
Jan.	4.19	3.80	3.87	4.14	4.73	4.24	4.14	----	Jan.	3.90	4.15	4.66	Jan.	3.80	3.84	4.13	4.81	Jan.	----	----	----	----
Feb.	4.27	3.90	3.95	4.19	4.85	4.29	4.25	----	Feb.	3.95	4.18	4.74	Feb.	3.90	3.95	4.20	4.95	Feb.	----	----	----	----
Mar.	4.29	3.93	3.97	4.23	4.85	4.29	4.29	----	Mar.	3.95	4.20	4.72	Mar.	3.93	3.98	4.25	4.99	Mar.	----	----	----	----
Apr.	4.07	3.73	3.77	4.03	4.59	4.08	4.07	----	Apr.	3.74	4.00	4.49	Apr.	3.73	3.79	4.05	4.69	Apr.	----	----	----	----
May	4.23	3.89	3.94	4.19	4.73	4.24	4.22	----	May	3.91	4.17	4.65	May	3.89	3.97	4.20	4.80	May	----	----	----	----
June	4.63	4.27	4.32	4.56	5.19	4.63	4.63	----	June	4.27	4.53	5.08	June	4.27	4.36	4.58	5.29	June	----	----	----	----
July	4.76	4.34	4.46	4.69	5.32	4.78	4.74	----	July	4.44	4.68	5.21	July	4.34	4.47	4.69	5.43	July	----	----	----	----
Aug.	4.88	4.54	4.63	4.78	5.42	4.85	4.92	----	Aug.	4.53	4.73	5.28	Aug.	4.54	4.72	4.83	5.57	Aug.	----	----	----	----
Sept.	4.95	4.64	4.69	4.85	5.47	4.90	4.99	----	Sept.	4.58	4.80	5.31	Sept.	4.64	4.80	4.90	5.62	Sept.	----	----	----	----
Oct.	4.82	4.53	4.59	4.73	5.31	4.78	4.86	----	Oct.	4.48	4.70	5.17	Oct.	4.53	4.69	4.76	5.44	Oct.	----	----	----	----
Nov.	4.91	4.63	4.67	4.82	5.38	4.86	4.95	----	Nov.	4.56	4.77	5.24	Nov.	4.63	4.79	4.85	5.52	Nov.	----	----	----	----
Dec.	4.92	4.62	4.68	4.85	5.38	4.89	4.95	----	Dec.	4.59	4.81	5.25	Dec.	4.62	4.76	4.89	5.51	Dec.	----	----	----	----
2014																						
Jan.	4.76	4.49	4.53	4.69	5.19	4.72	4.78	----	Jan.	4.44	4.63	5.09	Jan.	4.49	4.62	4.74	5.29	Jan.	----	----	----	----
Feb.	4.68	4.45	4.46	4.60	5.10	4.64	4.71	----	Feb.	4.38	4.53	5.01	Feb.	4.45	4.54	4.66	5.19	Feb.	----	----	----	----
Mar.	4.65	4.38	4.44	4.56	5.06	4.63	4.65	----	Mar.	4.40	4.51	5.00	Mar.	4.38	4.49	4.60	5.13	Mar.	----	----	----	----
Apr.	4.52	4.24	4.33	4.45	4.90	4.52	4.51	----	Apr.	4.30	4.41	4.85	Apr.	4.24	4.36	4.48	4.96	Apr.	----	----	----	----
May	4.38	4.16	4.20	4.31	4.76	4.37	4.40	----	May	4.16	4.26	4.69	May	4.16	4.24	4.35	4.83	May	----	----	----	----
June	4.44	4.25	4.26	4.35	4.80	4.42	4.45	----	June	4.23	4.29	4.73	June	4.25	4.29	4.41	4.86	June	----	----	----	----
July	4.37	4.16	4.20	4.28	4.73	4.35	4.39	----	July	4.16	4.23	4.66	July	4.16	4.23	4.34	4.80	July	----	----	----	----
Aug.	4.29	4.08	4.10	4.20	4.69	4.29	4.30	----	Aug.	4.07	4.13	4.65	Aug.	4.08	4.13	4.26	4.72	Aug.	----	----	----	----
Sept.	4.39	4.11	4.19	4.30	4.80	4.40	4.37	----	Sept.	4.18	4.24	4.79	Sept.	4.11	4.19	4.35	4.82	Sept.	----	----	----	----
Oct.	4.22	3.92	3.99	4.13	4.69	4.24	4.20	----	Oct.	3.98	4.06	4.67	Oct.	3.92	4.00	4.20	4.70	Oct.	----	----	----	----
Nov.	4.28	3.92	4.04	4.18	4.79	4.29	4.26	----	Nov.	4.03	4.09	4.75	Nov.	3.92	4.04	4.27	4.82	Nov.	----	----	----	----
Dec.	4.17	3.79	3.89	4.05	4.74	4.18	4.15	----	Dec.	3.90	3.95	4.70	Dec.	3.79	3.89	4.15	4.77	Dec.	----	----	----	----
2015																						
Jan.	3.84	3.46	3.54	3.70	4.45	3.83	3.84	----	Jan.	3.52	3.58	4.39	Jan.	3.46	3.55	3.82	4.51	Jan.	----	----	----	----
Feb.	3.93	3.61	3.64	3.81	4.51	3.91	3.94	----	Feb.	3.62	3.67	4.44	Feb.	3.61	3.65	3.94	4.57	Feb.	----	----	----	----
Mar.	3.98	3.64	3.70	3.85	4.54	3.97	3.97	----	Mar.	3.67	3.74	4.51	Mar.	3.64	3.72	3.96	4.56	Mar.	----	----	----	----
Apr.	3.93	3.52	3																			

### Corporate Bond Yield Averages

	AV. CORP.	CORPORATE BY RATINGS				CORPORATE BY GROUPS			PUBLIC UTILITY BONDS				INDUSTRIAL BONDS				RAILROAD BONDS						
		Aaa	Aa	A	Baa	P.U.	IND.	R.R.	Aaa	Aa	A	Baa	Aaa	Aa	A	Baa	Aaa	Aa	A	Baa			
<b>2009</b>																							
Feb.	6.64	5.27	6.02	6.47	8.08	6.72	6.56	---	Feb.	---	6.11	6.30	7.74	Feb.	5.27	5.93	6.62	8.42	Feb.	---	---	---	---
Mar.	6.84	5.50	6.11	6.66	8.42	6.85	6.83	---	Mar.	---	6.14	6.42	8.00	Mar.	5.50	6.07	6.90	8.84	Mar.	---	---	---	---
Apr.	6.85	5.39	6.17	6.70	8.39	6.90	6.79	---	Apr.	---	6.20	6.48	8.03	Apr.	5.39	6.14	6.90	8.74	Apr.	---	---	---	---
May	6.79	5.54	6.24	6.67	8.06	6.83	6.75	---	May	---	6.23	6.49	7.76	May	5.54	6.24	6.84	8.36	May	---	---	---	---
June	6.52	5.61	6.12	6.39	7.50	6.54	6.49	---	June	---	6.13	6.20	7.30	June	5.61	6.11	6.58	7.69	June	---	---	---	---
July	6.17	5.41	5.71	6.09	7.09	6.15	6.18	---	July	---	5.63	5.97	6.87	July	5.41	5.78	6.20	7.30	July	---	---	---	---
Aug.	5.83	5.26	5.45	5.78	6.58	5.80	5.86	---	Aug.	---	5.33	5.71	6.36	Aug.	5.26	5.56	5.84	6.79	Aug.	---	---	---	---
Sept.	5.61	5.13	5.21	5.56	6.31	5.60	5.62	---	Sept.	---	5.15	5.53	6.12	Sept.	5.13	5.27	5.58	6.50	Sept.	---	---	---	---
Oct.	5.63	5.15	5.24	5.57	6.29	5.64	5.61	---	Oct.	---	5.23	5.55	6.14	Oct.	5.15	5.25	5.59	6.44	Oct.	---	---	---	---
Nov.	5.68	5.19	5.29	5.64	6.32	5.71	5.64	---	Nov.	---	5.33	5.64	6.18	Nov.	5.19	5.26	5.64	6.46	Nov.	---	---	---	---
Dec.	5.78	5.26	5.44	5.77	6.37	5.86	5.71	---	Dec.	---	5.52	5.79	6.26	Dec.	5.26	5.36	5.74	6.47	Dec.	---	---	---	---
<b>2010</b>																							
Jan.	5.76	5.26	5.50	5.76	6.25	5.83	5.69	---	Jan.	---	5.55	5.77	6.16	Jan.	5.26	5.44	5.73	6.33	Jan.	---	---	---	---
Feb.	5.86	5.35	5.62	5.84	6.34	5.94	5.79	---	Feb.	---	5.69	5.87	6.25	Feb.	5.35	5.55	5.80	6.43	Feb.	---	---	---	---
Mar.	5.81	5.27	5.57	5.80	6.27	5.90	5.71	---	Mar.	---	5.64	5.84	6.22	Mar.	5.27	5.49	5.75	6.32	Mar.	---	---	---	---
Apr.	5.80	5.29	5.57	5.78	6.25	5.87	5.71	---	Apr.	---	5.62	5.81	6.19	Apr.	5.29	5.50	5.74	6.32	Apr.	---	---	---	---
May	5.52	4.96	5.25	5.49	6.05	5.59	5.44	---	May	---	5.29	5.50	5.97	May	4.96	5.19	5.47	6.13	May	---	---	---	---
June	5.52	4.88	5.16	5.44	6.23	5.62	5.42	---	June	---	5.22	5.46	6.18	June	4.88	5.11	5.42	6.28	June	---	---	---	---
July	5.32	4.72	4.96	5.25	6.01	5.41	5.23	---	July	---	4.99	5.26	5.98	July	4.72	4.92	5.23	6.04	July	---	---	---	---
Aug.	5.05	4.49	4.72	5.00	5.66	5.10	4.98	---	Aug.	---	4.75	5.01	5.55	Aug.	4.49	4.68	4.98	5.77	Aug.	---	---	---	---
Sept.	5.05	4.53	4.72	5.01	5.66	5.10	5.00	---	Sept.	---	4.74	5.01	5.53	Sept.	4.53	4.70	5.00	5.78	Sept.	---	---	---	---
Oct.	5.15	4.68	4.83	5.09	5.72	5.20	5.08	---	Oct.	---	4.89	5.10	5.62	Oct.	4.68	4.77	5.07	5.81	Oct.	---	---	---	---
Nov.	5.37	4.87	5.07	5.33	5.92	5.45	5.29	---	Nov.	---	5.12	5.37	5.85	Nov.	4.87	5.02	5.29	5.99	Nov.	---	---	---	---
Dec.	5.55	5.02	5.26	5.52	6.10	5.64	5.46	---	Dec.	---	5.32	5.56	6.04	Dec.	5.02	5.19	5.47	6.15	Dec.	---	---	---	---
<b>2011</b>																							
Jan.	5.56	5.04	5.26	5.53	6.09	5.64	5.46	---	Jan.	---	5.29	5.57	6.06	Jan.	5.04	5.22	5.48	6.11	Jan.	---	---	---	---
Feb.	5.66	5.22	5.37	5.64	6.15	5.73	5.58	---	Feb.	---	5.42	5.68	6.10	Feb.	5.22	5.31	5.59	6.19	Feb.	---	---	---	---
Mar.	5.55	5.13	5.28	5.52	6.03	5.62	5.48	---	Mar.	---	5.33	5.56	5.97	Mar.	5.13	5.22	5.48	6.09	Mar.	---	---	---	---
Apr.	5.56	5.16	5.29	5.52	6.02	5.62	5.49	---	Apr.	---	5.32	5.55	5.98	Apr.	5.16	5.25	5.48	6.06	Apr.	---	---	---	---
May	5.33	4.96	5.06	5.29	5.78	5.38	5.27	---	May	---	5.08	5.32	5.74	May	4.96	5.04	5.26	5.81	May	---	---	---	---
June	5.30	4.99	5.04	5.26	5.75	5.33	5.27	---	June	---	5.04	5.26	5.67	June	4.99	5.02	5.25	5.82	June	---	---	---	---
July	5.30	4.93	5.03	5.26	5.76	5.34	5.25	---	July	---	5.05	5.27	5.70	July	4.93	4.99	5.25	5.81	July	---	---	---	---
Aug.	4.79	4.37	4.47	4.74	5.36	4.78	4.79	---	Aug.	---	4.44	4.69	5.22	Aug.	4.37	4.50	4.79	5.49	Aug.	---	---	---	---
Sept.	4.60	4.09	4.23	4.54	5.27	4.61	4.58	---	Sept.	---	4.24	4.48	5.11	Sept.	4.09	4.21	4.59	5.42	Sept.	---	---	---	---
Oct.	4.60	3.98	4.16	4.54	5.37	4.66	4.54	---	Oct.	---	4.21	4.52	5.24	Oct.	3.98	4.11	4.56	5.50	Oct.	---	---	---	---
Nov.	4.39	3.87	3.97	4.34	5.14	4.37	4.41	---	Nov.	---	3.92	4.25	4.93	Nov.	3.87	4.01	4.43	5.34	Nov.	---	---	---	---
Dec.	4.47	3.93	4.03	4.40	5.25	4.47	4.47	---	Dec.	---	4.00	4.33	5.07	Dec.	3.93	4.06	4.46	5.43	Dec.	---	---	---	---
<b>2012</b>																							
Jan.	4.45	3.85	4.01	4.39	5.23	4.48	4.41	---	Jan.	---	4.03	4.34	5.06	Jan.	3.85	3.98	4.43	5.39	Jan.	---	---	---	---
Feb.	4.42	3.85	3.99	4.39	5.14	4.47	4.37	---	Feb.	---	4.02	4.36	5.02	Feb.	3.85	3.96	4.41	5.26	Feb.	---	---	---	---
Mar.	4.54	3.99	4.14	4.51	5.23	4.59	4.50	---	Mar.	---	4.16	4.48	5.13	Mar.	3.99	4.12	4.53	5.33	Mar.	---	---	---	---
Apr.	4.49	3.96	4.08	4.44	5.19	4.53	4.44	---	Apr.	---	4.10	4.40	5.11	Apr.	3.96	4.06	4.48	5.27	Apr.	---	---	---	---
May	4.33	3.80	3.91	4.26	5.07	4.36	4.30	---	May	---	3.92	4.20	4.97	May	3.80	3.90	4.32	5.17	May	---	---	---	---
June	4.22	3.64	3.78	4.14	5.02	4.26	4.18	---	June	---	3.79	4.08	4.91	June	3.64	3.77	4.18	5.13	June	---	---	---	---
July	4.03	3.40	3.54	3.93	4.87	4.12	3.93	---	July	---	3.58	3.93	4.85	July	3.40	3.49	3.93	4.89	July	---	---	---	---
Aug.	4.09	3.48	3.61	3.99	4.91	4.18	3.99	---	Aug.	---	3.65	4.00	4.88	Aug.	3.48	3.57	3.98	4.93	Aug.	---	---	---	---
Sept.	4.09	3.49	3.68	4.01	4.84	4.17	4.00	---	Sept.	---	3.69	4.02	4.81	Sept.	3.49	3.66	4.00	4.87	Sept.	---	---	---	---
Oct.	3.97	3.47	3.63	3.90	4.58	4.05	3.89	---	Oct.	---	3.68	3.91	4.54	Oct.	3.47	3.58	3.89	4.62	Oct.	---	---	---	---
Nov.	3.92	3.50	3.57	3.87	4.51	3.95	3.88	---	Nov.	---	3.60	3.84	4.42	Nov.	3.50	3.54	3.89	4.60	Nov.	---	---	---	---
Dec.	4.05	3.65	3.70	3.98	4.63	4.10	3.99	---	Dec.	---	3.75	4.00	4.56	Dec.	3.65	3.65	3.96	4.70	Dec.	---	---	---	---
<b>2013</b>																							
Jan.	4.19	3.80	3.87	4.14	4.73	4.24	4.14	---	Jan.	---	3.90	4.15	4.66	Jan.	3.80	3.84	4.13	4.81	Jan.	---	---	---	---
Feb.	4.27	3.90	3.95	4.19	4.85	4.29	4.25	---	Feb.	---	3.95	4.18	4.74	Feb.	3.90	3.95	4.20	4.95	Feb.	---	---	---	---
Mar.	4.29	3.93	3.97	4.23	4.85	4.29	4.29	---	Mar.	---	3.95	4.20	4.72	Mar.	3.93	3.98	4.25	4.99	Mar.	---	---	---	---
Apr.	4.07	3.73	3.77	4.03	4.59	4.08	4.07	---	Apr.	---	3.74	4.00	4.49	Apr.	3.73	3.79	4.05	4.69	Apr.	---	---	---	---
May	4.23	3.89	3.94	4.19	4.73	4.24	4.22	---	May	---	3.91	4.17	4.65	May	3.89	3.97	4.20	4.80	May	---	---	---	---
June	4.63	4.27	4.32	4.56	5.19	4.63	4.63	---	June	---	4.27	4.53	5.08	June	4.27	4.36	4.58	5.29	June	---	---	---	---
July	4.76	4.34	4.46	4.69	5.32	4.78	4.74	---	July	---	4.44	4.68	5.21	July	4.34	4.47	4.69	5.43	July	---	---	---	---
Aug.	4.88	4.54	4.63	4.78	5.42	4.85	4.92	---	Aug.	---	4.53	4.73	5.28	Aug.	4.54	4.72	4.83	5.57	Aug.	---	---	---	---
Sept.	4.95	4.64	4.69	4.85	5.47	4.90	4.99	---	Sept.	---	4.58	4.80	5.31	Sept.	4.64	4.80	4.90	5.62	Sept.	---	---	---	---
Oct.	4.82	4.53	4.59	4.73	5.31	4.78	4.86	---	Oct.	---	4.48	4.70	5.17	Oct.	4.53	4.69	4.76	5.44	Oct.	---	---	---	---
Nov.	4.91	4.63	4.67	4.82	5.38	4.86	4.95	---	Nov.	---	4.56	4.77	5.24	Nov.	4.63	4.79	4.85	5.52	Nov.	---	---	---	---
Dec.	4.92	4.62	4.68	4.85	5.38	4.89	4.95	---	Dec.	---	4.59	4.81	5.25	Dec.	4.62	4.76	4.89	5.51	Dec.	---	---	---	---
<b>2014</b>																							
Jan.	4.76	4.49	4.53	4.69	5.19	4.72	4.78	---	Jan.	---	4.44	4.63	5.09	Jan.	4.49	4.62	4.74	5.29	Jan.	---	---	---	---
Feb.	4.68	4.45	4.46	4.60	5.10	4.64	4.71	---	Feb.	---	4.38	4.53	5.01	Feb.	4.45	4.54	4.66	5.19	Feb.	---	---	---	---
Mar.	4.65	4.38	4.44	4.56	5.06	4.63	4.65	---	Mar.	---	4.40	4.51	5.00	Mar.	4.38	4.49	4.60	5.13	Mar.	---	---	---	---
Apr.	4.52	4.24	4.33	4.45	4.90	4.52	4.51	---	Apr.	---	4.30	4.41	4.85	Apr.	4.24	4.36	4.48	4.96	Apr.	---	---	---	---
May	4.38	4.16	4.20	4.31	4.76	4.37	4.40	---	May	---	4.16	4.26	4.69	May	4.16	4.24	4.35	4.83	May	---	---</		

## Corporate Bond Yield Averages

	AV. CORP.	CORPORATE BY RATINGS				CORPORATE BY GROUPS			PUBLIC UTILITY BONDS				INDUSTRIAL BONDS				RAILROAD BONDS						
		Aaa	Aa	A	Baa	P.U.	IND.	R.R.	Aaa	Aa	A	Baa	Aaa	Aa	A	Baa	Aaa	Aa	A	Baa			
<b>2009</b>																							
Feb.	6.64	5.27	6.02	6.47	8.08	6.72	6.56	---	Feb.	---	6.11	6.30	7.74	Feb.	5.27	5.93	6.62	8.42	Feb.	---	---	---	---
Mar.	6.84	5.50	6.11	6.66	8.42	6.85	6.83	---	Mar.	---	6.14	6.42	8.00	Mar.	5.50	6.07	6.90	8.84	Mar.	---	---	---	---
Apr.	6.85	5.39	6.17	6.70	8.39	6.90	6.79	---	Apr.	---	6.20	6.48	8.03	Apr.	5.39	6.14	6.90	8.74	Apr.	---	---	---	---
May	6.79	5.54	6.24	6.67	8.06	6.83	6.75	---	May	---	6.23	6.49	7.76	May	5.54	6.24	6.84	8.36	May	---	---	---	---
June	6.52	5.61	6.12	6.39	7.50	6.54	6.49	---	June	---	6.13	6.20	7.30	June	5.61	6.11	6.58	7.69	June	---	---	---	---
July	6.17	5.41	5.71	6.09	7.09	6.15	6.18	---	July	---	5.63	5.97	6.87	July	5.41	5.78	6.20	7.30	July	---	---	---	---
Aug.	5.83	5.26	5.45	5.78	6.58	5.80	5.86	---	Aug.	---	5.33	5.71	6.36	Aug.	5.26	5.56	5.84	6.79	Aug.	---	---	---	---
Sept.	5.61	5.13	5.21	5.56	6.31	5.60	5.62	---	Sept.	---	5.15	5.53	6.12	Sept.	5.13	5.27	5.58	6.50	Sept.	---	---	---	---
Oct.	5.63	5.15	5.24	5.57	6.29	5.64	5.61	---	Oct.	---	5.23	5.55	6.14	Oct.	5.15	5.25	5.59	6.44	Oct.	---	---	---	---
Nov.	5.68	5.19	5.29	5.64	6.32	5.71	5.64	---	Nov.	---	5.33	5.64	6.18	Nov.	5.19	5.26	5.64	6.46	Nov.	---	---	---	---
Dec.	5.78	5.26	5.44	5.77	6.37	5.86	5.71	---	Dec.	---	5.52	5.79	6.26	Dec.	5.26	5.36	5.74	6.47	Dec.	---	---	---	---
<b>2010</b>																							
Jan.	5.76	5.26	5.50	5.76	6.25	5.83	5.69	---	Jan.	---	5.55	5.77	6.16	Jan.	5.26	5.44	5.73	6.33	Jan.	---	---	---	---
Feb.	5.86	5.35	5.62	5.84	6.34	5.94	5.79	---	Feb.	---	5.69	5.87	6.25	Feb.	5.35	5.55	5.80	6.43	Feb.	---	---	---	---
Mar.	5.81	5.27	5.57	5.80	6.27	5.90	5.71	---	Mar.	---	5.64	5.84	6.22	Mar.	5.27	5.49	5.75	6.32	Mar.	---	---	---	---
Apr.	5.80	5.29	5.57	5.78	6.25	5.87	5.71	---	Apr.	---	5.62	5.81	6.19	Apr.	5.29	5.50	5.74	6.32	Apr.	---	---	---	---
May	5.52	4.96	5.25	5.49	6.05	5.59	5.44	---	May	---	5.29	5.50	5.97	May	4.96	5.19	5.47	6.13	May	---	---	---	---
June	5.52	4.88	5.16	5.44	6.23	5.62	5.42	---	June	---	5.22	5.46	6.18	June	4.88	5.11	5.42	6.28	June	---	---	---	---
July	5.32	4.72	4.96	5.25	6.01	5.41	5.23	---	July	---	4.99	5.26	5.98	July	4.72	4.92	5.23	6.04	July	---	---	---	---
Aug.	5.05	4.49	4.72	5.00	5.66	5.10	4.98	---	Aug.	---	4.75	5.01	5.55	Aug.	4.49	4.68	4.98	5.77	Aug.	---	---	---	---
Sept.	5.05	4.53	4.72	5.01	5.66	5.10	5.00	---	Sept.	---	4.74	5.01	5.53	Sept.	4.53	4.70	5.00	5.78	Sept.	---	---	---	---
Oct.	5.15	4.68	4.83	5.09	5.72	5.20	5.08	---	Oct.	---	4.89	5.10	5.62	Oct.	4.68	4.77	5.07	5.81	Oct.	---	---	---	---
Nov.	5.37	4.87	5.07	5.33	5.92	5.45	5.29	---	Nov.	---	5.12	5.37	5.85	Nov.	4.87	5.02	5.29	5.99	Nov.	---	---	---	---
Dec.	5.55	5.02	5.26	5.52	6.10	5.64	5.46	---	Dec.	---	5.32	5.56	6.04	Dec.	5.02	5.19	5.47	6.15	Dec.	---	---	---	---
<b>2011</b>																							
Jan.	5.56	5.04	5.26	5.53	6.09	5.64	5.46	---	Jan.	---	5.29	5.57	6.06	Jan.	5.04	5.22	5.48	6.11	Jan.	---	---	---	---
Feb.	5.66	5.22	5.37	5.64	6.15	5.73	5.58	---	Feb.	---	5.42	5.68	6.10	Feb.	5.22	5.31	5.59	6.19	Feb.	---	---	---	---
Mar.	5.55	5.13	5.28	5.52	6.03	5.62	5.48	---	Mar.	---	5.33	5.56	5.97	Mar.	5.13	5.22	5.48	6.09	Mar.	---	---	---	---
Apr.	5.56	5.16	5.29	5.52	6.02	5.62	5.49	---	Apr.	---	5.32	5.55	5.98	Apr.	5.16	5.25	5.48	6.06	Apr.	---	---	---	---
May	5.33	4.96	5.06	5.29	5.78	5.38	5.27	---	May	---	5.08	5.32	5.74	May	4.96	5.04	5.26	5.81	May	---	---	---	---
June	5.30	4.99	5.04	5.26	5.75	5.33	5.27	---	June	---	5.04	5.26	5.67	June	4.99	5.02	5.25	5.82	June	---	---	---	---
July	5.30	4.93	5.03	5.26	5.76	5.34	5.25	---	July	---	5.05	5.27	5.70	July	4.93	4.99	5.25	5.81	July	---	---	---	---
Aug.	4.79	4.37	4.47	4.74	5.36	4.78	4.79	---	Aug.	---	4.44	4.69	5.22	Aug.	4.37	4.50	4.79	5.49	Aug.	---	---	---	---
Sept.	4.60	4.09	4.23	4.54	5.27	4.61	4.58	---	Sept.	---	4.24	4.48	5.11	Sept.	4.09	4.21	4.59	5.42	Sept.	---	---	---	---
Oct.	4.60	3.98	4.16	4.54	5.37	4.66	4.54	---	Oct.	---	4.21	4.52	5.24	Oct.	3.98	4.11	4.56	5.50	Oct.	---	---	---	---
Nov.	4.39	3.87	3.97	4.34	5.14	4.37	4.41	---	Nov.	---	3.92	4.25	4.93	Nov.	3.87	4.01	4.43	5.34	Nov.	---	---	---	---
Dec.	4.47	3.93	4.03	4.40	5.25	4.47	4.47	---	Dec.	---	4.00	4.33	5.07	Dec.	3.93	4.06	4.46	5.43	Dec.	---	---	---	---
<b>2012</b>																							
Jan.	4.45	3.85	4.01	4.39	5.23	4.48	4.41	---	Jan.	---	4.03	4.34	5.06	Jan.	3.85	3.98	4.43	5.39	Jan.	---	---	---	---
Feb.	4.42	3.85	3.99	4.39	5.14	4.47	4.37	---	Feb.	---	4.02	4.36	5.02	Feb.	3.85	3.96	4.41	5.26	Feb.	---	---	---	---
Mar.	4.54	3.99	4.14	4.51	5.23	4.59	4.50	---	Mar.	---	4.16	4.48	5.13	Mar.	3.99	4.12	4.53	5.33	Mar.	---	---	---	---
Apr.	4.49	3.96	4.08	4.44	5.19	4.53	4.44	---	Apr.	---	4.10	4.40	5.11	Apr.	3.96	4.06	4.48	5.27	Apr.	---	---	---	---
May	4.33	3.80	3.91	4.26	5.07	4.36	4.30	---	May	---	3.92	4.20	4.97	May	3.80	3.90	4.32	5.17	May	---	---	---	---
June	4.22	3.64	3.78	4.14	5.02	4.26	4.18	---	June	---	3.79	4.08	4.91	June	3.64	3.77	4.18	5.13	June	---	---	---	---
July	4.03	3.40	3.54	3.93	4.87	4.12	3.93	---	July	---	3.58	3.93	4.85	July	3.40	3.49	3.93	4.89	July	---	---	---	---
Aug.	4.09	3.48	3.61	3.99	4.91	4.18	3.99	---	Aug.	---	3.65	4.00	4.88	Aug.	3.48	3.57	3.98	4.93	Aug.	---	---	---	---
Sept.	4.09	3.49	3.68	4.01	4.84	4.17	4.00	---	Sept.	---	3.69	4.02	4.81	Sept.	3.49	3.66	4.00	4.87	Sept.	---	---	---	---
Oct.	3.97	3.47	3.63	3.90	4.58	4.05	3.89	---	Oct.	---	3.68	3.91	4.54	Oct.	3.47	3.58	3.89	4.62	Oct.	---	---	---	---
Nov.	3.92	3.50	3.57	3.87	4.51	3.95	3.88	---	Nov.	---	3.60	3.84	4.42	Nov.	3.50	3.54	3.89	4.60	Nov.	---	---	---	---
Dec.	4.05	3.65	3.70	3.98	4.63	4.10	3.99	---	Dec.	---	3.75	4.00	4.56	Dec.	3.65	3.65	3.96	4.70	Dec.	---	---	---	---
<b>2013</b>																							
Jan.	4.19	3.80	3.87	4.14	4.73	4.24	4.14	---	Jan.	---	3.90	4.15	4.66	Jan.	3.80	3.84	4.13	4.81	Jan.	---	---	---	---
Feb.	4.27	3.90	3.95	4.19	4.85	4.29	4.25	---	Feb.	---	3.95	4.18	4.74	Feb.	3.90	3.95	4.20	4.95	Feb.	---	---	---	---
Mar.	4.29	3.93	3.97	4.23	4.85	4.29	4.29	---	Mar.	---	3.95	4.20	4.72	Mar.	3.93	3.98	4.25	4.99	Mar.	---	---	---	---
Apr.	4.07	3.73	3.77	4.03	4.59	4.08	4.07	---	Apr.	---	3.74	4.00	4.49	Apr.	3.73	3.79	4.05	4.69	Apr.	---	---	---	---
May	4.23	3.89	3.94	4.19	4.73	4.24	4.22	---	May	---	3.91	4.17	4.65	May	3.89	3.97	4.20	4.80	May	---	---	---	---
June	4.63	4.27	4.32	4.56	5.19	4.63	4.63	---	June	---	4.27	4.53	5.08	June	4.27	4.36	4.58	5.29	June	---	---	---	---
July	4.76	4.34	4.46	4.69	5.32	4.78	4.74	---	July	---	4.44	4.68	5.21	July	4.34	4.47	4.69	5.43	July	---	---	---	---
Aug.	4.88	4.54	4.63	4.78	5.42	4.85	4.92	---	Aug.	---	4.53	4.73	5.28	Aug.	4.54	4.72	4.83	5.57	Aug.	---	---	---	---
Sept.	4.95	4.64	4.69	4.85	5.47	4.90	4.99	---	Sept.	---	4.58	4.80	5.31	Sept.	4.64	4.80	4.90	5.62	Sept.	---	---	---	---
Oct.	4.82	4.53	4.59	4.73	5.31	4.78	4.86	---	Oct.	---	4.48	4.70	5.17	Oct.	4.53	4.69	4.76	5.44	Oct.	---	---	---	---
Nov.	4.91	4.63	4.67	4.82	5.38	4.86	4.95	---	Nov.	---	4.56	4.77	5.24	Nov.	4.63	4.79	4.85	5.52	Nov.	---	---	---	---
Dec.	4.92	4.62	4.68	4.85	5.38	4.89	4.95	---	Dec.	---	4.59	4.81	5.25	Dec.	4.62	4.76	4.89	5.51	Dec.	---	---	---	---
<b>2014</b>																							
Jan.	4.76	4.49	4.53	4.69	5.19	4.72	4.78	---	Jan.	---	4.44	4.63	5.09	Jan.	4.49	4.62	4.74	5.29	Jan.	---	---	---	---
Feb.	4.68	4.45	4.46	4.60	5.10	4.64	4.71	---	Feb.	---	4.38	4.53	5.01	Feb.	4.45	4.54	4.66	5.19	Feb.	---	---	---	---
Mar.	4.65	4.38	4.44	4.56	5.06	4.63	4.65	---	Mar.	---	4.40	4.51	5.00	Mar.	4.38	4.49	4.60	5.13	Mar.	---	---	---	---
Apr.	4.52	4.24	4.33	4.45	4.90	4.52	4.51	---	Apr.	---	4.30	4.41	4.85	Apr.	4.24	4.36	4.48	4.96	Apr.	---	---	---	---
May	4.38	4.16	4.20	4.31	4.76	4.37	4.40	---	May	---	4.16	4.26	4.69	May	4.16	4.24	4.35	4.83	May	---	---	---	---
June	4.44																						

## Corporate Bond Yield Averages

	AV. CORP.	CORPORATE BY RATINGS				CORPORATE BY GROUPS			PUBLIC UTILITY BONDS				INDUSTRIAL BONDS				RAILROAD BONDS						
		Aaa	Aa	A	Baa	P.U.	IND.	R.R.	Aaa	Aa	A	Baa	Aaa	Aa	A	Baa	Aaa	Aa	A	Baa			
<b>2011</b>																							
Jan.	5.56	5.04	5.26	5.53	6.09	5.64	5.46	----	Jan.	----	5.29	5.57	6.06	Jan.	5.04	5.22	5.48	6.11	Jan.	----	----	----	----
Feb.	5.66	5.22	5.37	5.64	6.15	5.73	5.58	----	Feb.	----	5.42	5.68	6.10	Feb.	5.22	5.31	5.59	6.19	Feb.	----	----	----	----
Mar.	5.55	5.13	5.28	5.52	6.03	5.62	5.48	----	Mar.	----	5.33	5.56	5.97	Mar.	5.13	5.22	5.48	6.09	Mar.	----	----	----	----
Apr.	5.56	5.16	5.29	5.52	6.02	5.62	5.49	----	Apr.	----	5.32	5.55	5.98	Apr.	5.16	5.25	5.48	6.06	Apr.	----	----	----	----
May	5.33	4.96	5.06	5.29	5.78	5.38	5.27	----	May	----	5.08	5.32	5.74	May	4.96	5.04	5.26	5.81	May	----	----	----	----
June	5.30	4.99	5.04	5.26	5.75	5.33	5.27	----	June	----	5.04	5.26	5.67	June	4.99	5.02	5.25	5.82	June	----	----	----	----
July	5.30	4.93	5.03	5.26	5.76	5.34	5.25	----	July	----	5.05	5.27	5.70	July	4.93	4.99	5.25	5.81	July	----	----	----	----
Aug.	4.79	4.37	4.47	4.74	5.36	4.78	4.79	----	Aug.	----	4.44	4.69	5.22	Aug.	4.37	4.50	4.79	5.49	Aug.	----	----	----	----
Sept.	4.60	4.09	4.23	4.54	5.27	4.61	4.58	----	Sept.	----	4.24	4.48	5.11	Sept.	4.09	4.21	4.59	5.42	Sept.	----	----	----	----
Oct.	4.60	3.98	4.16	4.54	5.37	4.66	4.54	----	Oct.	----	4.21	4.52	5.24	Oct.	3.98	4.11	4.56	5.50	Oct.	----	----	----	----
Nov.	4.39	3.87	3.97	4.34	5.14	4.37	4.41	----	Nov.	----	3.92	4.25	4.93	Nov.	3.87	4.01	4.43	5.34	Nov.	----	----	----	----
Dec.	4.47	3.93	4.03	4.40	5.25	4.47	4.47	----	Dec.	----	4.00	4.33	5.07	Dec.	3.93	4.06	4.46	5.43	Dec.	----	----	----	----
<b>2012</b>																							
Jan.	4.45	3.85	4.01	4.39	5.23	4.48	4.41	----	Jan.	----	4.03	4.34	5.06	Jan.	3.85	3.98	4.43	5.39	Jan.	----	----	----	----
Feb.	4.42	3.85	3.99	4.39	5.14	4.47	4.37	----	Feb.	----	4.02	4.36	5.02	Feb.	3.85	3.96	4.41	5.26	Feb.	----	----	----	----
Mar.	4.54	3.99	4.14	4.51	5.23	4.59	4.50	----	Mar.	----	4.16	4.48	5.13	Mar.	3.99	4.12	4.53	5.33	Mar.	----	----	----	----
Apr.	4.49	3.96	4.08	4.44	5.19	4.53	4.44	----	Apr.	----	4.10	4.40	5.11	Apr.	3.96	4.06	4.48	5.27	Apr.	----	----	----	----
May	4.33	3.80	3.91	4.26	5.07	4.36	4.30	----	May	----	3.92	4.20	4.97	May	3.80	3.90	4.32	5.17	May	----	----	----	----
June	4.22	3.64	3.78	4.14	5.02	4.26	4.18	----	June	----	3.79	4.08	4.91	June	3.64	3.77	4.18	5.13	June	----	----	----	----
July	4.03	3.40	3.54	3.93	4.87	4.12	3.93	----	July	----	3.58	3.93	4.85	July	3.40	3.49	3.93	4.89	July	----	----	----	----
Aug.	4.09	3.48	3.61	3.99	4.91	4.18	3.99	----	Aug.	----	3.65	4.00	4.88	Aug.	3.48	3.57	3.98	4.93	Aug.	----	----	----	----
Sept.	4.09	3.49	3.68	4.01	4.84	4.17	4.00	----	Sept.	----	3.69	4.02	4.81	Sept.	3.49	3.66	4.00	4.87	Sept.	----	----	----	----
Oct.	3.97	3.47	3.63	3.90	4.58	4.05	3.89	----	Oct.	----	3.68	3.91	4.54	Oct.	3.47	3.58	3.89	4.62	Oct.	----	----	----	----
Nov.	3.92	3.50	3.57	3.87	4.51	3.95	3.88	----	Nov.	----	3.60	3.84	4.42	Nov.	3.50	3.54	3.89	4.60	Nov.	----	----	----	----
Dec.	4.05	3.65	3.70	3.98	4.63	4.10	3.99	----	Dec.	----	3.75	4.00	4.56	Dec.	3.65	3.65	3.96	4.70	Dec.	----	----	----	----
<b>2013</b>																							
Jan.	4.19	3.80	3.87	4.14	4.73	4.24	4.14	----	Jan.	----	3.90	4.15	4.66	Jan.	3.80	3.84	4.13	4.81	Jan.	----	----	----	----
Feb.	4.27	3.90	3.95	4.19	4.85	4.29	4.25	----	Feb.	----	3.95	4.18	4.74	Feb.	3.90	3.95	4.20	4.95	Feb.	----	----	----	----
Mar.	4.29	3.93	3.97	4.23	4.85	4.29	4.29	----	Mar.	----	3.95	4.20	4.72	Mar.	3.93	3.98	4.25	4.99	Mar.	----	----	----	----
Apr.	4.07	3.73	3.77	4.03	4.59	4.08	4.07	----	Apr.	----	3.74	4.00	4.49	Apr.	3.73	3.79	4.05	4.69	Apr.	----	----	----	----
May	4.23	3.89	3.94	4.19	4.73	4.24	4.22	----	May	----	3.91	4.17	4.65	May	3.89	3.97	4.20	4.80	May	----	----	----	----
June	4.63	4.27	4.32	4.56	5.19	4.63	4.63	----	June	----	4.27	4.53	5.08	June	4.27	4.36	4.58	5.29	June	----	----	----	----
July	4.76	4.44	4.46	4.69	5.32	4.78	4.74	----	July	----	4.44	4.68	5.21	July	4.34	4.47	4.69	5.43	July	----	----	----	----
Aug.	4.88	4.54	4.63	4.78	5.42	4.85	4.92	----	Aug.	----	4.53	4.73	5.28	Aug.	4.54	4.72	4.83	5.57	Aug.	----	----	----	----
Sept.	4.95	4.64	4.69	4.85	5.47	4.90	4.99	----	Sept.	----	4.58	4.80	5.31	Sept.	4.64	4.80	4.90	5.62	Sept.	----	----	----	----
Oct.	4.82	4.53	4.59	4.73	5.31	4.78	4.86	----	Oct.	----	4.48	4.70	5.17	Oct.	4.53	4.69	4.76	5.44	Oct.	----	----	----	----
Nov.	4.91	4.63	4.67	4.82	5.38	4.86	4.95	----	Nov.	----	4.56	4.77	5.24	Nov.	4.63	4.79	4.85	5.52	Nov.	----	----	----	----
Dec.	4.92	4.62	4.68	4.85	5.38	4.89	4.95	----	Dec.	----	4.59	4.81	5.25	Dec.	4.62	4.76	4.89	5.51	Dec.	----	----	----	----
<b>2014</b>																							
Jan.	4.76	4.49	4.53	4.69	5.19	4.72	4.78	----	Jan.	----	4.44	4.63	5.09	Jan.	4.49	4.62	4.74	5.29	Jan.	----	----	----	----
Feb.	4.68	4.45	4.46	4.60	5.10	4.64	4.71	----	Feb.	----	4.38	4.53	5.01	Feb.	4.45	4.54	4.66	5.19	Feb.	----	----	----	----
Mar.	4.65	4.38	4.44	4.56	5.06	4.63	4.65	----	Mar.	----	4.40	4.51	5.00	Mar.	4.38	4.49	4.60	5.13	Mar.	----	----	----	----
Apr.	4.52	4.24	4.33	4.45	4.90	4.52	4.51	----	Apr.	----	4.30	4.41	4.85	Apr.	4.24	4.36	4.48	4.96	Apr.	----	----	----	----
May	4.38	4.16	4.20	4.31	4.76	4.37	4.40	----	May	----	4.16	4.26	4.69	May	4.16	4.24	4.35	4.83	May	----	----	----	----
June	4.44	4.25	4.26	4.35	4.80	4.42	4.45	----	June	----	4.23	4.29	4.73	June	4.25	4.29	4.41	4.86	June	----	----	----	----
July	4.37	4.16	4.20	4.28	4.73	4.35	4.39	----	July	----	4.16	4.23	4.66	July	4.16	4.23	4.34	4.80	July	----	----	----	----
Aug.	4.29	4.08	4.10	4.20	4.69	4.29	4.30	----	Aug.	----	4.07	4.13	4.65	Aug.	4.08	4.13	4.26	4.72	Aug.	----	----	----	----
Sept.	4.39	4.11	4.19	4.30	4.80	4.40	4.37	----	Sept.	----	4.18	4.24	4.79	Sept.	4.11	4.19	4.35	4.82	Sept.	----	----	----	----
Oct.	4.22	3.92	3.99	4.13	4.69	4.24	4.20	----	Oct.	----	3.98	4.06	4.67	Oct.	3.92	4.00	4.20	4.70	Oct.	----	----	----	----
Nov.	4.28	3.92	4.04	4.18	4.79	4.29	4.26	----	Nov.	----	4.03	4.09	4.75	Nov.	3.92	4.04	4.27	4.82	Nov.	----	----	----	----
Dec.	4.17	3.79	3.89	4.05	4.74	4.18	4.15	----	Dec.	----	3.90	3.95	4.70	Dec.	3.79	3.89	4.15	4.77	Dec.	----	----	----	----
<b>2015</b>																							
Jan.	3.84	3.46	3.54	3.70	4.45	3.83	3.84	----	Jan.	----	3.52	3.58	4.39	Jan.	3.46	3.55	3.82	4.51	Jan.	----	----	----	----
Feb.	3.93	3.61	3.64	3.81	4.51	3.91	3.94	----	Feb.	----	3.62	3.67	4.44	Feb.	3.61	3.65	3.94	4.57	Feb.	----	----	----	----
Mar.	3.98	3.64	3.70	3.85	4.54	3.97	3.97	----	Mar.	----	3.67	3.74	4.51	Mar.	3.64	3.72	3.96	4.56	Mar.	----	----	----	----
Apr.	3.93	3.52	3.64	3.82	4.48	3.96	3.88	----	Apr.	----	3.63	3.75	4.51	Apr.	3.52	3.65	3.89	4.45	Apr.	----	----	----	----
May	4.35	3.98	4.07	4.24	4.89	4.38	4.31	----	May	----	4.05	4.17	4.91	May	3.98	4.09	4.30	4.86	May	----	----	----	----
June	4.56	4.19	4.27	4.45	5.13	4.60	4.52	----	June	----	4.29	4.39	5.13	June	4.19	4.25	4.51	5.12	June	----	----	----	----
July	4.57	4.15	4.25	4.44	5.20	4.63	4.51	----	July	----	4.27	4.40	5.22	July	4.15	4.22	4.49	5.18	July	----	----	----	----
Aug.	4.48	4.04	4.13	4.32	5.19	4.54	4.42	----	Aug.	----	4.13	4.25	5.23	Aug.	4.04	4.11	4.39	5.15	Aug.	----	----	----	----
Sept.	4.59	4.07	4.21	4.43	5.34	4.68	4.49	----	Sept.	----	4.25	4.39	5.42	Sept.	4.07	4.16	4.46	5.25	Sept.	----	----	----	----
Oct.	4.52	3.95	4.11	4.33	5.34	4.63	4.40	----	Oct.	----	4.13	4.29	5.47	Oct.	3.95	4.08	4.37	5.21	Oct.	----	----	----	----
Nov.	4.62	4.06	4.21	4.43	5.46	4.73	4.51	----	Nov.	----	4.22	4.40	5.57	Nov.	4.06	4.20	4.45	5.34	Nov.	----	----	----	----
Dec.	4.58	3.97	4.16	4.38	5.46	4.69	4.47	----	Dec.	----	4.16	4.35	5.55	Dec.	3.97	4.16	4.40	5.36	Dec.	----	----	----	----
<b>2016</b>																							
Jan.	4.56	4.00	4.12	4.35	5.45	4.62	4.50	----	Jan.	----	4.09	4.27	5.49	Jan.	4.00	4.16	4.42	5.40	Jan.	----	----	----	----
Feb.	4.44	3.96	3.98	4.22	5.34	4.44	4.43	----	Feb.	----	3.94	4.11	5.28	Feb.	3.96	4.02	4.33	5.39	Feb.	----	----	----	----
Mar.	4.33	3.82	3.91	4.16	5.13	4.40	4.25	----	Mar.	----	3.93	4.16	5.12	Mar.	3.82	3.89	4.16	5.14	Mar.	----	----	----	----
Apr.	4.09	3.62	3.71	3.98	4.79	4.16	4.01	----	Apr.	----	3.74	4.00	4.75	Apr.	3.62	3.67	3.95	4.82	Apr.	----	----	----	----

## Daily Bond Yields and Key Indicators

Updated by 11 am ET with data from the previous business day.

Data as of 10-Jun-16

### Moody's Daily Long-term Corporate Bond Yield Averages

	Utilities	Industrial	Corporate
Aaa	NA	3.48	3.48
Aa	3.52	3.58	3.55
A	3.75	3.80	3.78
Baa	4.44	4.55	4.50
Avg	3.90	3.85	3.88

### Moody's Daily Treasury Yield Averages

Short-Term (3-5 yrs)	1.02
Medium-Term (5-10 yrs)	1.39
Long-Term (10+ yrs)	2.14

### Moody's Daily Public Utility Common Stock Yield Averages

Price	371.71
Yield	4.07
New Dividend	15.11

### Moody's Commodity and Scrap Price Indexes

Spot Commodity Index	5,392.27
Industrial Metals Index	1,474.57

\* Moody's "Aaa" Utilities Index was suspended on 12/10/01. Since 2000, TVA was the only issuer left in the index as a decade of deregulation, debt growth, competition, and consolidation eliminated the rest of the Aaa universe.

42,531.0

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# MERGENT

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## BOND RECORD

**Corporates**  
**Convertibles**  
**Governments**  
**Municipals**

*Includes Global Ratings*

**DECEMBER 2017**

# MERGENT BOND RECORD MONTHLY UPDATE



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**December 2017 Vol 84 No. 12**

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ISSUE	MATURITY	ISSUE	MATURITY	ISSUE	MATURITY
<b>Bear Stearns Cos Inc</b> (continued)		<b>Centerpoint Energy Res Corp Del</b> (continued)		<b>Citigroup Inc</b> (continued)	
mtn ser b 7.4	11/20	<b>Central Puget Sound Wash Regl Trans Auth</b>		mtn fltg rt ser g equity-linked (autocallable	
mtn ser b 7.2	11/24	<b>Sales &amp; Use Tax Rev</b>		contingent cpn)	11/29
<b>Berlin Land of</b>		mun 2nd mkt derivatives (rols)	11/01	mtn fltg rt ser g equity-linked (buff autocallab	
fltg rt german nt	11/20	<b>Century Communications Corp</b>		ctgnt cpn sec)	11/29
german bds 2	11/22	sr nt 8.375	11/15	mtn zero cpn ser g index-linked (barrier digital	
<b>Berlin-Hannoversche Hypothekenbank AG</b>		<b>Cequel Communications Hldgs I LLC</b>		sec) 0	11/01
covered bds 2.55	11/02	sr nt rule 144a 8.625	11/15	mtn zero cpn ser g index-linked (barrier digital	
<b>BG Plc (United Kingdom)</b>		<b>Cequel Communications Hldgs I LLC /</b>		sec) 0	11/24
eurobd 9.5	11/24	<b>Cequel Cap Corp</b>		mtn zero cpn ser g index-linked (barrier digital	
<b>BlueMountain CLO Ltd</b>		sr nt rule 144a 8.625	11/15	secs) 0	11/24
2nd priority flt rt coll nt	11/15	sr nt rule 144a 8.625	11/15	mtn zero cpn ser g index-linked (buffered nts) 0	
3rd priority def flt rt coll nt	11/15	<b>Ceridian LLC</b>		mtn zero cpn ser g index-linked (contingent	
4th priority def flt rt coll nt	11/15	global nt 8.125	11/15	return optimization) 0	11/30
sr sec flt rt coll nt	11/15	<b>Cet 21 Spol S RO</b>		mtn zero cpn ser g index-linked (trigger plus) 0	11/13
sr sec flt rt coll nt	11/15	sr sec nt 9	11/01	<b>Cleveland Elec Illum Co</b>	
sr sec rev flt rt coll nt	11/15	<b>Chase Funding Loan Acquisition Trust</b>		global sr secd nt rule 144a 7.88	11/01
<b>BMW Canada Inc</b>		pass-thru ctf 4.058	11/25	secd nt ser d 7.88	11/01
gtd canadian bds 2.39	11/27	<b>Chase Manhattan Corp</b>		secd nt 7.88	11/01
<b>BMW Vehicle Owner Tr 2013-A</b>		medium term sub nt ser a 7	11/20	<b>CM Cic</b>	
coll nt .67	11/27	<b>Chevron Corp New</b>		covered bds 1.5	11/16
<b>BNP Paribas / BNP Paribas U S</b>		global nt 1.345	11/15	<b>Coca Cola Co</b>	
medium term sr nt fltg rt	11/01	global nt fltg rt 1.485	11/15	global nt 5.35	11/15
medium term sr nt fltg rt	11/06	global sr nt 1.344	11/09	global nt fltg rt	11/16
medium term sr nt fltg rt	11/24	global sr nt fltg rt 1.67139	11/09	sr nt fltg rt 1.22956	11/16
medium term sr nt fltg rt	11/30	<b>China Aoyuan Property Group Ltd</b>		<b>Coca-Cola European Partners PLC</b>	
medium term sr nt fltg rt	11/30	gtd eurobonds 13.875	11/23	gtd fltg rt global nt	11/26
medium term sr nt zero cpn 0	11/02	<b>China Gov't of</b>		<b>Colt Defense LLC / Colt Fin Corp</b>	
medium term sr nt zero cpn 0	11/08	government bds	11/25	sr nt 8.75	11/15
medium term sr nt zero cpn 0	11/15	hong kong bds	11/21	sr nt rule 144a 8.75	11/15
medium term sr nt zero cpn 0	11/22	<b>China Oriental Group Co Ltd</b>		<b>Columbia Svgs &amp; Ln Assn Beverly Hills Calif</b>	
medium term sr nt zero cpn 0	11/22	sr nt rule 144a 7	11/17	mtg pass thru ctf fltg rt cl a ser 87-a adj rate	
medium term sr nt zero cpn 0	11/24	<b>China, Gov't of</b>		7.949	11/01
medium term sr nt zero cpn 0	11/29	govt bd 4.49	11/05	<b>Comcast Corp New</b>	
medium term sr nt zero cpn 0	11/30	<b>Chrysler Capital Auto Receivables Tr 2015-</b>		global nt 6.3	11/15
medium term sr nt zero cpn 0	11/30	<b>A</b>		<b>Comision Federal de Electricidad</b>	
medium term sr nt zero cpn 0	11/30	coll nt .81	11/15	certificados bursatiles	11/10
medium term sr nt zero cpn 0	11/13	<b>Chubu Elec Pwr Co Inc</b>		<b>COMM 2005-FL11</b>	
<b>BNY Tr Co of Australia Ltd</b>		bd 2.7	11/24	pass thru ctf	11/15
pass-thru ctf .01	11/22	japan bd 1.77	11/24	pass thru ctf	11/15
pass-thru ctf .01	11/22	<b>Chugoku Electric Power Co Inc</b>		pass thru ctf	11/15
pass-thru ctf .01	11/22	japan bd 1.78	11/24	pass thru ctf	11/15
pass-thru ctf	11/22	<b>Cit Group Inc</b>		pass thru ctf	11/15
pass-thru ctf	11/22	cit inter nt 6.25	11/15	pass thru ctf	11/15
<b>BOE Inter Hldg Corp</b>		cit inter nt 6.25	11/15	pass thru ctf	11/15
sr pik nt rule 144a 9	11/01	cit inter nt 6.25	11/15	pass thru ctf	11/15
<b>Boe Merger Corp</b>		cit inter nt 6.4	11/15	pass thru ctf	11/15
pik debentures 9.5	11/01	cit inter nt 6.5	11/15	pass thru ctf	11/15
<b>Boise Paper Hldgs LLC / Boise Fin Co</b>		<b>Citibank Cr Card Issuance Tr</b>		pass-thru ctf	11/15
gtd sr nt 9	11/01	coll nt 5.1	11/20	pass-thru ctf	11/15
sr nt rule 144a 9	11/01	<b>Citicorp Mortgage Securities Inc (United</b>		pass-thru ctf	11/15
<b>BP Cap Mkts PLC</b>		<b>States)</b>		pass-thru ctf	11/15
global gtd nt 1.375	11/06	ctf 9.5	11/25	pass-thru ctf	11/15
<b>Brandenburg Land</b>		<b>Citigroup Fdg Inc</b>		pass-thru ctf	11/15
fltg rt german nt	11/28	mtn fixed/fltg rt ser d 1.56167	11/06	<b>Comm 2005-FL11</b>	
<b>Broadview Networks Hldgs Inc</b>		mtn ser a 6	11/18	pass thru ctf's	11/15
sr secd nt 10.5	11/15	mtn zero cpn ser d index-linked (enh barrier		pass thru ctf's	11/15
<b>Brunswick Rail Fin Ltd</b>		digital plus secs) 0	11/29	pass thru ctf's	11/15
gtd nt rule 144a 6.5	11/01	mtn zero cpn ser d index-linked (enhanced		pass thru ctf's	11/15
<b>Caixa Economica Fed</b>		trigger jump sec) 0	11/29	pass thru ctf's	11/15
mtn rule 144a 2.375	11/06	mtn zero cpn ser d index-linked (market-linked		pass thru ctf's	11/15
<b>Caja de Ahorros y Monte de Piedad de</b>		nts) 0	11/28	pass thru ctf's	11/15
<b>Madrid</b>		mtn zero cpn ser g index-linked (autocallable		<b>Commerzbank AG</b>	
covered bds	11/10	sec) 0	11/30	covered bds 4.58	11/02
<b>Calvert Social Investment Foundation</b>		mtn zero cpn ser h index-linked (accelerated		<b>Commonwealth Bk Australia</b>	
community invt nt 1	11/15	return nts) 0	11/02	medium term sr bk nt fltg rt rule 144a	11/16
community invt nt 1	11/15	mtn zero cpn ser h index-linked (barrier secs) 0	11/27	medium term sr bk nt rule 144a 1.42	11/30
community invt nt 2	11/15	<b>Citigroup Fin Products Inc.</b>		<b>Compagnie de Finment Foncier</b>	
community invt nt 1	11/30	pass thru ctf (rocs)	11/01	covered bds	11/30
community invt nt 1	11/30	pass thru ctf (rols)	11/01	<b>Connecticut Higher Ed Supplement Ln Auth</b>	
<b>Canada Govt Treas Bds</b>		<b>Citigroup Finl Prods Inc</b>		coll nt 4.375	11/15
cad\$ bd .25	11/01	pass thru ctf 4.95	11/15	coll nts	11/15
<b>Canada Govt Treas Bills</b>		pass thru ctf	11/15	<b>Connecticut Higher Ed Supplemental Loan</b>	
cad\$ bill 0	11/16	pass thru ctf	11/15	<b>Auth</b>	
<b>Canadian Capital Auto Receivables Asset Tr</b>		<b>Citigroup Global Mkts Hldgs Inc</b>		coll nt 3.85	11/15
<b>II</b>		mtn fltg rt ser n equity-linked (auto-callable sec)	11/14	coll nt 4	11/15
coll nt 2.943	11/17	mtn fltg rt ser n equity-linked (autocallable		<b>Connecticut State Higher Education</b>	
<b>Canadian Imperial Bk Comm</b>		contingent cpn)	11/22	<b>Supplemental Loan Authority R</b>	
global mtn zero cpn index-linked (accelerated		mtn fltg rt ser n equity-linked (autocallable ctgnt		coll nt	11/15
return nts) 0	11/22	cpn sec)	11/21	<b>Consolidated Thompson Iron Mines Ltd</b>	
mtn fltg rt rule 144a	11/16	mtn fltg rt ser n equity-linked (autocallable ctgnt		sub deb conv 5	11/30
<b>Canadian Natl Ry Co</b>		cpn sec)	11/27	<b>Cornerstone Mortgage Investment Group II</b>	
nt 5.85	11/15	mtn ser n equity-linked (airbag autocallable yield		<b>(MPT Series)</b>	
nt fltg rt 1.47911	11/14	nts) 8.05	11/29	mtg pass thru ctf 9.85	11/01
<b>Carfinance Capital Auto Tr 2013-2</b>		mtn ser n equity-linked (airbag autocallable yield		<b>Corning Inc</b>	
coll nt 1.75	11/15	nts) 8.25	11/29	global nt 1.45	11/15
<b>Cargill Inc</b>		mtn ser n equity-linked (airbag autocallable yield		<b>Corporate Bond-Backed Certificates</b>	
nt rule 144a 6	11/27	nts)	11/29	bd	11/15
<b>Cargill Ltd</b>		mtn ser n equity-linked (airbag autocallable yield		coll nt	11/15
gtd nt 10.12	11/29	nts)	11/29	<b>Corporate Bond-Backed Ctf's Tr</b>	
<b>Caterpillar Finl Svcs Corp</b>		mtn zero cpn ser n index-linked (ctgnt buffered		corporate bd bkd ctf 6.5	11/15
mtn fltg rt ser h 1.56639	11/20	nts) 0	11/01	corporate bd bkd ctf	11/15
mtn ser g 1.25	11/06	<b>Citigroup Inc</b>		<b>Cott Beverages Inc</b>	
<b>Catholic Health Initiatives</b>		global nt fltg rt 2.36194	11/08	gtd sr nt 8.375	11/15
bd 1.6	11/01	global sr nt 1.85	11/24	sr nt rule 144a 8.375	11/15
<b>Centerpoint Energy Res Corp Del</b>		global sr nt 6.125	11/21	<b>Credilege 2005</b>	
sr nt 6.125	11/01	global sr nt fltg rt 2.01722	11/24	coll nt fltg rt	11/30
		mtn fltg rt ser g equity-linked (autocallable		coll nt fltg rt	11/30
		contingent cpn)	11/24	<b>Credit Agricole Corp &amp; Invnt Bk</b>	
				mtn fltg rt	11/30

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ISSUE	MATURITY	ISSUE	MATURITY	ISSUE	MATURITY
<b>Credit Suisse AG London Brh</b>		<b>Credit Suisse London Brh (continued)</b>		<b>Dow Chem Co</b>	
mtn equity-linked (airbag autocallable yield nts)	11/24	mtn zero cpn index-linked (accelerated return secs) 0	11/01	dow inter nt 1.85	11/15
mtn equity-linked (autocallable reverse convertible sec) 8	11/28	mtn zero cpn index-linked (buffered accelerated return equity) 0	11/01	dow inter nt 1.85	11/15
mtn equity-linked (autocallable reverse convertible) 9	11/20	mtn zero cpn index-linked (buffered accelerated return nt) 0	11/10	dow inter nt 3.7	11/15
mtn equity-linked (autocallable reverse convertible) 7.75	11/27	mtn zero cpn index-linked (buffered accelerated return sec) 0	11/30	<b>Drive Auto Receivables Tr 2015-A</b>	
mtn equity-linked (autocallable reverse convertible) 8.25	11/28	mtn zero cpn index-linked (buffered return equity sec) 0	11/29	coll nt 1.01	11/15
mtn fltg rt equity-linked (auto-callable secs)	11/09	mtn zero cpn index-linked (capped knock-out nt) 0	11/15	<b>Duane Street CLO 1</b>	
mtn fltg rt equity-linked (auto-callable secs)	11/09	mtn zero cpn index-linked (cert plus) 0	11/29	coll nt fltg rt .25	11/08
mtn fltg rt equity-linked (auto-callable secs)	11/16	mtn zero cpn index-linked (ctgnt return optimization secs) 0	11/30	coll nt fltg rt	11/08
mtn fltg rt equity-linked (auto-callable secs)	11/30	mtn zero cpn index-linked (digital barrier sec) 0	11/16	coll nt fltg rt	11/08
mtn fltg rt equity-linked (ctgnt cpn autocallable yield nt)	11/28	mtn zero cpn index-linked (knock-out nts) 0	11/08	coll nt fltg rt	11/08
mtn fltg rt index-linked (ctgnt cpn autocallable yield nt)	11/24	mtn zero cpn index-linked (knock-out nts) 0	11/15	coll nt fltg rt	11/08
mtn fltg rt index-linked (ctgnt cpn callable yield)	11/27	mtn zero cpn index-linked (knock-out nts) 0	11/29	coll nt fltg rt	11/08
mtn zero cpn equity-linked (accelerated barrier nts) 0	11/13	mtn zero cpn index-linked (leveraged buffered nt) 0	11/09	coll nt fltg rt	11/08
mtn zero cpn equity-linked (plus) 0	11/03	mtn zero cpn index-linked (plus) 0	11/03	coll nt	11/08
mtn zero cpn index-linked (plus) 0	11/03	<b>Credit Suisse Nassau Brh</b>		coll nt	11/08
mtn zero cpn index-linked (autocallable sec) 0	11/30	mtn zero cpn index-linked (accelerated return equity secs) 0	11/30	coll nt	11/08
mtn zero cpn index-linked (buffered accelerated return sec) 0	11/01	mtn zero cpn index-linked (cert plus) 0	11/30	coll nt	11/08
mtn zero cpn index-linked (buffered accelerated return sec) 0	11/30	<b>CT Higher Ed Supplemental Loan Auth</b>		coll nt	11/08
mtn zero cpn index-linked (buffered return enh) 0	11/08	coll nt 4.625	11/15	<b>Duke Energy Progress Inc</b>	
mtn zero cpn index-linked (buffered return enhanced nts) 0	11/22	<b>Cubist Pharmaceuticals Inc</b>		global 1st mtg bd fltg rt 1.51639	11/20
mtn zero cpn index-linked (call warrants) 0	11/13	sr nt conv 2.5	11/01	<b>Durham Regional Municipality of</b>	
mtn zero cpn index-linked (call warrants) 0	11/27	<b>CWMB Inc</b>		canadian debentures 5.05	11/21
mtn zero cpn index-linked (capped knock-out nts) 0	11/28	pass thru ctf 5.75	11/25	<b>Dynegy Inc</b>	
mtn zero cpn index-linked (cert plus secs) 0	11/06	<b>CWMB Inc (United States)</b>		mandatory pfd stk conv ser a 5.375	11/01
mtn zero cpn index-linked (digital barrier nts) 0	11/28	pass-thru ctf 0	11/25	<b>E Trade Finl Corp</b>	
mtn zero cpn index-linked (digital buffered nt) 0	11/28	pass-thru ctf 5.75	11/25	global sr nt 6	11/15
mtn zero cpn index-linked (knock-out nts) 0	11/01	pass-thru ctf 5.75	11/25	springing lien pik nt 12.5	11/30
<b>Credit Suisse AG Nassau Brh</b>		pass-thru ctf 5.75	11/25	springing lien pik nt 12.5	11/30
mtn zero cpn index-linked (call warrants) 0	11/03	pass-thru ctf 5.75	11/25	sr nt rule 144a 12.5	11/30
mtn zero cpn index-linked (call warrants) 0	11/24	<b>Danmarks Skibskredit A/S</b>		<b>Eaton Corp Ohio</b>	
<b>Credit Suisse First Boston Mortgage Acceptance Corp</b>		danish bds 3	11/15	sr nt 1.5	11/02
pass-thru ctf 0	11/25	<b>Detour Gold Corp</b>		<b>Eksportfinans ASA</b>	
pass-thru ctf 5.5	11/25	sr nt conv rule 144a 5.5	11/30	mtn fltg rt	11/30
pass-thru ctf 5.5	11/25	<b>Deutsche Bank AG London Branch</b>		<b>Encore Cap Group Inc</b>	
<b>Credit Suisse Group Ag New York Branch</b>		japan bds .35	11/14	sr nt conv rule 144a 3	11/27
medium term sr bk nt fltg rt	11/06	<b>Deutsche Bk AG London</b>		<b>Energy Future Hldgs Corp</b>	
medium term sr bk nt fltg rt	11/08	global mtn fixed/fltg rt ser a 1.56694	11/30	gtd sr nt 10.875	11/01
medium term sr bk nt fltg rt	11/13	global mtn fltg rt ser a equity-linked (trggr phoenix autocall)	11/02	gtd sr toggle nt 11.25	11/01
medium term sr bk nt fltg rt	11/20	global mtn ser a 14.5	11/30	sr nt rule 144a 10.875	11/01
medium term sr bk nt fltg rt	11/20	global mtn zero cpn index-linked (autocall mkt-linked step up) 0	11/24	sr toggle nt rule 144a 11.25	11/01
medium term sr bk nt fltg rt	11/29	global mtn zero cpn index-linked (autocall mkt-linked step up) 0	11/27	<b>Enterprise Fleet Financing LLC</b>	
medium term sr bk nt zero cpn 0	11/13	global mtn zero cpn ser a currency-linked (capped return enh nt) 0	11/17	coll nt 1.14	11/20
medium term sr bk nt zero cpn 0	11/30	global mtn zero cpn ser a currency-linked (leveraged nt) 0	11/15	coll nt 1.41	11/20
medium term sr bk nt zero cpn 0	11/30	global mtn zero cpn ser a equity-linked (capped buys) 0	11/02	<b>Erste Group Bank AG</b>	
<b>Credit Suisse London Brh</b>		global mtn zero cpn ser a index-linked (autocallable sec) 0	11/02	covered bds 3.08	11/29
mtn equity-linked (autocallable coupon buffered sec) 6.6	11/08	global mtn zero cpn ser a index-linked (call warrants) 0	11/13	<b>Eurofima</b>	
mtn equity-linked (autocallable reverse convertible sec)	11/20	global mtn zero cpn ser a index-linked (call warrants) 0	11/24	swiss bds 2.125	11/10
mtn equity-linked (autocallable reverse convertible sec) 8.5	11/28	global mtn zero cpn ser a index-linked (capped buys) 0	11/02	<b>Eurohypo AG</b>	
mtn equity-linked (autocallable reverse convertible sec) 9	11/28	global mtn zero cpn ser a index-linked (capped buys) 0	11/24	covered bds 3.25	11/06
mtn equity-linked (autocallable yield nt) 9.5	11/29	global mtn zero cpn ser a index-linked (capped buys) 0	11/24	covered bds 3.375	11/30
mtn fltg rt equity-linked (ctgnt cpn autocallable yield nt)	11/22	global mtn zero cpn ser a index-linked (capped buffered nts) 0	11/27	mtg pfandbriefe 4.625	11/02
mtn fltg rt equity-linked (ctgnt cpn autocallable yield nt)	11/22	global mtn zero cpn ser a index-linked (capped gears) 0	11/30	<b>European Investment Bank</b>	
mtn fltg rt equity-linked (ctgnt cpn autocallable yield nt)	11/28	global mtn zero cpn ser a index-linked (knock-out nt) 0	11/22	index linked eurobonds 2.375	11/22
mtn fltg rt equity-linked (ctgnt cpn autocallable yield)	11/30	global mtn zero cpn ser a index-linked (review nts) 0	11/02	<b>European Invnt Bk</b>	
mtn fltg rt index-linked (autocallable ctgnt cpn buffered nts)	11/28	global mtn zero cpn ser a index-linked (trigger enh partic sec) 0	11/02	czk\$ emtn zero cpn 0	11/27
mtn fltg rt index-linked (buffered callable yield nt)	11/29	<b>Deutsche Hypothekbank AG</b>		<b>Financing of Infrastructural Projects</b>	
mtn fltg rt index-linked (ctgnt cpn autocallable yield nt)	11/24	covered bds .875	11/06	gtd nt 8.375	11/03
mtn fltg rt index-linked (ctgnt cpn callable yield)	11/27	covered bds 3.3	11/27	<b>FinansBank AS</b>	
mtn zero cpn equity-linked (capped airbag gears) 0	11/06	<b>Deutsche Pfandbriefbank AG</b>		nt rule 144a 5.15	11/01
mtn zero cpn equity-linked (capped knock-out nt) 0	11/03	covered bds 2.875	11/30	<b>First Capital Rty Inc</b>	
mtn zero cpn equity-linked (digital buffered nts) 0	11/15	<b>Dev Bank of Japan Inc</b>		cad\$ deb ser i 5.7	11/30
mtn zero cpn equity-linked (accelerated barrier nts) 0	11/06	gtd japan bds .4	11/16	<b>Fiserv Inc</b>	
mtn zero cpn index-linked (accelerated barrier nts) 0	11/09	<b>Dexia Mun Agency</b>		global sr nt 6.8	11/20
mtn zero cpn index-linked (accelerated barrier nts) 0	11/29	obligations foncieres 4.5	11/13	<b>Florida Pwr &amp; Lt Co</b>	
mtn zero cpn index-linked (accelerated return equity sec) 0	11/03	<b>Dexia Municipal Agency</b>		1st mtg bd 5.55	11/01
mtn zero cpn index-linked (accelerated return nt) 0	11/22	covered bds 4.93	11/28	secd mtn 9.28	11/01
mtn zero cpn index-linked (accelerated return nt) 0	11/27	covered bds 4.93	11/28	<b>Fms Wertmanagement</b>	
<b>DNB Nor Boligkredit AS</b>		<b>Dexia Municipal Agency (France)</b>		fltg rt german nt	11/23
covered bds 3.375	11/16	mtg bd 0	11/22	global nt 1	11/21
<b>Dominion Res Inc</b>		<b>Discover Card Master Tr I</b>		<b>Ford Credit Auto Owner Tr 2012-2</b>	
sr nt ser a 6	11/30	coll nt	11/15	coll nt 4.407	11/15
		<b>DNB Nor Boligkredit AS</b>		<b>Ford Credit Auto Owner Tr 2012-3</b>	
		covered bds 3.375	11/16	coll nt 2.452	11/15
		<b>Dominion Res Inc</b>		<b>Ford Credit Auto Owner Tr 2012-A</b>	
		sr nt ser a 6	11/30	coll nt 2.4	11/15
				<b>Ford Credit Auto Owner Tr 2012-C</b>	
				coll nt .79	11/15
				<b>Ford Mtr Cr Co LLC</b>	
				ford cr nts 2	11/20
				ford cr nts 2.4	11/20
				<b>Freeport-McMoran Inc</b>	
				global gtd sr nt 2.3	11/14
				<b>Fukuoka Prefecture</b>	
				japan bds .19	11/27
				<b>Future Land Dev Hldgs Ltd</b>	
				gtd eurobonds 6.25	11/12
				<b>Gale Force 1 CLO Ltd</b>	
				coll notes 0	11/15
				coll notes 7.04	11/15
				coll notes	11/15

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<b>Gale Force 1 CLO Ltd (continued)</b>		<b>Goldman Sachs Group Inc (continued)</b>		<b>Honda Auto Receivables 2015-3 Owner Tr</b>	
coll notes	11/15	mtn zero cpn ser d index-linked (lev buff basket-linked nts) 0	11/24	coll nt .92	11/20
coll notes	11/15	mtn zero cpn ser d index-linked (leveraged buffered nt) 0	11/02	<b>Household Fin Corp</b>	
coll notes	11/15	mtn zero cpn ser d index-linked (leveraged buffered nt) 0	11/22	hfc inter nt 6.75	11/15
coll notes	11/15	mtn zero cpn ser d index-linked (leveraged buffered nt) 0	11/24	<b>Hrvatska Elektroprivreda DD</b>	
coll notes 5.66	11/15	mtn zero cpn ser d index-linked (leveraged buffered nt) 0	11/07	sr unsec nt 6	11/09
coll nt	11/15	mtn zero cpn ser d index-linked (leveraged buffered nts) 0	11/16	<b>HSBC Finance Corp</b>	
coll nt	11/15	mtn zero cpn ser d index-linked (leveraged buffered nts) 0	11/02	hsbc finance inter nt 5.75	11/15
coll nt	11/15	mtn zero cpn ser d index-linked (leveraged trigger nts) 0	11/02	<b>HSBC USA Inc</b>	
coll nt	11/15	mtn zero cpn ser d index-linked (leveraged trigger nts) 0	11/30	global nt fltg rt 1.64911	11/13
<b>Gale Force 1CLO Ltd</b>		mtn zero cpn ser d index-linked (trigger return optimization) 0	11/30	global sr nt 1.5	11/13
coll nt	11/15	<b>Golub Capital S/L Opportunity Fund Ltd</b>		mtn equity-linked (airbag autocallable yield nt) 6.9	11/06
<b>Gannett Inc</b>		coll nt	11/20	mtn equity-linked (airbag autocallable yield nt) 8.3	11/06
gtd sr nt 9.375	11/15	<b>Gpat Compania Financiera SA</b>		mtn fltg rt currency-linked (phoenix review nt)	11/20
gtd sr nt rule 144a 9.375	11/15	argentine bds	11/17	mtn fltg rt equity-linked (auto-callable sec)	11/02
<b>Garrison Fdg 2010-1 LLC</b>		<b>Gracechurch Card Programme Funding PLC</b>		mtn fltg rt equity-linked (auto-callable sec)	11/16
coll nt	11/20	pass-thru ctf	11/15	mtn fltg rt equity-linked (auto-callable secs)	11/24
coll nt	11/20	<b>Greenpoint Manufactured Housing Contract Trust</b>		mtn fltg rt equity-linked (phoenix quarterly review nts)	11/08
<b>Garrison Funding 2010-1 LLC</b>		pass-thru ctf 0	11/23	mtn fltg rt equity-linked (phoenix review nt)	11/01
coll nt	11/20	<b>Greenwich Capital Acceptance Inc</b>		mtn fltg rt equity-linked (trigger phoenix autocall opt)	11/30
<b>Gateway Casinos &amp; Entertainment Ltd</b>		mtg pass thru ctf	11/26	mtn index-linked (autocallable yield nts) 5.5	11/30
sr sec 2nd lien nt 8.875	11/15	<b>Greyrock Cdo Ltd</b>		mtn zero cpn equity-linked (buffered accelerated mkt partic sec) 0	11/06
<b>Gaz Cap S A</b>		coll nts .25	11/15	mtn zero cpn equity-linked (buffered return enh) 0	11/20
In partic nts 5.44	11/02	coll nts 6.52	11/15	mtn zero cpn equity-linked (capped gears) 0	11/21
<b>GE Capital Credit Card Master Note Tr</b>		coll nts 9.41	11/15	mtn zero cpn equity-linked (contingent buffered nts) 0	11/08
pass-thru ctf 3.8	11/15	coll nts	11/15	mtn zero cpn equity-linked (ctgnt buffered nt) 0	11/15
pass-thru ctf 5.39	11/15	coll nts	11/15	mtn zero cpn equity-linked (trigger autocallable optimization) 0	11/02
pass-thru ctf 7.82	11/15	coll nts	11/15	mtn zero cpn equity-linked (trigger autocallable optimization) 0	11/02
<b>GE Equipment Transportation LLC</b>		coll nts	11/15	mtn zero cpn equity-linked (trigger autocallable optimization) 0	11/02
coll nt .89	11/24	coll nts	11/15	mtn zero cpn equity-linked (trigger plus) 0	11/06
<b>GE Seaco Finance S.r.l.</b>		coll nts	11/17	mtn zero cpn equity-linked (barrier digital return nt) 0	11/17
flt rt nt 0	11/17	<b>Grupo Posadas S A de C V</b>		mtn zero cpn index-linked (barrier leveraged tracker nt) 0	11/06
<b>GE Seaco Finance Srl</b>		sr nt rule 144a 7.875	11/30	mtn zero cpn index-linked (barrier leveraged tracker nt) 0	11/29
flt rt nt 0	11/17	<b>Grupo Posadas SAB de CV</b>		mtn zero cpn index-linked (buffered accel mkt participation) 0	11/30
<b>Gemdale Int'l Investment Ltd</b>		gtd sr global nt 7.875	11/30	mtn zero cpn index-linked (buffered accel mkt participation) 0	11/30
gtd euronotes 7.125	11/16	<b>GS Fin Corp</b>		mtn zero cpn index-linked (buffered accel mkt participation) 0	11/30
<b>Gen Elec Cap Corp</b>		mtn fltg rt ser e equity-linked (auto-callable secs)	11/24	mtn zero cpn index-linked (buffered accelerated mkt partic sec) 0	11/29
japan bd 2.15	11/28	mtn index-linked ser e 5.65	11/07	mtn zero cpn index-linked (buffered accelerated mkt partic sec) 0	11/29
<b>General Dynamics Corp</b>		mtn zero cpn ser e index-linked (capped gears) 0	11/20	mtn zero cpn index-linked (buffered accelerated mkt partic sec) 0	11/29
global gtd nt 1	11/15	mtn zero cpn ser e index-linked (capped gears) 0	11/20	mtn zero cpn index-linked (buffered accelerated mkt partic sec) 0	11/29
<b>General Elec Cap Corp</b>		mtn zero cpn ser e index-linked (digital nt) 0	11/10	mtn zero cpn index-linked (buffered uncapped mkt partic sec) 0	11/14
ge capital inter nt 3.25	11/15	mtn zero cpn ser e index-linked (leveraged buffered basket) 0	11/09	mtn zero cpn index-linked (buffered uncapped mkt partic sec) 0	11/27
ge capital inter nt 3.25	11/15	mtn zero cpn ser e index-linked (leveraged buffered nt) 0	11/02	mtn zero cpn index-linked (buffered uncapped mkt partic sec) 0	11/28
ge capital inter nt 4.5	11/15	mtn zero cpn ser e index-linked (leveraged buffered nt) 0	11/15	mtn zero cpn index-linked (contingent return optimization secs) 0	11/30
ge capital inter nt 5.05	11/15	mtn zero cpn ser e index-linked (leveraged buffered nt) 0	11/24	mtn zero cpn index-linked (lev buff uncapped mkt partic sec) 0	11/27
global medium term sr nt ser a 1.6	11/20	mtn zero cpn ser e index-linked (leveraged buffered nts) 0	11/07	mtn zero cpn index-linked (market-linked step up nts) 0	11/24
global mtn ser a step-up 6	11/28	mtn zero cpn ser e index-linked (leveraged buffered nts) 0	11/08	mtn zero cpn index-linked (performance barrier nts) 0	11/30
<b>General Maritime Corp</b>		mtn zero cpn ser e index-linked (plus) 0	11/03	mtn zero cpn index-linked (strategic accel redemp sec) 0	11/10
gtd sr nt ser b 12	11/15	mtn zero cpn ser e index-linked (trigger nts) 0	11/08	mtn zero cpn index-linked (trigger performance sec) 0	11/30
sr nt rule 144a 12	11/15	mtn zero cpn ser e index-linked (trigger nts) 0	11/15	mtn zero cpn index-linked (trigger return optimization sec) 0	11/30
<b>General Mtrs Accep Corp</b>		<b>GS Trust 4</b>		mtn zero cpn index-linked (trigger return optimization secs) 0	11/30
smart nt 7.5	11/15	coll bd 9.95	11/01	<b>HSH Nordbank AG</b>	
smart nt 7.5	11/15	coll mtg oblig 9.95	11/01	covered bds 2.81	11/13
smart nt 8	11/15	<b>GS Trust 7</b>		euronotes 3.625	11/09
smart nt 8.125	11/15	coll mtg oblig fltg rate	11/27	<b>Hungary</b>	
<b>General Tel Co Northwest Inc</b>		<b>GTE Corp</b>		govt bd 6.75	11/24
1st mtg ser dd 9.75	11/15	deb 10.3	11/15	<b>Hutchison Whampoa Fin UK PLC</b>	
<b>Gleneagles CLO Ltd / Gleneagles CLO Corp</b>		<b>GTE Southwest Inc</b>		gtd eurobd 5.625	11/24
coll nt .25	11/01	1st mtg 10.375	11/01	<b>Hutchison Whampoa Intl 12 II Ltd</b>	
coll nt fltg rt	11/01	<b>Guaranteed Mortgage Corp. III</b>		gtd nt rule 144a 2	11/08
coll nt fltg rt	11/01	coll bd 9.35	11/20	<b>Hypo Real Estate Bk Intl A G</b>	
coll nt fltg rt	11/01	<b>Halton, Regl Municipality of</b>		german nt fltg rt	11/02
coll nt fltg rt	11/01	canadian deb 4.8	11/23		
<b>Globaldrive Auto Receivables 2009-D BV</b>		<b>Hamamatsu City</b>			
pass-thru ctf	11/20	japan bd 1.81	11/28		
pass-thru ctf	11/20	<b>Hamburger Sparkasse AG</b>			
<b>GMF Canada Leasing Tr</b>		covered bds 2.25	11/21		
coll nt 1.379	11/20	<b>Hartford Life Insurance Co</b>			
<b>Goldman Sachs Group Inc</b>		hartford life income nt 5.5	11/15		
mtn fixed/fltg rt ser d 2.81056	11/01	hartford life income nt 5.5	11/15		
mtn fixed/fltg rt ser d 2.715	11/15	hartford life income nt 5.5	11/15		
mtn fixed/fltg rt ser d 2.81778	11/30	hartford life income nt 5.5	11/15		
mtn fltg rt ser d index-linked	11/30	<b>Hokkaido Electric Power Co., Inc. (Japan)</b>			
mtn ser d 3.6	11/15	bd 2.77	11/24		
mtn ser d 4	11/15	<b>Home Mac Mortgage Securities Corp (CMO Series)</b>			
mtn ser d 4.2	11/15	coll bd 9	11/01		
mtn ser d 4.5	11/15	<b>Home Mac Mtge Secs Cor</b>			
mtn ser d 4.75	11/15	coll mtg bds 9	11/01		
mtn zero cpn ser d currency-linked (leveraged nt) 0	11/17	<b>Honda Auto Receivables 2014-1 Owner Tr</b>			
mtn zero cpn ser d currency-linked (leveraged nts) 0	11/20	coll nt .67	11/21		
mtn zero cpn ser d equity-linked (leveraged nts) 0	11/15				
mtn zero cpn ser d index-linked (digital nts) 0	11/16				
mtn zero cpn ser d index-linked (lev buff basket-linked nts) 0	11/03				
mtn zero cpn ser d index-linked (lev buff basket-linked nts) 0	11/16				

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<b>Hyundai Auto Receivables Tr 2011-B</b> coll nt 3.51	11/15	<b>J P Morgan Chase &amp; Co (continued)</b> global mtn zero cpn ser e index-linked (review nt) 0	11/09	<b>JPMorgan Chase Finl Co Llc (continued)</b> global mtn ser a index-linked (auto callable yield nts) 7	11/28
<b>Illinois Pwr Co</b> sr secd nt 6.125	11/15	global mtn zero cpn ser e index-linked (review nt) 0	11/30	global mtn ser a index-linked (yield nts) 5.1	11/29
sr secd nt rule 144a 6.125	11/15	global mtn zero cpn ser e index-linked (review nt) 0	11/30	global mtn ser a index-linked (yield nts) 5.25	11/30
<b>Imperial Savings &amp; Loan Association</b> mtg pass thru ctf 8.45	11/25	global mtn zero cpn ser e index-linked (review nts) 0	11/16	global mtn zero cpn ser a (digital nt) 0	11/16
<b>ING Bank NV</b> covered bds 3.04	11/29	<b>J P Morgan Chase Bk</b> medium term bk nt fltg rt	11/07	global mtn zero cpn ser a (digital nts) 0	11/28
<b>International Bk For Recon &amp; Dev</b> global nt 1	11/15	medium term bk nt fltg rt	11/13	global mtn zero cpn ser a equity-linked (cap optimal entry ret) 0	11/27
medium term bk nt .96	11/13	medium term bk nt fltg rt	11/20	global mtn zero cpn ser a equity-linked (ctgnt buffered equity) 0	11/15
medium term bk nt 1	11/15	medium term bk nt fltg rt	11/20	global mtn zero cpn ser a equity-linked (digital ctgnt buff nt) 0	11/01
medium term bk nt step up ser 4497 .85	11/13	medium term bk nt fltg rt	11/28	global mtn zero cpn ser a equity-linked (return nts) 0	11/08
nt fltg rt 7.25	11/20	medium term bk nt zero cpn 0	11/06	global mtn zero cpn ser a equity-linked (trigger plus) 0	11/02
<b>International Business Machs Corp</b> ibm nt 5.5	11/15	<b>J P Morgan MBS Series 2002-R2</b> pass-thru ctf	11/25	global mtn zero cpn ser a index-linked (cap buffer ret enh nts) 0	11/02
<b>International Fin Corp</b> global mtn 2.125	11/17	<b>J P Morgan Secs Inc</b> pass-thru ctf	11/01	global mtn zero cpn ser a index-linked (capped buffer ret enh) 0	11/27
<b>Interpublic Group Cos Inc</b> global sr nt 2.25	11/15	<b>Japan (Government of)</b> govt bd 0	11/20	global mtn zero cpn ser a index-linked (capped buffered ret enh) 0	11/28
<b>InvestCorp S A</b> gtd nt rule 144a 8.25	11/01	<b>Japan Expressway Hldg and Debt Repayment Agency</b> gtd japan bds 1.7	11/30	global mtn zero cpn ser a index-linked (cppd ctgnt buff nt) 0	11/08
<b>Israel (State) US Government Guaranteed Notes</b> zero cpn nt 0	11/15	<b>Japan Fin Corp</b> gtd japan bd 1.7	11/17	global mtn zero cpn ser a index-linked (cppd optimal entry nt) 0	11/27
<b>Israel St U S Govt Gtd NTS</b> gtd zero cpn nt cl 9-2 0	11/15	sr sec japan bds .1	11/02	global mtn zero cpn ser a index-linked (ctgnt buff ret enh nt) 0	11/15
zero cpn gtd nt cl 5-2 0	11/15	sr sec japan bds .1	11/02	global mtn zero cpn ser a index-linked (digital buffered nts) 0	11/15
<b>iStar Finl Inc</b> sr nt 4	11/01	<b>Japan Fin Organization For Munic</b> gtd japan bds .4	11/29	global mtn zero cpn ser a index-linked (digital buffered nts) 0	11/15
<b>J P Morgan Chase &amp; Co</b> global mtn fixed/fltg rt ser e 2.21417	11/17	<b>Japan Gov't of</b> government bds .1	11/15	global mtn zero cpn ser a index-linked (digital ctgnt buff nt) 0	11/22
global mtn fltg rt ser e	11/15	<b>Japan Prime Realty Investment Corp</b> japan bds .68	11/22	global mtn zero cpn ser a index-linked (digital ctgnt buff nt) 0	11/28
global mtn fltg rt ser e equity-linked (auto callable nt)	11/27	<b>John Hancock Life Ins Co</b> signature nt 5.25	11/15	global mtn zero cpn ser a index-linked (digital nt) 0	11/24
global mtn fltg rt ser e equity-linked (auto callable nts)	11/13	signature nt 5.4	11/15	global mtn zero cpn ser a index-linked (plus) 0	11/03
global mtn fltg rt ser e equity-linked (auto callable nts)	11/29	signature nt 5.55	11/15	<b>Jupiter Issuer Trust</b> coll nt	11/30
global mtn fltg rt ser e equity-linked (auto-callable sec)	11/13	signature nt 5.6	11/15	<b>KAL ABS 15 Cayman Ltd</b> pass-thru ctf	11/25
global mtn fltg rt ser e equity-linked (auto-callable sec)	11/27	<b>Johnson &amp; Johnson</b> global sr nt 1.125	11/21	<b>Kaman Corp</b> sr nt conv rule 144a 3.25	11/15
global mtn fltg rt ser e equity-linked (auto-callable sec)	11/03	<b>Johnson Ctls Inc</b> global sr nt 1.4	11/02	<b>Katonah VII CLO Ltd</b> coll nt	11/15
global mtn fltg rt ser e equity-linked (auto-callable sec)	11/03	<b>Johnson Ctls Intl PLC</b> sr nt 1.4	11/02	coll nt	11/15
global mtn fltg rt ser e equity-linked (auto-callable sec)	11/03	<b>JP Morgan MBS Ser 2002-R2</b> pass-thru ctf 0	11/25	coll nt	11/15
global mtn fltg rt ser e equity-linked (auto-callable sec)	11/03	pass-thru ctf 0	11/25	coll nt	11/15
global mtn fltg rt ser e equity-linked (auto-callable sec)	11/03	pass-thru ctf 0	11/25	coll nt	11/15
global mtn fltg rt ser e equity-linked (auto-callable sec)	11/27	pass-thru ctf 0	11/25	coll nt fltg rt	11/15
global mtn fltg rt ser e equity-linked (autocall ctgnt int nts)	11/16	<b>JPMorgan Chase &amp; Co</b> global mtn equity-linked ser a (yield nt) 2.25	11/22	coll nt fltg rt	11/15
global mtn fltg rt ser e equity-linked (autocall ctgnt int nts)	11/29	global mtn ser a equity-linked (yield nts) 2.25	11/02	coll nt fltg rt	11/15
global mtn fltg rt ser e index-linked (auto callable nts)	11/30	<b>JPMorgan Chase Finl Co Llc</b> global mtn equity-linked ser a (yield nt) 5	11/24	coll nt fltg rt	11/15
global mtn fltg rt ser e index-linked (callable ctgnt int nts)	11/16	global mtn fltg rt ser a equity-linked (auto call ctgnt int nts)	11/08	<b>Key Bk N A</b> medium term sub bk nt 5.7	11/01
global mtn fltg rt ser e index-linked (ctgnt cpn callable yield)	11/02	global mtn fltg rt ser a equity-linked (auto call ctgnt int nts)	11/20	<b>Killam Ppty Inc</b> cad\$ sub deb conv 5.65	11/30
global mtn fltg rt ser e index-linked (ctgnt cpn callable yield)	11/29	global mtn fltg rt ser a equity-linked (auto callable nt)	11/08	<b>KKR Finl CLO Ltd</b> coll nt fltg rt	11/26
global mtn ser e equity-linked (callable yield nts) 8.75	11/09	global mtn fltg rt ser a equity-linked (auto callable nt)	11/15	coll nt fltg rt	11/26
global mtn zero cpn ser e equity-linked (cap buffer return enh) 0	11/24	global mtn fltg rt ser a equity-linked (auto callable nt)	11/20	coll nt fltg rt	11/26
global mtn zero cpn ser e equity-linked (cap buffer return enh) 0	11/30	global mtn fltg rt ser a equity-linked (auto callable nt)	11/22	coll nt fltg rt	11/26
global mtn zero cpn ser e equity-linked (cppd buff ret enh nt) 0	11/30	global mtn fltg rt ser a equity-linked (auto callable nt)	11/28	coll nt fltg rt	11/26
global mtn zero cpn ser e equity-linked (cppd buff return enh) 0	11/22	global mtn fltg rt ser a equity-linked (auto callable nt)	11/02	<b>KLA Tencor Corp</b> global sr nt 2.375	11/01
global mtn zero cpn ser e index-linked 0	11/28	global mtn fltg rt ser a equity-linked (auto-callable nts)	11/02	<b>KLP Kommunekredit AS</b> covered bds	11/26
global mtn zero cpn ser e index-linked (cap buffered return enh) 0	11/07	global mtn fltg rt ser a equity-linked (auto-callable sec)	11/02	<b>Krasnodar Krai of</b> step down russian bds 8.95	11/09
global mtn zero cpn ser e index-linked (cap buffered return enh) 0	11/30	global mtn fltg rt ser a equity-linked (ctgnt cpn callab yield)	11/14	<b>Kreditanstalt Fuer Wiederaufbau</b> global nt .05	11/30
global mtn zero cpn ser e index-linked (capped buff enh partic) 0	11/08	global mtn fltg rt ser a index-linked (auto callable nt)	11/30	<b>Kreissparkasse Koeln</b> covered bds 1.02	11/06
global mtn zero cpn ser e index-linked (capped buff ret enh) 0	11/06	global mtn fltg rt ser a index-linked (auto callable nts)	11/15	covered bds 3.5	11/06
global mtn zero cpn ser e index-linked (capped buff ret enh) 0	11/24	global mtn fltg rt ser a index-linked (auto callable nts)	11/24	<b>Kuka AG</b> gtd sr sec global nt 8.75	11/15
global mtn zero cpn ser e index-linked (cppd buff enh partic nt) 0	11/06	global mtn fltg rt ser a index-linked (auto callable nts)	11/28	<b>Kyushu Elec Pwr Co Inc</b> japan bd 1.79	11/24
global mtn zero cpn ser e index-linked (cppd buff enh partic nt) 0	11/16	global mtn fltg rt ser a index-linked (auto callable nts)	11/30	<b>Kyushu Electric Power Co., Inc. (Japan)</b> bd 2.85	11/24
global mtn zero cpn ser e index-linked (cppd buff enh partic nt) 0	11/22	global mtn fltg rt ser a index-linked (auto-callable nts)	11/28	<b>Lafarge SA</b> gbp\$ emtn 6.625	11/29
global mtn zero cpn ser e index-linked (cppd buff ret enh nt) 0	11/30	global mtn fltg rt ser a index-linked (callable ctgnt int nts)	11/09	<b>Landesbank Baden-Wuerttemberg</b> covered bds .75	11/27
global mtn zero cpn ser e index-linked (cppd buff ret enh nt) 0	11/30	global mtn index-linked ser a (auto callable yield nts) 6	11/28	german bd 4.86	11/07
global mtn zero cpn ser e index-linked (cppd buff ret enh nt) 0	11/16	global mtn index-linked ser a (yield nt) 6.75	11/20	german bd 5.04	11/14
global mtn zero cpn ser e index-linked (ctgnt buff return enh) 0	11/03	global mtn ser a equity-linked (auto callable yield nts) 7.5	11/02	german bd 4.835	11/20
global mtn zero cpn ser e index-linked (jump sec) 0	11/16	global mtn ser a equity-linked (auto callable yield nts) 8	11/17	german bds 5.04	11/27
global mtn zero cpn ser e index-linked (knock-out buff ret enh) 0	11/30	global mtn ser a equity-linked (auto callable yield nts) 8	11/28	german nt fltg rt	11/14
		global mtn ser a index-linked (auto callable yield nts) 7.25	11/30	german nt fltg rt	11/16
				sub eurobd 4.15	11/16

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ISSUE	MATURITY	ISSUE	MATURITY	ISSUE	MATURITY
<b>Lasalle Fdg LLC</b> (continued)		<b>Morgan Stanley</b> (continued)		<b>NY City Hsg Dev Corp NY</b> (continued)	
lasalle nt step-up 7	11/15	global mtn fltg rt ser f index-linked (contingent income secs)	11/30	<b>Oakland County Michigan Economic Development Corp Ltd Obligation</b>	
<b>LBI Escrow Corp</b>		global mtn index-linked (market-linked nts) 1	11/21	pass-thru ctf	11/01
sr secd nt rule 144a 8	11/01	global mtn zero cpn index-linked (buffered jump sec) 0	11/30	<b>Oaktree European Credit Opportunities II Ltd</b>	
<b>Leaf Receivables Funding 8 LLC</b>		global mtn zero cpn ser f equity-linked 0	11/24	coll nt	11/30
coll nt 1.55	11/15	global mtn zero cpn ser f equity-linked (buffered jump sec) 0	11/09	coll nt	11/30
<b>Leafs CMBS I Ltd</b>		global mtn zero cpn ser f equity-linked (trigger plus) 0	11/27	coll nt	11/30
coll nt	11/20	global mtn zero cpn ser f equity-linked (trigger plus) 0	11/30	<b>Ocean Series 2011-3</b>	
coll nt	11/20	global mtn zero cpn ser f index-linked (enhanced trigger jump) 0	11/30	pass-thru ctf	11/30
coll nt	11/20	global mtn zero cpn ser f index-linked (leveraged buffered nt) 0	11/30	pass-thru ctf	11/30
coll nt	11/20	global mtn zero cpn ser f index-linked (market-linked nts) 0	11/30	<b>Ocwen Servicer Advance Receivables Funding Co</b>	
<b>Lehman Bros Hldgs Inc</b>		global mtn zero cpn ser f index-linked (trgr step performance) 0	11/30	pass-thru ctf	11/25
mtn ser g 5.875	11/15	global mtn zero cpn ser f index-linked (trigger plus) 0	11/30	<b>Oge Energy Corp</b>	
<b>Lehman CMO Inc</b>		global mtn zero cpn ser f index-linked (trigger plus) 0	11/30	sr nt fltg rt 1.86722	11/24
mtg-bkd bd 8.113	11/01	global mtn zero cpn ser f index-linked (trigger plus) 0	11/30	<b>OMI Trust</b>	
mtg-bkd bd	11/01	global mtn zero cpn ser f index-linked (trigger plus) 0	11/30	mtg pass thru ctf 0	11/15
<b>Liberty CLO Corp</b>		global mtn zero cpn ser f index-linked (trigger plus) 0	11/30	mtg pass thru ctf 0	11/15
coll nt	11/01	<b>Morgan Stanley ABS Capital II Inc</b>		<b>Ontario Prov Cda</b>	
coll nt	11/01	asset-bkd ctf 6.41	11/15	mtn fltg rt ser usmtn2 1.56444	11/23
coll nt	11/01	asset-bkd ctf 6.592	11/15	<b>Osaka City Gov't</b>	
coll nt	11/01	asset-bkd ctf 6.64	11/15	japan bd 1.73	11/20
coll nt	11/01	asset-bkd ctf 6.82	11/15	japan bds .265	11/20
coll nt	11/01	sub asset-bkd ctf 7.18	11/15	<b>OTP Jelzalogbank Rt (OTP Mtge Bk)</b>	
coll nt	11/01	<b>Morgan Stanley Fin LLC</b>		mtg bd 8	11/17
coll nt	11/01	global mtn fltg rt ser a	11/30	<b>Otter Tail Corp</b>	
coll nt	11/01	<b>Motorola Inc</b>		sr nt 5.778	11/30
coll nt	11/01	global sr nt 6	11/15	<b>Oversea-Chinese Banking Corp Ltd</b>	
coll nt	11/01	<b>Municipal Secs Tr Cdfs</b>		sub flt rt nt	11/28
coll nt	11/01	muni 2nd mkt derivatives	11/15	<b>PACCAR Finl Corp</b>	
coll nt	11/01	muni 2nd mkt derivatives	11/15	mtn ser n 1.4	11/17
coll nt	11/01	<b>Muskoka Dist Municipality of</b>		<b>Pacific Gas &amp; Elec Co</b>	
coll nt	11/01	canadian bds 4.2	11/20	1st & ref mtg ser 84c 13.5	11/01
<b>Long Beach Bd Fin Auth</b>		<b>National Bk CDA</b>		1st & ref mtg ser 84d 12.75	11/01
lt bd 5	11/15	mtn rule 144a 1.45	11/07	global sr nt fltg rt 1.51778	11/30
<b>Lyondell Chemical Co</b>		<b>Natixis U S</b>		sr nt 5.625	11/30
gtd sr sec global nt 8	11/01	mtn fltg rt	11/29	<b>Panhandle Eastn Pipe Line Co LP</b>	
<b>Lyondell Petrochemical Co</b>		mtn fltg rt	11/15	sr nt 6.2	11/01
gtd sr secd nt 8	11/01	<b>Navios Maritime Acquisition Corp/Navios Acquisition Fin Us In</b>		<b>Perpetual Tree Co Ltd</b>	
<b>M&amp;T Bank Auto Receivables Tr 2013-1</b>		1st priority ship mtg nt rule 144a 8.625	11/01	pass-thru ctf	11/15
coll nt 1.06	11/15	gtd 1st priority ship mtg nt 8.625	11/01	pass-thru ctf	11/15
<b>MA Dev Fin Agcy</b>		gtd 1st priority ship mtg nt rule 144a 8.625	11/01	pass-thru ctf	11/15
bds 1	11/01	<b>Navios Maritime Hldgs Inc</b>		pass-thru ctf	11/15
<b>Master Asset Securitization Trust</b>		1st priority ship mtg nt rule 144a 8.875	11/01	pass-thru ctf	11/15
pass-thru ctf 0	11/25	gtd 1st priority ship mtg nt rule 144a 8.875	11/01	pass-thru ctf	11/15
pass-thru ctf 0	11/25	gtd 1st priority ship mtg nt rule 144a 8.875	11/01	pass-thru ctf	11/15
pass-thru ctf 0	11/25	<b>NCUA Guaranteed Notes Tr 2010-R2</b>		pass-thru ctf	11/15
pass-thru ctf 5.25	11/25	coll nt	11/08	<b>Petroleos Mexicanos</b>	
pass-thru ctf 5.5	11/25	<b>Netflix Inc</b>		certificados bursatiles	11/24
pass-thru ctf 5.5	11/25	sr nt 8.5	11/15	<b>Pfandbriefbank Schweizer Hypothekarinstitute</b>	
pass-thru ctf 5.5	11/25	sr nt rule 144a 8.5	11/15	swiss bd 2.25	11/15
<b>Master Credit Card Tr</b>		<b>New Brunswick Municipal Fin Corp</b>		<b>Pfandbriefbank Schweizerischer Hypothekarinstitute</b>	
coll nt 3.502	11/21	gtd canadian debentures 4.1	11/06	covered bds 2.25	11/15
coll nt 5.052	11/21	gtd canadian debentures 3.15	11/19	<b>PHH Corp</b>	
<b>McDonalds Corp</b>		gtd canadian debentures 2.15	11/20	phh inter nt 8	11/15
deb 9.75	11/01	gtd canadian debentures 2.15	11/30	phh inter nt 8	11/15
<b>McGraw Hill Cos Inc</b>		<b>New York St Dorm Auth Revs Non</b>		<b>Philip Morris Intl Inc</b>	
global sr nt 5.9	11/15	bd 4	11/01	global nt 1.25	11/09
<b>Mercedes-Benz Master Owner Tr</b>		<b>Niigata Prefecture</b>		<b>Philippines Gov't of</b>	
coll nt .79	11/15	japan bd 1.72	11/27	government bds 4.125	11/08
<b>Mexico Gov't of</b>		<b>Nissan Auto Lease Tr 2015-A</b>		<b>Poland Gov't of</b>	
fltg rt mexican bds	11/23	coll nt .99	11/15	japan bds 1.05	11/08
<b>MGM Mirage Inc</b>		coll nt	11/15	japan bds 2.5	11/08
gtd sr secd nt 11.125	11/15	<b>Nissan Auto Receivables 2013-B Owner Tr</b>		<b>Polycore Intl Inc</b>	
gtd sr secd nt rule 144a 11.125	11/15	coll nt .84	11/15	gtd sr nt 7.5	11/15
<b>Microsoft Corp</b>		<b>Nissan Warehouse LLC</b>		sr nt rule 144a 7.5	11/15
global nt 8.75	11/15	coll nt	11/15	<b>Porsche Innovative Lease Owner Tr 2011-1</b>	
<b>Mississippi Chem Corp</b>		<b>Nomura America FIN LLC</b>		coll nt 1.26	11/20
sr nt 7.25	11/15	global mtn sr nt zero cpn ser a index-linked (leveraged barrier) 0	11/10	<b>PPG Inds Inc</b>	
<b>Mississippi Pwr Co</b>		<b>Nomura Real Estate Office Fund Inc</b>		nt 6.875	11/01
sr nt ser 2007a 5.6	11/15	japan bds 1.52	11/24	nt 1.05	11/07
<b>Mitsubishi Estate Co Ltd</b>		<b>Norddeutsche Landesbank GZ</b>		<b>Principal Finl Group Inc</b>	
japan bonds 1.77	11/15	german bds 3	11/10	global gtd sr nt 1.85	11/15
<b>Mohegan Tribal Gaming Auth</b>		<b>Norinchukin Bank</b>		<b>Principal Life Income Fundings Trust 2007-108</b>	
gtd sr secd 2nd lien nt rule 144a 11.5	11/01	japan bds .3	11/27	principal life core nt 5.6	11/15
sr nt rule 144a 11.5	11/01	<b>North Bay City of</b>		<b>Principal Life Income Fundings Trust 2007-110</b>	
<b>Morgan Stanley</b>		canadian debentures 4.9	11/09	principal life core nt 5.55	11/15
global mtn fixed/fltg rt 4.31417	11/17	<b>Northern Tr Co</b>		<b>Principal Life Income Fundings Trust 2007-113</b>	
global mtn fltg rt equity-linked ser f (auto-callable secs)	11/13	medium term sub nt 5.85	11/09	principal life core nt 5.6	11/15
global mtn fltg rt equity-linked ser f (auto-callable secs)	11/30	sub nt 5.85	11/09	<b>Prospect Cap Corp</b>	
global mtn fltg rt index-linked ser f (contingent cpn nts)	11/16	<b>Northwest Airls Pass Thru Trs</b>		prospect cap inter nt 4	11/15
global mtn fltg rt ser f equity-linked (auto-callable sec)	11/13	gtd pass thru tr ser 07-1 cl b 8.028	11/01	prospect cap inter nt 4	11/15
global mtn fltg rt ser f equity-linked (auto-callable sec)	11/17	<b>NrwBank</b>		prospect cap inter nt 4	11/15
global mtn fltg rt ser f equity-linked (auto-callable sec)	11/17	german bds 4.125	11/17	prospect cap inter nt 4	11/15
global mtn fltg rt ser f equity-linked (auto-callable sec)	11/17	<b>Nstar Electric Co</b>		<b>Quantum Corp</b>	
global mtn fltg rt ser f equity-linked (auto-callable secs)	11/27	deb 5.625	11/15	sr sub nt conv 4.5	11/15
global mtn fltg rt ser f equity-linked (auto-callable secs)	11/27	debentures 5.625	11/15	sr sub nt conv rule 144a 4.5	11/15
global mtn fltg rt ser f equity-linked (auto-callable secs)	11/30	<b>NY City Hsg Dev Corp NY</b>		<b>Quebec City of</b>	
global mtn fltg rt ser f equity-linked (auto-callable secs)	11/30	bds .9	11/15	canadian bds 2.3	11/07
global mtn fltg rt ser f equity-linked (auto-callable secs)	11/30			canadian bds 1.5	11/12
global mtn fltg rt ser f equity-linked (auto-callable secs)	11/30			<b>R&amp;R Ice Cream PLC</b>	
global mtn fltg rt ser f equity-linked (auto-callable secs)	11/30			gtd sr sec global nt 8.375	11/15
global mtn fltg rt ser f equity-linked (auto-callable secs)	11/30			<b>Rabobank Nederland</b>	
global mtn fltg rt ser f equity-linked (auto-callable secs)	11/30			fltg rt japan bds	11/02
global mtn fltg rt ser f equity-linked (auto-callable secs)	11/30			japan bds	11/02

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<b>Radian Group Inc</b> sr nt conv 3	11/15	<b>Smurfit Kappa Acquisitions</b> global nt 7.25	11/15	<b>Toyota Auto Receivables 2015-B Owner Tr</b> coll nt .77	11/15
<b>Residential Fdg Mtg Secs II Inc</b> pass thru ctf 4.16	11/25	<b>Societe Generale</b> japan bds 1.11	11/27	coll nt	11/15
<b>Restructured Asset Certificates With Enhanced Returns</b> ctf	11/15	mtn fltg rt	11/02	<b>Toyota Mtr Cr Corp</b> tmcc core nt ser b 5.2	11/20
<b>Rib Floater Tr Various Sts</b> bds	11/25	mtn fltg rt	11/13	tmcc core nt ser b 5.45	11/20
<b>Roper Industries Inc</b> sr nt 1.85	11/15	mtn fltg rt	11/15	<b>Tr Estitato</b> pass-thru ctf	11/10
<b>Royal Bank of Canada</b> fltg rt canadian dep nt	11/10	mtn fltg rt	11/22	pass-thru ctf	11/10
<b>Royal Bk CDA</b> global medium term sr nt ser d step-up 2	11/30	mtn fltg rt	11/29	<b>Transcanada Pipelines Ltd</b> sr nt 1.625	11/09
global mtn equity-linked ser g (step income secs)	11/17	mtn zero cpn 0	11/02	<b>Triborough Brdg &amp; Tunl Auth N Y Revs</b> pass-thru ctf	11/15
7.5	11/30	mtn zero cpn 0	11/02	<b>Triumph Group Inc</b> gtd global sr sub nt 8	11/15
global mtn fixed/fltg rt ser f 1.41778	11/30	mtn zero cpn 0	11/15	sr sub nt rule 144a 8	11/15
global mtn fltg rt ser e index-linked (barrier nts)	11/30	mtn zero cpn 0	11/22	<b>Turkiye Garanti Bankasi A S</b> nt rule 144a 3.875	11/07
global mtn fltg rt ser f index-linked (trggr phoenix autocall)	11/17	mtn zero cpn 0	11/22	<b>Turlock Corp</b> sr nt rule 144a 1.5	11/02
global mtn fltg rt ser g equity-linked (auto-call barrier nts)	11/14	mtn zero cpn 0	11/29	<b>Tvn Fin Corp II AB</b> gtd global bds 10.75	11/15
global mtn fltg rt ser g equity-linked (auto-callable sec)	11/30	mtn zero cpn cms-linked (ctgnt buffered nt) 0	11/02	<b>UBS AG London Brh</b> mtn equity-linked (airbag autocallable yield nt)	11/01
global mtn fltg rt ser g equity-linked (direct investment nt)	11/07	<b>Soho China Ltd</b> gtd euronotes 5.75	11/07	6.9	11/01
global mtn fltg rt ser g equity-linked (trggr phoenix autocall)	11/16	<b>Solutia Inc</b> gtd sr nt 8.75	11/01	mtn equity-linked (airbag autocallable yield nt)	11/01
global mtn fltg rt ser g index-linked (auto-call ctgnt cpn barr)	11/13	<b>Southern Calif Edison Co</b> 1st and ref mtg bd 1.25	11/01	8.15	11/01
global mtn fltg rt ser g index-linked (ctgnt income callable nt)	11/24	<b>Spansion LLC</b> gtd sr nt 7.875	11/15	mtn equity-linked (airbag autocallable yield nts)	11/28
global mtn fltg rt ser g index-linked (issuer callable secs)	11/30	sr nt rule 144a 7.875	11/15	6.5	11/28
global mtn fltg rt ser g index-linked (trggr phoenix autocall)	11/09	<b>Speedy Group Hldg Corp</b> sr nt rule 144a 12	11/15	mtn equity-linked (airbag yield optimization nts)	11/24
global mtn ser g equity-linked (airbag autocallable yield nts) 8.1	11/21	<b>St Galler Kantonalbank</b> swiss bd 2.5	11/30	8.35	11/24
global mtn ser g equity-linked (airbag autocallable yield nts) 9.3	11/21	<b>Stadshypotek AB</b> covered bds	11/03	mtn equity-linked (airbag yield optimization nts)	11/28
global mtn ser g equity-linked (step income secs) 7.5	11/27	<b>State Board of Regents of The State of UT</b> coll nt 4	11/01	7.12	11/28
global mtn zero cpn 0	11/21	coll nt 4.5	11/01	mtn equity-linked (airbag yield optimization)	11/16
global mtn zero cpn ser e index-linked (buffered bullsh enh ret) 0	11/30	coll nt 5	11/01	8.11	11/16
global mtn zero cpn ser f index-linked (bullsh barrier enh ret) 0	11/30	<b>Station Place Securitization Tr 2012-1</b> coll nt	11/25	mtn equity-linked (trigger yield optimization) 9	11/02
global mtn zero cpn ser f index-linked (market linked secs) 0	11/06	<b>Statoil Asa</b> global gtd nt 1.25	11/09	mtn equity-linked (trigger yield optimization)	11/03
global mtn zero cpn ser f index-linked (triger return opt secs) 0	11/30	global gtd nt fltg rt 1.51139	11/09	5.96	11/02
global mtn zero cpn ser g equity-linked (buffered bullsh return) 0	11/24	<b>Sumitomo Mitsui Tr Bank Ltd</b> japan bds .286	11/01	mtn equity-linked (trigger yield optimization)	11/06
global mtn zero cpn ser g equity-linked (direct investment nt) 0	11/08	<b>Suncorp-Metway Ltd</b> covered bds 4	11/09	8.14	11/06
global mtn zero cpn ser g equity-linked (plus) 0	11/03	<b>Swedbank Mtge AB</b> covered bds	11/01	mtn equity-linked (trigger yield optimization)	11/15
global mtn zero cpn ser g index-linked (capped gears) 0	11/30	covered bds	11/02	6.04	11/21
global mtn zero cpn ser g index-linked (ctgnt return optim sec) 0	11/30	covered bds	11/06	mtn equity-linked (trigger yield optimization)	11/21
global mtn zero cpn ser g index-linked (enhanced return nts) 0	11/30	<b>Sweden Kingdom</b> emtn rule 144a 1	11/13	6.82	11/21
global mtn zero cpn ser g index-linked (jump securities) 0	11/02	<b>Swedish Export Cr Corp</b> mtn fltg rt ser f 1.48944	11/10	mtn equity-linked (trigger yield optimization)	11/27
global mtn zero cpn ser g index-linked (leveraged buffered nts) 0	11/09	mtn zero cpn index-linked (accelerated return nts) 0	11/22	5.84	11/29
global mtn zero cpn ser g index-linked (plus) 0	11/09	<b>Synchrony Finl</b> global nt fltg rt 2.71139	11/09	mtn equity-linked (trigger yield optimization)	11/01
<b>Royal Bk Scotland PLC</b> rbs retail corp nts 2.25	11/15	<b>Takefuj Corp</b> sr nt 8	11/01	9.86	11/01
rbs retail corp nts 3.75	11/15	<b>TECO Fin Inc</b> gtd nt 6.572	11/01	mtn fltg rt equity-linked (auto-callable sec)	11/02
<b>Santander Drive Auto Receivables Tr 2012-1</b> coll nt 3.78	11/15	nt rule 144a 6.572	11/01	mtn fltg rt equity-linked (auto-callable sec)	11/17
coll nt 4.56	11/15	<b>Telesat Canada</b> sr sub nt 12.5	11/01	mtn fltg rt equity-linked (auto-callable sec)	11/24
<b>Santander Hldgs USA Inc</b> nt fltg rt	11/24	<b>Telesat CDA / Telesat LLC</b> gtd sr sub nt 12.5	11/01	mtn fltg rt equity-linked (auto-callable secs)	11/01
<b>Savannah Elec &amp; Pwr Co</b> sr nt ser d (iq nt) ambac ins 5.5	11/15	gtd sr sub nt rule 144a 12.5	11/01	mtn fltg rt equity-linked (auto-callable secs)	11/03
<b>Scotiabank Subordinated Notes Tr</b> gtd sub nt 5.25	11/01	<b>Terex Corp New</b> sr sub nt 8	11/15	mtn fltg rt equity-linked (auto-callable secs)	11/10
<b>Serbia Rep</b> nt rule 144a 5.25	11/21	<b>Terra Boligkredit AS</b> covered bds 1.25	11/06	mtn fltg rt equity-linked (auto-callable secs)	11/27
<b>Shearson Lehman CMO Inc</b> mtg bkd bd	11/01	<b>Tesco PLC</b> sr nt rule 144a 5.5	11/15	mtn fltg rt equity-linked (auto-callable sec)	11/08
<b>Shell Intl Fin B V</b> global gtd sr nt 1.25	11/10	<b>Tewoo (HK) Ltd</b> coll nt 2.88	11/03	mtn fltg rt equity-linked (trggr phoenix autocall optimization)	11/06
<b>Shikoku Electric Power Co Inc (Japan)</b> bd 2.75	11/24	<b>TICC Cap Corp</b> sr nt conv 7.5	11/01	mtn fltg rt equity-linked (trggr phoenix autocall optimization)	11/06
<b>Shinhan Bank</b> japan bds .39	11/13	sr nt conv rule 144a 7.5	11/01	mtn fltg rt equity-linked (trggr phoenix autocall optimization)	11/06
<b>Shizuoka Prefecture</b> japan bd 1.81	11/28	<b>Timken Co</b> mtn ser a 7.01	11/06	mtn fltg rt equity-linked (trggr phoenix autocall optimization)	11/10
<b>Simmons Foods Inc</b> gtd sr sec 2nd lien nt 10.5	11/01	<b>TNT NV</b> dutch bds 5.375	11/14	mtn fltg rt equity-linked (trggr phoenix autocall optimization)	11/13
sr sec 2nd lien nt rule 144a 10.5	11/01	<b>Tokyo Elec Pwr Co Inc</b> japan bd 1.772	11/30	mtn fltg rt equity-linked (trggr phoenix autocall optimization)	11/13
<b>Sinclair Television Group Inc</b> sr sec 2nd lien nt rule 144a 9.25	11/01	<b>Toronto Dominion Bk Ont</b> global medium term sr nt zero cpn index-linked (cap barrier acc) 0	11/02	mtn fltg rt equity-linked (trggr phoenix autocall optimization)	11/14
<b>SLM Student Loan Tr 2013-3</b> coll nt	11/27	global mtn zero cpn index-linked (leveraged capped nts) 0	11/24	mtn fltg rt equity-linked (trggr phoenix autocall optimization)	11/17
		global sr mtn zero cpn index-linked (bearish lev capp buffered) 0	11/16	mtn fltg rt equity-linked (trggr phoenix autocall optimization)	11/17
		medium term sr nt fltg rt rule 144a	11/10	mtn fltg rt equity-linked (trggr phoenix autocall optimization)	11/17
		<b>Toronto-Dominion Bank (The)</b> covered bds	11/20		

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ISSUE	MATURITY	ISSUE	MATURITY	ISSUE	MATURITY
<b>UBS AG London Brh (continued)</b>		<b>UBS AG London Brh (continued)</b>		<b>UBS AG London Brh (continued)</b>	
mnt fltg rt equity-linked (trgger phoenix autocall optimization)	11/21	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/06	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/30
mnt fltg rt equity-linked (trgger phoenix autocall optimization)	11/22	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/06	mnt fltg rt index-linked (auto-callable sec)	11/13
mnt fltg rt equity-linked (trgger phoenix autocall optimization)	11/22	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/06	mnt fltg rt index-linked (trigger phoenix autocallable opt)	11/03
mnt fltg rt equity-linked (trgger phoenix autocall optimization)	11/24	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/06	mnt fltg rt index-linked (trigger phoenix autocallable opt)	11/28
mnt fltg rt equity-linked (trgger phoenix autocall optimization)	11/24	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/06	mnt zero cpn equity-linked (capped gears) 0	11/30
mnt fltg rt equity-linked (trgger phoenix autocall optimization)	11/24	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/06	mnt zero cpn equity-linked (contingent abs return autocall opt) 0	11/02
mnt fltg rt equity-linked (trgger phoenix autocall optimization)	11/24	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/06	mnt zero cpn equity-linked (contingent abs return autocall opt) 0	11/06
mnt fltg rt equity-linked (trgger phoenix autocall optimization)	11/24	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/09	mnt zero cpn equity-linked (ctngt abs ret autocallable opt sec) 0	11/02
mnt fltg rt equity-linked (trgger phoenix autocall optimization)	11/27	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/09	mnt zero cpn equity-linked (ctngt abs return autocallable opt) 0	11/07
mnt fltg rt equity-linked (trgger phoenix autocall optimization)	11/28	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/10	mnt zero cpn equity-linked (ctngt abs return autocallable opt) 0	11/08
mnt fltg rt equity-linked (trgger phoenix autocall optimization)	11/28	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/10	mnt zero cpn equity-linked (ctngt abs return autocallable opt) 0	11/08
mnt fltg rt equity-linked (trgger phoenix autocall optimization)	11/30	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/10	mnt zero cpn equity-linked (ctngt absolute ret autocall opt) 0	11/08
mnt fltg rt equity-linked (trigger phoenix autocallab opt)	11/07	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/13	mnt zero cpn equity-linked (ctngt absolute ret autocall opt) 0	11/02
mnt fltg rt equity-linked (trigger phoenix autocallab opt)	11/08	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/13	mnt zero cpn equity-linked (ctngt absolute ret autocall opt) 0	11/20
mnt fltg rt equity-linked (trigger phoenix autocallable opt sec)	11/01	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/13	mnt zero cpn equity-linked (ctngt absolute ret autocall opt) 0	11/28
mnt fltg rt equity-linked (trigger phoenix autocallable opt sec)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/13	mnt zero cpn equity-linked (trigger autocallable optimization) 0	11/03
mnt fltg rt equity-linked (trigger phoenix autocallable opt sec)	11/03	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/13	mnt zero cpn equity-linked (trigger autocallable optimization) 0	11/17
mnt fltg rt equity-linked (trigger phoenix autocallable opt sec)	11/07	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/14	mnt zero cpn equity-linked (trigger autocallable optimization) 0	11/20
mnt fltg rt equity-linked (trigger phoenix autocallable opt sec)	11/07	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/15	mnt zero cpn equity-linked (trigger autocallable optimization) 0	11/24
mnt fltg rt equity-linked (trigger phoenix autocallable opt sec)	11/08	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/15	mnt zero cpn equity-linked (trigger autocallable optimization) 0	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt sec)	11/10	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/15	mnt zero cpn equity-linked (trigger return optimization secs) 0	11/03
mnt fltg rt equity-linked (trigger phoenix autocallable opt sec)	11/13	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/16	mnt zero cpn index-linked (call warrants) 0	11/03
mnt fltg rt equity-linked (trigger phoenix autocallable opt sec)	11/16	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/16	mnt zero cpn index-linked (call warrants) 0	11/17
mnt fltg rt equity-linked (trigger phoenix autocallable opt sec)	11/20	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/17	mnt zero cpn index-linked (contingent-return optimization secs) 0	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt sec)	11/24	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/17	mnt zero cpn index-linked (trigger performance secs) 0	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt sec)	11/24	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/17	mnt zero cpn ser b index-linked (capped leveraged buffered nts) 0	11/22
mnt fltg rt equity-linked (trigger phoenix autocallable opt sec)	11/27	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/17	mnt zero cpn ser b index-linked (capped leveraged buffered nt) 0	11/29
mnt fltg rt equity-linked (trigger phoenix autocallable opt sec)	11/28	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/17	mnt zero cpn ser b index-linked (capped leveraged buffered nts) 0	11/02
mnt fltg rt equity-linked (trigger phoenix autocallable opt sec)	11/28	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/17	tn fltg rt equity-linked (trgger phoenix autocall optimization)	11/02
mnt fltg rt equity-linked (trigger phoenix autocallable opt sec)	11/28	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/20	<b>UGI Utils Inc</b>	
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/01	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/21	mnt ser b 7.25	11/01
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/01	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/21	<b>Ukraine (Govt Of)</b>	
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/01	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/22	global bd 6.75	11/14
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/01	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/22	<b>Unicredit Bank AG</b>	
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/22	covered bds	11/20
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/22	<b>Unicredit Bank Austria AG</b>	
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/24	covered bds 4.54	11/29
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/24	fltg rt austrian bds	11/10
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/24	<b>Union Pac Corp</b>	
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/24	nt 5.75	11/15
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/24	<b>UNITED KINGDOM (GOVT OF)</b>	
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/24	gilts 1.25	11/22
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/24	<b>United Parcel Svc Inc</b>	
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/24	ups nt 5	11/15
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/24	ups nt 5	11/15
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/24	<b>United States Treas Bills</b>	
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/24	bill 0	11/09
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/24	<b>United States Treas Nt Stripped Prin Pmt</b>	
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/24	treas nt stripped prin pmt 0	11/15
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/24	treas nt stripped prin pmt 0	11/15
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/27	treas nt stripped prin pmt 0	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/27	treas nt stripped prin pmt 0	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/27	<b>United States Treas Sec Stripped Int Pmt</b>	
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/27	tint 0	11/15
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/27	tint 0	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/27	<b>Unitedhealth Group Inc</b>	
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/27	nt 6	11/15
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/03	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/27	sr nt rule 144a 6	11/15
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/03	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/28	<b>V F Corp</b>	
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/03	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/28	global nt 5.95	11/01
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/03	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/28	<b>Vanderbilt Mortgage and Finance, Inc.</b>	
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/03	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/28	pass-thru ctf 7.82	11/07
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/03	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/28	<b>Verizon Communications Inc</b>	
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/03	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/29	global nt 1.1	11/01
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/03	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/29	<b>Volkswagen Auto Lease Tr 2013-A</b>	
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/03	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/29	coll nt 1.07	11/20
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/03	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/29	<b>Volkswagen Group Amer Fin Llc</b>	
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/06	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/30	gtd nt fltg rt rule 144a	11/20
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/06	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/30	gtd nt rule 144a 1.6	11/20
mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/06	mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/30	<b>Volkswagen Int'l Fin NV</b>	
		mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/30	gtd global nt rule 144a 1.6	11/20
		mnt fltg rt equity-linked (trigger phoenix autocallable opt)	11/30	<b>Volvo Financial Equipment LLC</b>	
				coll nt .95	11/15
				<b>Vulcan Mats Co</b>	
				global nt 6.4	11/30

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ISSUE	MATURITY	ISSUE	MATURITY	ISSUE	MATURITY
<b>Wachovia Bk N C N A</b> medium term sub bk nt 6	11/15	<b>Wells Fargo &amp; Co New</b> (continued) mtn zero cpn ser k index-linked (buffer enh ret secs) 0	11/30	<b>Winnipeg (Canada)</b> deb 6.25	11/17
<b>Walgreens Boots Alliance Inc</b> global gtd nt 1.75	11/17	mtn zero cpn ser k index-linked (buffered enhanced return sec) 0	11/16	<b>Wisconsin Pub Svc Corp</b> sr nt 5.65	11/01
<b>Wanhua Chemical Int'l Hldg Co Ltd</b> gtd hong kong bds 4.5	11/19	<b>Westfaelische Hypothekenbank AG</b> public sector pfandbriefe 0	11/13	<b>World Omni Auto Lease Securitization Tr</b> 2012.A	11/15
<b>Washington Mut Inc</b> sub nt 7.25	11/01	public sector pfandbriefe 0	11/13	coll nt 1.06	11/15
<b>Waterloo Ont Regl Munc CDs</b> cad\$ deb 4.6	11/28	<b>WestLB A G</b> german nt fltg rt	11/07	<b>Wynn Las Vegas LLC/Cap Corp</b> gtd 1st mtg bd 7.875	11/01
cdn deb 5.05	11/29	<b>WestLB AG</b> german bds 4.15	11/30	gtd 1st mtg bd rule 144a 7.875	11/01
<b>Waterloo Regional Municipality of</b> canadian debentures 4.8	11/19	<b>Whirlpool Corp</b> global sr nt 1.65	11/01	<b>Yapi Kredi Bankasi AS</b> covered bds 7.368	11/16
canadian debentures 2.5	11/21	<b>Windstream Corp</b> gtd sr nt 7.875	11/01	covered bds 7.68	11/16
canadian debentures 5.75	11/21	sr nt rule 144a 7.875	11/01	<b>Ziggo Fin BV</b> sr sec global nt 6.125	11/15
<b>Wells Fargo &amp; Co New</b> mtn fltg rt ser k	11/05				
mtn zero cpn ser k equity-linked (market-linked secs) 0	11/07				

**Editor's Note:** This section includes issues that have matured in 2017 as of the monthly publication deadline for this edition.

**Note:** Moody's® ratings are subject to change. Because of the possible time lapse between Moody's® assignment or change of a rating and your use of this monthly publication, we suggest you verify the current rating of any security or issuer in which you are interested. For standard abbreviations and symbols, see page 8.

## Issues Redeemed in 2017

ISSUE	REDEMPTION PRICE	REDEMPTION DATE	ISSUE	REDEMPTION PRICE	REDEMPTION DATE	ISSUE	REDEMPTION PRICE	REDEMPTION DATE
<b>Aflac Inc</b>			<b>Barclays Bk PLC (continued)</b>			<b>Colbun S A</b>		
sub deb 5.5 09/15/2052	100.	11/16	global mtn fltg rt ser a index-linked (callable ctgnt cpn nt) 04/30/2020	100.	11/03	nt rule 144a 6 01/21/2020	108.667	11/03
<b>Alerie Inc</b>			global mtn fltg rt ser a index-linked (callable ctgnt cpn nt) 10/30/2025	100.	11/03	<b>Compucom Systems Inc (New)</b>		
gtd sr nt 7.25 07/01/2018	101.813	11/02	global mtn fltg rt ser a index-linked (callable ctgnt cpn nt) 01/30/2025	100.	11/02	sr global nt 7 05/01/2021	103.5	11/15
gtd sr sub nt 6.5 06/15/2020	101.625	11/02	global mtn fltg rt ser a index-linked (callable ctgnt cpn nt) 01/30/2025	100.	11/02	<b>Constellium NV</b>		
<b>Anheuser Busch Cos Inc</b>			global mtn fltg rt ser a index-linked (callable ctgnt cpn nt) 11/21/2019	100.	11/24	gtd sr global nt 7 01/15/2023	----	11/30
nt 4.5 04/01/2018	101.147	11/10	global mtn fltg rt ser a index-linked (callable ctgnt cpn nt) 08/22/2019	100.	11/22	sr nt rule 144a 8 01/15/2023	106.75	11/29
nt 5.5 01/15/2018	100.74	11/10	global mtn fltg rt ser a index-linked (ctgnt income callable) 08/22/2019	100.	11/22	sr secd nt rule 144a 7.875 04/01/2021	105.9	11/29
<b>Anheuser Busch Inbev Fin Inc</b>			global mtn fltg rt ser a index-linked (phoenix autocallable nt) 08/03/2018	100.	11/06	<b>Countrywide Finl Corp</b>		
global gtd nt 1.25 01/17/2018	100.	11/10	global mtn fltg rt ser a index-linked (phoenix autocallable nt) 05/07/2020	100.	11/13	mtn ser a 6 11/14/2035	100.	11/14
<b>Anheuser Busch Inbev Worldwide Inc</b>			global mtn fltg rt ser a index-linked (phoenix autocallable nt) 10/31/2023	100.	11/02	<b>Credit Suisse AG Londob Brh</b>		
gtd nt 6.5 07/15/2018	103.162	11/10	global mtn fltg rt ser a index-linked (phoenix autocall nts) 10/26/2018	100.	11/01	mtn zero cpn index-linked (autocallable mkt-linked step-up nt) 0 11/21/2019	116.5	11/30
<b>Bank Amer Corp</b>			global mtn fltg rt ser a index-linked (phoenix autocallable nt) 05/05/2022	100.	11/08	<b>Credit Suisse AG London Brh</b>		
mtn step-up ser l 3.25 05/29/2025	100.	11/29	global mtn fltg rt ser a index-linked (phoenix autocallable nt) 05/16/2022	100.	11/20	mtn equity-linked (autocallable reverse convertible) 9 05/08/2018	100.	11/08
<b>Bank Montreal</b>			global mtn fltg rt ser a index-linked (phoenix autocall nts) 10/26/2018	100.	11/01	mtn fltg rt equity-linked (ctgnt cpn autocallable yield) 02/28/2019	100.	11/28
mtn fltg rt equity-linked ser d (autocallable cash-settled nts) 05/29/2020	101.017	11/30	global mtn fltg rt ser a index-linked (phoenix autocallable nt) 05/05/2022	100.	11/08	mtn fltg rt equity-linked (ctgnt cpn autocallable yield) 02/10/2020	100.	11/09
mtn fltg rt ser d index-linked (autocallable cash-settled nts) 08/03/2018	100.7	11/06	global mtn fltg rt ser a index-linked (phoenix autocallable nt) 05/16/2022	100.	11/20	mtn fltg rt index-linked (callable contingent income secs) 02/14/2019	100.	11/15
mtn zero cpn ser c equity-linked (autocallable cash-settled nt) 0 11/29/2019	108.6	11/30	global mtn fltg rt ser a index-linked (phoenix autocallable nt) 05/05/2022	100.	11/08	mtn fltg rt index-linked (callable ctgnt income secs) 02/18/2026	100.	11/20
mtn zero cpn ser c equity-linked (autocallable cash-settled nts) 0 11/29/2019	110.35	11/30	global mtn fltg rt ser a index-linked (phoenix autocallable nt) 05/10/2022	100.	11/13	mtn fltg rt index-linked (ctgnt cpn autocallable yield nt) 05/29/2018	100.	11/28
<b>Bank Nova Scotia B C</b>			global mtn fltg rt ser a index-linked (trgr call ctgnt yield) 11/12/2019	100.	11/13	mtn fltg rt index-linked (ctgnt cpn autocallable yield nt) 05/13/2025	100.	11/13
sr nt zero cpn ser a index-linked (autocall mkt-linked step up) 0 10/25/2019	114.9	11/10	global mtn fltg rt ser a index-linked (trgr autocall ctgnt yield) 02/13/2020	100.	11/14	mtn fltg rt index-linked (ctgnt cpn autocallable yield) 05/29/2018	100.	11/28
sr nt zero cpn ser a index-linked (autocall mkt-linked step up) 0 10/25/2019	110.15	11/10	global mtn fltg rt ser a index-linked (trgr autocall ctgnt yield) 11/17/2026	100.	11/15	mtn fltg rt index-linked (ctgnt cpn autocallable yield) 11/02/2021	100.	11/02
sr nt zero cpn ser a index-linked (autocall mkt-linked step up) 0 10/25/2019	108.55	11/10	global mtn fltg rt ser a index-linked (trgr autocall ctgnt yield) 12/03/2026	100.	11/30	mtn fltg rt index-linked (ctgnt cpn callable yield nt) 11/30/2020	100.	11/28
sr nt zero cpn ser a index-linked (autocall mkt-linked step up) 0 10/20/2021	107.1	11/10	global mtn fltg rt ser a index-linked (trigger autocall ctgnt) 06/01/2020	100.	11/29	mtn fltg rt index-linked (ctgnt cpn callable yield) 05/24/2018	100.	11/24
<b>Bankrate Inc Del</b>			global mtn fltg rt ser a index-linked (trigger call ctgnt yield) 11/02/2018	100.	11/02	mtn fltg rt index-linked (ctgnt cpn callable yield) 02/22/2019	100.	11/22
sr nt rule 144a 6.125 08/15/2018	100.	11/11	global mtn fltg rt ser a index-linked (trigger call ctgnt yield) 08/26/2019	100.	11/28	mtn fltg rt index-linked (ctgnt cpn callable yield) 11/29/2019	100.	11/28
<b>Barclays Bk PLC</b>			global mtn index-linked ser a (buffered autocall nts) 6.5 08/20/2018	100.	11/21	mtn fltg rt index-linked (ctgnt cpn callable yield) 02/03/2020	100.	11/03
global mtn equity-linked ser a (autocallable nt) 9 08/28/2018	100.	11/28	global mtn zero cpn index-linked (bear strategic accel redemp) 0 06/15/2018	103.075	11/27	mtn fltg rt index-linked (ctgnt cpn callable yield) 02/02/2021	100.	11/02
global mtn equity-linked ser a (autocallable nt) 12 08/30/2019	100.	11/30	global mtn zero cpn ser a index-linked (annual autocallable nts) 0 11/25/2019	100.	11/24	mtn fltg rt index-linked (autocall market-linked step up nts) 0 11/22/2019	110.3	11/30
global mtn equity-linked ser a (autocallable nts) 8.25 08/30/2019	100.	11/30	global mtn zero cpn ser a index-linked (buffered autocallable) 0 11/15/2018	105.2	11/15	<b>Credit Suisse AG Nassau Brh</b>		
global mtn equity-linked ser a (autocallable nts) 8.35 05/31/2019	100.	11/30	global mtn zero cpn ser a index-linked (strategic accel redemp) 0 11/13/2020	112.11	11/17	mtn fltg rt index-linked (callable step-up) 05/29/2030	100.	11/29
global mtn equity-linked ser a (autocallable nts) 10 05/31/2019	100.	11/30	<b>Biogen Idec Inc</b>			<b>Credit Suisse Group Ag New York Branch</b>		
global mtn fltg rt ser a equity-linked (autocallable sec) 07/31/2020	100.	11/02	global sr nt 6.875 03/01/2018	101.395	11/21	medium term sr bk nt fltg rt 08/15/2022	100.	11/13
global mtn fltg rt ser a equity-linked (autocallable sec) 08/21/2020	100.	11/24	<b>BlackRock Municipal 2020 Term Trust</b>			<b>Credit Suisse London Brh</b>		
global mtn fltg rt ser a equity-linked (autocallable secs) 05/22/2020	100.	11/24	auc mkt pfd stk 0	100.	11/28	mtn equity-linked (airbag autocallable yield nt) 7.75 08/13/2018	100.	11/08
global mtn fltg rt ser a equity-linked (autocallable secs) 08/07/2020	100.	11/09	auc mkt pfd stk 0	100.	11/30	mtn equity-linked (airbag autocallable yield nt) 10 08/13/2018	100.	11/08
global mtn fltg rt ser a equity-linked (autocallable secs) 08/28/2020	100.	11/30	<b>Blackstone Hldgs Fin LLC</b>			mtn equity-linked (autocallable coupon buffered secs) 9.35 08/22/2018	100.	11/22
global mtn fltg rt ser a equity-linked (callable ctgnt cpn nt) 10/31/2019	102.625	11/02	gtd sr nt rule 144a 6.625 08/15/2019	107.922	11/01	mtn equity-linked (autocallable reverse convertible sec) 8 05/21/2018	100.	11/20
global mtn fltg rt ser a equity-linked (callable ctgnt cpn nt) 10/31/2018	102.	11/06	<b>BNP Paribas / BNP Paribas U S</b>			mtn equity-linked (autocallable reverse convertible sec) 9.25 08/24/2018	100.	11/24
global mtn fltg rt ser a equity-linked (phoenix autocallable nt) 08/12/2019	100.	11/10	medium term sr nt fltg rt 11/12/2020	100.	11/13	mtn equity-linked (autocallable reverse convertible) 13.15 07/10/2018	100.	11/10
global mtn fltg rt ser a equity-linked (phoenix autocallable nt) 08/15/2019	100.	11/20	medium term sr nt fltg rt 08/05/2025	100.	11/06	mtn equity-linked (autocallable reverse convertible) 13.938 08/16/2018	100.	11/16
global mtn fltg rt ser a equity-linked (phoenix autocallable nt) 01/31/2019	100.	11/01	<b>BoFA Fin Llc</b>			mtn equity-linked (autocallable reverse convertible) 5.75 08/20/2018	100.	11/20
global mtn fltg rt ser a equity-linked (phoenix autocallable nt) 08/14/2019	100.	11/14	mtn equity-linked ser a (auto-callable yield nt) 9.5 08/22/2018	100.	11/22	mtn equity-linked (autocallable reverse convertible) 6 08/27/2018	100.	11/27
global mtn fltg rt ser a equity-linked (phoenix autocallable nt) 08/22/2019	100.	11/22	<b>Brazil Federative Rep</b>			mtn equity-linked (autocallable yield nts) 15.75 04/18/2018	100.	11/20
global mtn fltg rt ser a equity-linked (phoenix autocallable nt) 07/30/2020	100.	11/02	global bd 5.875 01/15/2019	104.373	11/14	mtn fltg rt equity-linked (auto-callable sec) 02/23/2018	100.	11/22
global mtn fltg rt ser a equity-linked (trgr autocall nt) 05/18/2020	100.	11/15	<b>Canadian Imperial Bk Comm</b>			mtn fltg rt equity-linked (auto-callable sec) 08/08/2019	100.	11/09
global mtn fltg rt ser a equity-linked (trgr autocall nt) 05/18/2020	100.	11/15	global mtn fltg rt index-linked (ctgnt cpn autocallable nts) 02/01/2019	100.	11/01	mtn fltg rt equity-linked (auto-callable sec) 08/14/2020	100.	11/16
global mtn fltg rt ser a equity-linked (trgr autocall ctgnt yield) 08/15/2019	101.575	11/15	global mtn fltg rt index-linked (ctgnt cpn phoenix autocall nt) 05/11/2022	100.	11/14	mtn fltg rt equity-linked (auto-callable secs) 08/07/2020	100.	11/09
global mtn fltg rt ser a equity-linked (trgr autocall ctgnt yield) 11/08/2019	100.	11/08	global mtn zero cpn equity-linked (market linked secs) 0 11/04/2019	100.	11/10	mtn fltg rt equity-linked (autocallable reverse convertible) 08/13/2018	100.	11/13
global mtn fltg rt ser a index-linked (autocallable sec) 11/25/2022	100.	11/24	<b>Caterpillar Inc</b>			mtn fltg rt equity-linked (autocallable reverse convertible) 08/27/2018	100.	11/27
global mtn fltg rt ser a index-linked (callable barrier nts) 02/26/2024	100.	11/29	global nt 7.9 12/15/2018	106.431	11/10	mtn fltg rt equity-linked (ctgnt cpn autocall reverse convert) 08/13/2018	100.	11/13
global mtn fltg rt ser a index-linked (callable contingent cpn) 10/29/2021	100.	11/02	<b>CBS Corp New</b>			mtn fltg rt equity-linked (ctgnt cpn autocall reverse convert) 08/27/2018	100.	11/27
global mtn fltg rt ser a index-linked (callable contingent cpn) 11/26/2021	100.	11/30	gtd global sr nt 5.75 04/15/2020	108.756	11/30	mtn fltg rt equity-linked (ctgnt cpn autocall reverse convert) 08/13/2018	100.	11/13
global mtn fltg rt ser a index-linked (callable contingent cpn) 10/29/2026	100.	11/02	<b>Citigroup Global Mkts Hldgs Inc</b>			mtn fltg rt equity-linked (ctgnt cpn autocall reverse convert) 08/13/2018	100.	11/13
global mtn fltg rt ser a index-linked (callable contingent cpn) 05/23/2019	100.	11/28	mtn equity-linked ser n (autocallable secs) 17.5 07/31/2018	100.	11/02	mtn fltg rt equity-linked (ctgnt cpn autocall reverse convert) 08/13/2018	100.	11/13
global mtn fltg rt ser a index-linked (callable contingent cpn) 07/30/2021	100.	11/03	mtn fltg rt ser n equity-linked (autocallable sec) 08/07/2020	100.	11/09	mtn fltg rt equity-linked (ctgnt cpn autocall reverse convert) 08/13/2018	100.	11/13
global mtn fltg rt ser a index-linked (callable contingent cpn) 05/06/2027	100.	11/10	mtn fltg rt ser n equity-linked (autocallable secs) 08/21/2020	100.	11/24	mtn fltg rt equity-linked (ctgnt cpn autocall reverse convert) 08/13/2018	100.	11/13
			mtn fltg rt ser n equity-linked (autocallable contingent cpn) 10/31/2018	100.	11/02	mtn fltg rt equity-linked (ctgnt cpn autocall reverse convert) 08/13/2018	100.	11/13
			mtn fltg rt ser n equity-linked (autocallable ctgnt cpn nt) 05/25/2018	100.	11/30	mtn fltg rt equity-linked (ctgnt cpn autocall reverse convert) 08/13/2018	100.	11/13
			mtn fltg rt ser n equity-linked (autocallable ctgnt cpn nt) 02/04/2019	100.	11/02	mtn fltg rt equity-linked (ctgnt cpn autocall reverse convert) 08/13/2018	100.	11/13
			mtn fltg rt ser n equity-linked (autocallable ctgnt cpn nt) 08/03/2018	100.	11/07	mtn fltg rt equity-linked (ctgnt cpn autocall reverse convert) 08/13/2018	100.	11/13
			mtn fltg rt ser n equity-linked (autocallable ctgnt cpn sec) 05/13/2020	100.	11/15	mtn fltg rt equity-linked (ctgnt cpn autocall reverse convert) 08/13/2018	100.	11/13
			mtn fltg rt ser n equity-linked (autocallable ctgnt cpn secs) 10/11/2018	100.	11/13	mtn fltg rt equity-linked (ctgnt cpn autocallable reverse conv) 08/20/2018	100.	11/20
			mtn fltg rt ser n equity-linked (autocallable ctgnt cpn secs) 11/01/2018	100.	11/06			

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ISSUE	REDEMPTION PRICE	REDEMPTION DATE	ISSUE	REDEMPTION PRICE	REDEMPTION DATE	ISSUE	REDEMPTION PRICE	REDEMPTION DATE
<b>Credit Suisse London Brh</b> (continued)			<b>Goldman Sachs Group Inc</b> (continued)			<b>HSBC USA Inc</b> (continued)		
mtn fltg rt equity-linked (ctgnt cpn autocallable yield nt) 08/28/2018	100	11/29	mtn fltg rt ser d index-linked (callable ctgnt cpn nt) 11/13/2021	100	11/13	mtn index-linked (worst of autocallable nt) 5.1 11/13/2018	100	11/13
mtn fltg rt equity-linked (ctgnt cpn autocallable yield nt) 08/22/2018	100	11/21	perp non cumulative dep shs rep 1/1000th pfd stk ser i 5.95	100	11/17	mtn zero cpn index-linked (autocall market-linked step up nts) 0 10/28/2022	106.4	11/03
mtn fltg rt equity-linked (ctgnt cpn autocallable yield nts) 08/29/2018	100	11/29	<b>GS Fin Corp</b>			mtn zero cpn index-linked (strategic accelerated redemp secs) 0 11/18/2022	108.01	11/17
mtn fltg rt equity-linked (ctgnt cpn autocallable yield nts) 08/29/2018	100	11/29	mtn fltg rt ser e commodity-linked (autocall ctgnt cpn nts) 11/24/2026	100	11/27	<b>IAC / Interactive Corp</b>		
mtn fltg rt equity-linked (ctgnt cpn autocallable yield nts) 02/28/2019	100	11/28	mtn fltg rt ser e equity-linked (autocallable sec) 07/31/2020	100	11/02	gtd sr nt 4.875 11/30/2018	100	11/30
mtn fltg rt equity-linked (ctgnt cpn autocallable yield nts) 08/12/2019	100	11/10	mtn fltg rt ser e equity-linked (autocallable sec) 02/21/2020	100	11/22	sr nt rule 144a 4.875 11/30/2018	100	11/30
mtn fltg rt equity-linked (ctgnt cpn autocallable yield) 08/08/2018	100	11/07	mtn fltg rt ser e index-linked (autocallable sec) 02/21/2020	100	11/22	<b>Inkia Energy Ltd</b>		
mtn fltg rt equity-linked (ctgnt cpn autocallable yield) 08/13/2018	10	11/13	mtn fltg rt ser e index-linked (autocall ctgnt cpn nts) 08/01/2018	100	11/01	global sr nt rule 144a 8.375 04/04/2021	102.792	11/14
mtn fltg rt equity-linked (trigger autocallable ctgnt yield nts) 05/12/2020	100	11/10	mtn fltg rt ser e index-linked (autocall ctgnt cpn nts) 05/03/2021	100	11/02	<b>International Paper Co</b>		
mtn fltg rt index-linked 10/29/2029	100	11/28	mtn fltg rt ser e index-linked (autocall ctgnt cpn nts) 11/03/2026	100	11/03	global nt 9.375 05/15/2019	110.68	11/17
mtn fltg rt index-linked (callable contingent income sec) 11/04/2025	100	11/06	mtn fltg rt ser e index-linked (autocallable ctgnt cpn nt) 08/28/2018	100	11/29	<b>Iron Mountain Europe PLC</b>		
mtn fltg rt index-linked (ctgnt cpn autocallable yield nts) 08/03/2018	100	11/03	mtn fltg rt ser e index-linked (autocallable ctgnt cpn nt) 11/02/2018	100	11/02	sr global nt 6.125 09/15/2022	104.594	11/15
mtn fltg rt index-linked (ctgnt cpn autocallable yield) 05/03/2019	100	11/03	mtn fltg rt ser e index-linked (autocallable ctgnt cpn nt) 11/02/2021	100	11/02	<b>J P Morgan Chase &amp; Co</b>		
mtn fltg rt index-linked (ctgnt cpn autocallable yield) 11/29/2021	100	11/29	mtn fltg rt ser e index-linked (autocallable ctgnt cpn nts) 11/02/2021	100	11/02	global mtn fltg rt ser e index-linked (autocall ctgnt int nts) 06/01/2020	100	11/30
mtn fltg rt index-linked (ctgnt cpn callable yield nt) 05/29/2019	100	11/29	mtn fltg rt ser e index-linked (autocallable ctgnt cpn nt) 11/02/2021	100	11/02	global mtn zero cpn ser e index-linked (auto callable nts) 0 11/29/2018	126	11/29
mtn fltg rt index-linked (ctgnt cpn callable yield nt) 11/29/2019	100	11/28	mtn fltg rt ser e index-linked (autocallable ctgnt cpn nt) 11/01/2021	100	11/01	global mtn zero cpn ser e index-linked (review nt) 0 10/30/2018	100	11/15
mtn fltg rt index-linked (ctgnt cpn callable yield nt) 05/27/2021	100	11/27	mtn fltg rt ser e index-linked (autocallable ctgnt cpn nts) 11/01/2021	100	11/01	global mtn zero cpn ser e index-linked (review nts) 0 10/25/2018	126.2	11/09
mtn fltg rt index-linked (ctgnt cpn callable yield nt) 11/28/2025	100	11/30	mtn fltg rt ser e index-linked (autocallable ctgnt cpn nt) 05/05/2022	100	11/06	<b>JPMorgan Chase &amp; Co</b>		
mtn fltg rt index-linked (ctgnt cpn callable yield) 11/29/2023	100	11/29	mtn fltg rt ser e index-linked (autocallable ctgnt cpn nts) 11/02/2021	100	11/02	global mtn fltg rt ser e equity-linked (auto call ctgnt int nts) 08/08/2018	100	11/07
mtn fltg rt index-linked (market linked sec) 05/02/2019	100	11/01	mtn fltg rt ser e index-linked (autocallable ctgnt cpn nts) 05/05/2022	100	11/06	global mtn fltg rt ser e equity-linked (auto call ctgnt int nts) 08/15/2018	100	11/14
mtn index-linked (autocallable yield nts) 6 05/03/2018	100	11/03	mtn fltg rt ser e index-linked (callable ctgnt cpn nt) 02/19/2020	100	11/16	global mtn fltg rt ser e equity-linked (auto callable nt) 08/08/2019	100	11/08
mtn index-linked (autocallable yield nts) 08/13/2018	100	11/13	mtn fltg rt ser e index-linked (callable ctgnt cpn nt) 11/26/2021	100	11/27	global mtn fltg rt ser e equity-linked (auto callable nt) 08/19/2019	100	11/17
mtn zero cpn equity-linked (trigger absolute ret autocall) 0 08/12/2019	102.94	11/08	mtn fltg rt ser e index-linked (callable ctgnt cpn nt) 02/18/2022	100	11/20	global mtn fltg rt ser e equity-linked (auto callable nts) 08/29/2018	100	11/29
mtn zero cpn index-linked (autocallable secs) 0 05/29/2020	100	11/30	mtn fltg rt ser e index-linked (callable ctgnt cpn nts) 02/21/2019	100	11/20	global mtn fltg rt ser e equity-linked (auto callable nts) 05/07/2020	100	11/07
mtn zero cpn index-linked (autocallable secs) 0 05/31/2019	100	11/30	mtn fltg rt ser e index-linked (trgtr autocall ctgnt yield nt) 02/27/2020	100	11/28	global mtn fltg rt ser e index-linked (auto call ctgnt int nt) 11/08/2018	100	11/09
<b>Credit Suisse Nassau Brh</b>			mtn fltg rt ser e index-linked (trigger autocall ctgnt yield nt) 11/17/2026	100	11/15	global mtn fltg rt ser e index-linked (auto call ctgnt int nts) 08/06/2018	100	11/06
mtn step-up 4.125 11/24/2025	100	11/24	mtn fltg rt ser e index-linked (trigger autocall ctgnt yield nt) 12/03/2026	100	11/30	global mtn fltg rt ser e index-linked (auto call ctgnt int nts) 11/05/2018	100	11/03
<b>CrownRock LP/CrownRock Fin Inc</b>			mtn fltg rt ser e index-linked (trigger autocall ctgnt yield nt) 12/03/2026	100	11/30	global mtn fltg rt ser e index-linked (auto call ctgnt int nts) 11/15/2018	100	11/16
sr nt rule 144a 7.125 04/15/2021	103.563	11/10	mtn fltg rt ser e index-linked (trigger callable ctgnt yield) 02/19/2019	100	11/17	global mtn fltg rt ser e index-linked (auto call ctgnt int nts) 11/20/2018	100	11/20
sr nt rule 144a 7.75 02/15/2023	107.297	11/10	mtn index-linked ser e (trigger callable yield nt) 6.4 08/19/2019	100	11/17	global mtn fltg rt ser e index-linked (auto call ctgnt int nts) 11/29/2018	100	11/30
<b>Deutsche Bk AG London</b>			mtn zero cpn ser e index-linked (autocallable nt) 0 08/03/2022	102.5	11/03	global mtn fltg rt ser e index-linked (auto call ctgnt int nts) 11/29/2018	100	11/30
global mtn equity-linked ser a (autocallable secs) 5.3 02/14/2019	100	11/16	mtn zero cpn ser e index-linked (trigger autocallable nt) 0 10/29/2021	108	11/03	global mtn fltg rt ser e index-linked (auto call ctgnt int nts) 02/21/2019	100	11/20
global mtn fltg rt ser e equity-linked (phoenix autocall sec) 08/19/2020	100	11/17	<b>Hovnanian K Enterprises Inc</b>			global mtn fltg rt ser e index-linked (auto call ctgnt int nts) 05/20/2020	100	11/20
global mtn fltg rt ser e index-linked (callable ctgnt yield) 02/13/2020	100	11/15	sr secd 2nd lien nt rule 144a 9.125 11/15/2020	102.281	11/15	global mtn fltg rt ser e index-linked (auto callable nt) 08/03/2018	100	11/03
<b>Duquesne Light Co (United States)</b>			<b>HSBC USA Inc</b>			global mtn fltg rt ser e index-linked (auto callable nt) 08/20/2018	100	11/20
pfd stk 3.75	102	11/09	mtn equity-linked (airbag autocallable yield nts) 9.4 02/27/2018	100	11/21	global mtn fltg rt ser e index-linked (auto callable nt) 11/15/2018	100	11/16
pfd stk 4.1	103.5	11/09	mtn equity-linked (autocallable yield nt) 7 05/29/2018	100	11/29	global mtn fltg rt ser e index-linked (auto callable nts) 08/16/2018	100	11/16
pfd stk 4.15	103.46	11/09	mtn equity-linked (autocallable yield nts) 5 08/28/2018	100	11/28	global mtn fltg rt ser e index-linked (autocallable sec) 08/01/2019	100	11/02
pfd stk 4.2	103.42	11/09	mtn fltg rt equity-linked (auto-callable step-up secs) 08/21/2020	100	11/24	global mtn fltg rt ser e index-linked (autocallable sec) 02/27/2020	100	11/28
<b>Entegris Inc</b>			mtn fltg rt equity-linked (autocall barrier nts) 02/28/2018	100	11/28	global mtn fltg rt ser e index-linked (autocallable secs) 08/05/2019	100	11/03
sr nt rule 144a 6 04/01/2022	104.5	11/12	mtn fltg rt equity-linked (autocall barrier nts) 05/29/2018	100	11/29	global mtn fltg rt ser e index-linked (autocallable secs) 11/27/2019	100	11/28
<b>Entergy New Orleans Inc</b>			mtn fltg rt equity-linked (autocallable ctgnt income barrier nt) 05/06/2024	100	11/06	global mtn fltg rt ser e index-linked (callable ctgnt int nt) 05/11/2027	100	11/13
perp cumulative pfd stk 4.36	104.58	11/15	mtn fltg rt equity-linked (autocall barrier nts) 02/28/2018	100	11/28	global mtn fltg rt ser e index-linked (callable ctgnt int nts) 05/14/2018	100	11/13
perp cumulative pfd stk 4.75	105	11/15	mtn fltg rt equity-linked (autocall barrier nts) 05/29/2018	100	11/29	global mtn fltg rt ser e index-linked (callable ctgnt int nts) 05/24/2018	100	11/27
perp cumulative pfd stk 5.56	102.59	11/15	mtn fltg rt equity-linked (autocallable ctgnt income auto-callable) 08/28/2020	100	11/30	global mtn index-linked ser a (auto callable yield nt) 6 11/28/2018	100	11/28
<b>Equitable Res Inc</b>			mtn fltg rt equity-linked (autocallable ctgnt yield) 05/18/2020	100	11/15	global mtn ser e equity-linked (auto callable yield nts) 7.5 11/13/2018	100	11/10
global sr nt 6.5 04/01/2018	101.941	11/03	mtn fltg rt equity-linked (trigger autocallable ctgnt yield) 05/18/2020	100	11/15	global mtn ser e index-linked (auto callable yield nts) 6.25 11/05/2018	100	11/03
nt 5.15 03/01/2018	101.252	11/03	mtn fltg rt equity-linked (trigger autocallable ctgnt yield) 05/18/2020	100	11/15	global mtn ser e index-linked (auto callable yield nts) 6 11/08/2018	100	11/09
<b>Far East Cap Ltd SA</b>			mtn fltg rt index-linked (auto-callable sec) 11/16/2021	100	11/16	global mtn zero cpn ser e equity-linked (review nt) 0 11/08/2018	104.5	11/09
gtd sr secd nt rule 144a 8 05/02/2018	82.146	11/16	mtn fltg rt index-linked (auto-callable sec) 08/04/2022	100	11/03	<b>JPMorgan Chase Finl Co Llc</b>		
gtd sr secd nt rule 144a 8.75 05/02/2020	82.146	11/16	mtn fltg rt index-linked (autocallable barrier nt) 05/31/2018	100	11/30	global mtn fltg rt ser e equity-linked (auto call ctgnt int nts) 08/16/2018	100	11/16
<b>Fpl Group Cap Tr I</b>			mtn fltg rt index-linked (autocallable barrier nts) 11/23/2021	100	11/24	global mtn fltg rt ser e equity-linked (auto call ctgnt int nts) 08/30/2018	100	11/30
tr pfd secs 5.875 03/15/2044	100	11/09	mtn fltg rt index-linked (callable nts) 11/09/2021	100	11/09	global mtn fltg rt ser e equity-linked (auto callable nt) 08/09/2018	100	11/09
<b>Franklin CLO VI Ltd</b>			mtn fltg rt index-linked (market linked secs) 05/02/2019	100	11/01	global mtn fltg rt ser e equity-linked (auto callable nt) 08/09/2018	100	11/09
coll nt 08/09/2019	100	11/09	mtn index-linked (autocallable yield nt) 7.25 05/31/2018	100	11/30	global mtn fltg rt ser e equity-linked (auto callable nt) 08/16/2018	100	11/16
<b>Ge Cap Tr I</b>			mtn index-linked (autocallable yield nts) 6.25 08/31/2018	100	11/30			
perp global gtd tr secs fixed/fltg rt 3.70486	100	11/15						
<b>Geely Automobile Hldgs Ltd</b>								
gtd global bds 5.25 10/06/2019	102.625	11/30						
<b>General Elec Cap Corp</b>								
global medium term sub nt fixed/fltg rt 3.70486 11/15/2067	100	11/15						
<b>Global Ship Lease Inc</b>								
gtd secd 1st priority nt rule 144a 10 04/01/2019	102.5	11/22						
<b>Goldman Sachs Group Inc</b>								
mtn fltg rt ser d equity-linked (trigger phoenix autocall opt) 08/30/2024	100	11/29						
mtn fltg rt ser d index-linked 07/07/2025	100	11/07						
mtn fltg rt ser d index-linked 08/21/2029	100	11/21						
mtn fltg rt ser d index-linked 02/17/2030	100	11/17						

**Editor's Note:** This section includes issues that have been redeemed in 2010 as of the monthly publication deadline for this edition.  
**Note:** Moody's® ratings are subject to change. Because of the possible time lapse between Moody's® assignment or change of a rating and your use of this monthly publication, we suggest you verify the current rating of any security or issuer in which you are interested. For standard abbreviations and symbols, see page 8.

ISSUE	REDEMPTION PRICE	REDEMPTION DATE	ISSUE	REDEMPTION PRICE	REDEMPTION DATE	ISSUE	REDEMPTION PRICE	REDEMPTION DATE
<b>JPMorgan Chase Finl Co Llc</b> (continued)			<b>JPMorgan Chase Finl Co Llc</b> (continued)			<b>Morgan Stanley Fin LLC</b> (continued)		
global mtn fltg rt ser a equity-linked (auto-callable nt) 11/22/2021	100.	11/22	global mtn fltg rt ser a index-linked (trgr autocall ctgnt) 02/27/2020	100.	11/28	global mtn fltg rt ser a equity-linked (auto-callable secs) 08/28/2020	100.	11/30
global mtn fltg rt ser a equity-linked (auto-callable nt) 02/08/2018	100.	11/08	global mtn fltg rt ser a index-linked (trgr autocall ctgnt yield) 11/16/2026	100.	11/15	global mtn fltg rt ser a equity-linked (auto-callable secs) 05/15/2020	100.	11/16
global mtn fltg rt ser a equity-linked (auto-callable nts) 08/16/2018	100.	11/16	global mtn fltg rt ser a index-linked (trgr autocall ctgnt yield) 05/28/2020	100.	11/27	global mtn fltg rt ser a equity-linked (auto-callable secs) 08/28/2020	100.	11/30
global mtn fltg rt ser a equity-linked (auto-callable sec) 02/01/2018	100.	11/01	global mtn fltg rt ser a index-linked (trigger call ctgnt yield) 02/25/2020	100.	11/28	global mtn fltg rt ser a index-linked (auto-callable secs) 08/08/2018	100.	11/07
global mtn fltg rt ser a equity-linked (auto-callable sec) 08/09/2018	100.	11/09	global mtn index-linked ser a (auto-callable yield nt) 6 05/21/2018	100.	11/21	global mtn zero cpn ser a index-linked (auto-callable secs) 0 10/29/2021	100.	11/01
global mtn fltg rt ser a equity-linked (auto-callable sec) 08/30/2018	100.	11/30	global mtn index-linked ser a (auto-callable yield nt) 6 08/02/2018	100.	11/02	<b>Nathans Famous Inc</b>		
global mtn fltg rt ser a equity-linked (auto-callable sec) 05/01/2020	100.	11/02	global mtn index-linked ser a (auto-callable yield nts) 7 05/31/2018	100.	11/30	sr secd nt rule 144a 10 03/15/2020	105.5	11/16
global mtn fltg rt ser a equity-linked (auto-callable sec) 08/22/2019	100.	11/24	global mtn ser a equity-linked (auto-callable yield nts) 8 08/28/2018	100.	11/29	<b>Navistar Intl Corp</b>		
global mtn fltg rt ser a equity-linked (auto-callable secs) 08/02/2018	100.	11/02	global mtn ser a index-linked (auto-callable yield nt) 8 02/20/2019	100.	11/20	gtd sr nt 8.25 11/01/2021	100.	11/10
global mtn fltg rt ser a equity-linked (auto-callable secs) 08/05/2020	100.	11/03	global mtn ser a index-linked (auto-callable yield nts) 7.05 05/01/2018	100.	11/30	<b>NetApp Inc</b>		
global mtn fltg rt ser a equity-linked (ctgnt cpn call yield) 05/02/2019	100.	11/02	global mtn ser a index-linked (auto-callable yield nts) 7 05/31/2018	100.	11/30	global sr nt 2 12/15/2017	100.085	11/03
global mtn fltg rt ser a equity-linked (trgr autocall ctgnt yield) 02/06/2020	100.	11/07	global mtn zero cpn ser a equity-linked (review nts) 0 11/21/2019	112.2	11/30	<b>Northwestern Corp</b>		
global mtn fltg rt ser a index-linked (auto-call ctgnt int nts) 02/28/2018	100.	11/30	global mtn zero cpn ser a equity-linked (review nts) 0 11/23/2020	110.6	11/24	1st mtg bd 6.34 04/01/2019	105.982	11/06
global mtn fltg rt ser a index-linked (auto-call ctgnt int nts) 05/31/2018	100.	11/30	global mtn zero cpn ser a index-linked (auto-callable nts) 0 10/30/2019	110.	11/06	<b>Pearson PLC</b>		
global mtn fltg rt ser a index-linked (auto-call ctgnt int nts) 11/19/2018	100.	11/20	global mtn zero cpn ser a index-linked (cap buffer ret enh nt) 0 05/14/2018	100.	11/22	nt rule 144a 4.625 06/15/2018	100.	11/07
global mtn fltg rt ser a index-linked (auto-call ctgnt int nts) 02/14/2019	100.	11/15	global mtn zero cpn ser a index-linked (review nt) 0 11/14/2018	100.	11/20	<b>Prospect Cap Corp</b>		
global mtn fltg rt ser a index-linked (auto-call ctgnt int nts) 02/20/2019	100.	11/20	global mtn zero cpn ser a index-linked (review nt) 0 10/26/2020	116.5	11/02	prospect cap inter nt 3.75 05/15/2018	100.	11/15
global mtn fltg rt ser a index-linked (auto-call ctgnt int nts) 02/28/2019	100.	11/29	global mtn zero cpn ser a index-linked (review nt) 0 11/23/2020	110.5	11/30	prospect cap inter nt 3.75 05/15/2018	100.	11/15
global mtn fltg rt ser a index-linked (auto-call ctgnt int nts) 05/28/2019	100.	11/28	global mtn zero cpn ser a index-linked (review nts) 0 10/31/2019	110.	11/08	prospect cap inter nt 4.5 05/15/2019	100.	11/15
global mtn fltg rt ser a index-linked (auto-call ctgnt int nts) 08/20/2020	100.	11/20	global mtn zero cpn ser a index-linked (review nts) 11/23/2020	115.75	11/24	prospect cap inter nt 5 11/15/2019	100.	11/15
global mtn fltg rt ser a index-linked (auto-call ctgnt int nts) 11/18/2021	100.	11/17	<b>Kazakhstan Temir Zholy Fin B V</b>			prospect cap inter nt 5.125 11/15/2019	100.	11/15
global mtn fltg rt ser a index-linked (auto-call ctgnt int nts) 11/26/2021	100.	11/27	gtd sr nt rule 144a 6.375 10/06/2020	108.25	11/29	<b>PTT Pub Co Ltd</b>		
global mtn fltg rt ser a index-linked (auto-call ctgnt int nts) 03/01/2027	100.	11/29	<b>Kimco Rlty Corp</b>			nt rule 144a 3.375 10/25/2022	100.	11/02
global mtn fltg rt ser a index-linked (auto-callable nt) 05/31/2018	100.	11/30	mtn ser e 4.3 02/01/2018	100.	11/01	<b>QualityTech LP / QTS Fin Corp</b>		
global mtn fltg rt ser a index-linked (auto-callable nt) 05/31/2018	100.	11/30	<b>Laredo Pete Inc</b>			gtd sr nt 5.875 08/01/2022	104.406	11/24
global mtn fltg rt ser a index-linked (auto-callable nt) 08/31/2018	100.	11/30	gtd sr nt 7.375 05/01/2022	103.688	11/29	<b>RAIT CRE CDO I Ltd</b>		
global mtn fltg rt ser a index-linked (auto-callable nt) 08/31/2018	100.	11/30	<b>Lennar Corp</b>			coll nt 11/25/2046	14.342	11/20
global mtn fltg rt ser a index-linked (auto-callable nt) 02/28/2019	100.	11/29	sr nt 4.75 12/15/2017	100.	11/10	<b>Rice Energy Inc</b>		
global mtn fltg rt ser a index-linked (auto-callable nt) 11/19/2020	100.	11/21	sr nt rule 144a 4.75 12/15/2017	100.	11/10	gtd sr nt 7.25 05/01/2023	108.741	11/11
global mtn fltg rt ser a index-linked (auto-callable nt) 11/18/2021	100.	11/20	<b>Lundin Mng Corp</b>			gtd sr nt 6.25 05/01/2022	104.688	11/11
global mtn fltg rt ser a index-linked (auto-callable nt) 05/06/2022	100.	11/07	sr secd nt rule 144a 7.5 11/01/2020	103.75	11/20	gtd sr nt rule 144a 7.25 05/01/2023	108.741	11/11
global mtn fltg rt ser a index-linked (auto-callable nts) 05/08/2018	100.	11/08	<b>Mack Cali Rlty L P</b>			<b>Royal BK CDA</b>		
global mtn fltg rt ser a index-linked (auto-callable nts) 02/20/2019	100.	11/20	nt 2.5 12/15/2017	100.	11/15	global medium term sr nt step-up ser g 2.25 11/20/2018	100.	11/20
global mtn fltg rt ser a index-linked (auto-callable nt) 05/21/2019	100.	11/20	<b>Masisa S A</b>			global mtn fltg rt equity-linked (callable ctgnt cpn barrier nt) 11/21/2019	100.	11/24
global mtn fltg rt ser a index-linked (auto-callable nts) 11/21/2019	100.	11/24	gtd sr nt rule 144a 9.5 05/05/2019	104.75	11/20	global mtn fltg rt index-linked (trigger autocall ctgnt yield) 06/01/2020	100.	11/29
global mtn fltg rt ser a index-linked (auto-callable nts) 02/28/2020	100.	11/30	<b>Mattamy Group Corp</b>			global mtn fltg rt ser g equity-linked (auto-call barrier nt) 05/09/2019	100.	11/09
global mtn fltg rt ser a index-linked (auto-callable nts) 05/01/2020	100.	11/02	sr global nt 6.5 11/15/2020	101.625	11/15	global mtn fltg rt ser g equity-linked (auto-call barrier nt) 05/23/2019	100.	11/24
global mtn fltg rt ser a index-linked (auto-callable nts) 05/06/2022	100.	11/07	sr nt rule 144a 6.5 11/15/2020	101.625	11/15	global mtn fltg rt ser g equity-linked (auto-call barrier nts) 05/09/2019	100.	11/09
global mtn fltg rt ser a index-linked (auto-callable nts) 11/30/2026	100.	11/30	<b>Meritor Inc</b>			global mtn fltg rt ser g equity-linked (auto-call barrier nts) 11/08/2018	100.	11/08
global mtn fltg rt ser a index-linked (auto-callable nts) 05/08/2018	100.	11/08	gtd nt 6.75 06/15/2021	103.375	11/02	global mtn fltg rt ser g equity-linked (auto-callable barrier) 02/22/2019	100.	11/22
global mtn fltg rt ser a index-linked (auto-callable nts) 02/20/2019	100.	11/20	<b>Mexico United Mexican Sts</b>			global mtn fltg rt ser g equity-linked (auto-callable barrier) 05/23/2019	100.	11/24
global mtn fltg rt ser a index-linked (auto-callable nts) 05/21/2019	100.	11/20	mtn ser a 5.125 01/15/2020	106.968	11/09	global mtn fltg rt ser g equity-linked (auto-callable barrier) 05/23/2019	100.	11/24
global mtn fltg rt ser a index-linked (auto-callable nts) 11/21/2019	100.	11/24	<b>Micron Technology Inc</b>			global mtn fltg rt ser g equity-linked (auto-callable barrier) 05/23/2019	100.	11/24
global mtn fltg rt ser a index-linked (auto-callable nts) 02/28/2020	100.	11/30	sr nt rule 144a 5.25 08/01/2023	104.647	11/16	global mtn fltg rt ser g equity-linked (auto-callable barrier) 05/23/2019	100.	11/24
global mtn fltg rt ser a index-linked (auto-callable nts) 05/01/2020	100.	11/02	sr secd nt 7.5 09/15/2023	104.647	11/16	global mtn fltg rt ser g equity-linked (auto-callable nt) 05/09/2019	100.	11/09
global mtn fltg rt ser a index-linked (auto-callable nts) 11/01/2018	100.	11/02	<b>Morgan Stanley</b>			global mtn fltg rt ser g equity-linked (auto-callable sec) 08/23/2018	100.	11/24
global mtn fltg rt ser a index-linked (auto-callable nts) 05/02/2019	100.	11/02	global mtn fltg rt ser f equity-linked (auto-callable secs) 05/18/2018	100.	11/20	global mtn fltg rt ser g equity-linked (auto-callable secs) 04/04/2018	100.	11/02
global mtn fltg rt ser a index-linked (auto-callable nts) 11/26/2021	100.	11/28	global mtn fltg rt ser f index-linked (market linked auto-call) 11/30/2032	100.	11/30	global mtn fltg rt ser g equity-linked (auto-callable secs) 04/11/2018	100.	11/09
global mtn fltg rt ser a index-linked (auto-callable nts) 11/26/2021	100.	11/28	global mtn fltg rt ser f index-linked (mkt linked nts) 11/30/2027	100.	11/30	global mtn fltg rt ser g equity-linked (auto-callable secs) 11/26/2018	100.	11/24
global mtn fltg rt ser a index-linked (auto-callable nts) 11/28/2023	100.	11/28	global mtn fltg rt ser f index-linked (mkt linked nts) 11/30/2032	100.	11/30	global mtn fltg rt ser g equity-linked (auto-callable barrier nt) 05/05/2022	100.	11/07
global mtn fltg rt ser a index-linked (auto-callable yield nts) 05/02/2019	100.	11/02	global mtn zero cpn equity-linked ser f (auto-callable secs) 0 11/05/2018	108.3	11/10	global mtn fltg rt ser g equity-linked (autocall ctgnt cpn nt) 05/23/2019	100.	11/24
global mtn fltg rt ser a index-linked (auto-callable sec) 02/21/2019	100.	11/20	<b>Morgan Stanley Fin LLC</b>			global mtn fltg rt ser g equity-linked (autocall ctgnt cpn nt) 05/20/2020	100.	11/20
global mtn fltg rt ser a index-linked (auto-callable sec) 08/28/2019	100.	11/28	global mtn fltg rt ser a equity-linked (auto-callable sec) 02/21/2020	100.	11/22	global mtn fltg rt ser g equity-linked (autocall ctgnt cpn nt) 08/07/2020	100.	11/09
global mtn fltg rt ser a index-linked (auto-callable secs) 02/21/2019	100.	11/20	global mtn fltg rt ser a equity-linked (auto-callable sec) 05/01/2020	100.	11/02	global mtn fltg rt ser g equity-linked (autocall ctgnt cpn nt) 11/16/2021	100.	11/15
global mtn fltg rt ser a index-linked (auto-callable secs) 10/31/2019	100.	11/02	global mtn fltg rt ser a equity-linked (auto-callable sec) 08/14/2020	100.	11/16	global mtn fltg rt ser g equity-linked (autocallab ctgnt cpn nt) 11/16/2021	100.	11/16
global mtn fltg rt ser a index-linked (callable ctgnt int nts) 10/31/2019	100.	11/02	global mtn fltg rt ser a equity-linked (auto-callable sec) 08/21/2020	100.	11/24	global mtn fltg rt ser g equity-linked (autocallab ctgnt cpn nt) 11/16/2021	100.	11/16
global mtn fltg rt ser a index-linked (callable ctgnt int nts) 11/25/2020	100.	11/28	global mtn fltg rt ser a equity-linked (auto-callable sec) 08/28/2020	100.	11/30	global mtn fltg rt ser g equity-linked (call ctgnt cpn barrier) 08/29/2019	100.	11/30
			global mtn fltg rt ser a equity-linked (auto-callable secs) 08/22/2019	102.88	11/22	global mtn fltg rt ser g equity-linked (trgr autocall nt) 05/11/2020	100.	11/08
			global mtn fltg rt ser a equity-linked (auto-callable secs) 11/21/2019	100.	11/24	global mtn fltg rt ser g equity-linked (trgr autocall nt) 06/01/2020	100.	11/29
			global mtn fltg rt ser a equity-linked (auto-callable secs) 02/27/2020	100.	11/29	global mtn fltg rt ser g index-linked (auto-call barrier nts) 11/14/2019	100.	11/15
			global mtn fltg rt ser a equity-linked (auto-callable secs) 07/31/2020	100.	11/02	global mtn fltg rt ser g index-linked (auto-callable barrier) 08/22/2019	100.	11/22
			global mtn fltg rt ser a equity-linked (auto-callable secs) 08/14/2020	100.	11/16	global mtn zero cpn ser g equity-linked (trgr abs ret autocall) 0 08/22/2019	100.	11/22
			global mtn fltg rt ser a equity-linked (auto-callable secs) 08/14/2020	100.	11/16	global mtn zero cpn ser g index-linked (mkt linked sec) 0 11/05/2018	107.6	11/10
			global mtn fltg rt ser a equity-linked (auto-callable secs) 08/21/2020	100.	11/24			

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ISSUE	REDEMPTION PRICE	REDEMPTION DATE	ISSUE	REDEMPTION PRICE	REDEMPTION DATE	ISSUE	REDEMPTION PRICE	REDEMPTION DATE
<b>UBS AG London Brh (continued)</b>			<b>UBS AG London Brh (continued)</b>			<b>UBS AG London Brh (continued)</b>		
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/24/2018	100	11/27	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 05/23/2019	100	11/24	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/29/2019	100	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/24/2018	100	11/27	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 05/24/2019	100	11/27	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 05/20/2019	100	11/20
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/24/2018	100	11/27	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 05/28/2019	100	11/28	mnt fltg rt index-linked (trigger phoenix callable optimization) 05/28/2024	100	11/28
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/28/2018	100	11/29	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 05/28/2019	100	11/28	mnt fltg rt index-linked (trigger autocallable ctgnt yield nts) 02/13/2020	100	11/14
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/29/2018	100	11/30	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 05/28/2019	100	11/28	mnt fltg rt index-linked (trigger autocallable ctgnt yield nts) 05/18/2020	100	11/15
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/29/2018	100	11/30	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 05/28/2019	100	11/28	mnt zero cpn equity-linked (contingent abs return autocall opt) 0 05/18/2018	100	11/20
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 09/19/2018	100	11/17	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 05/28/2019	100	11/28	mnt zero cpn equity-linked (ctgnt abs ret autocall opt sec) 0 02/23/2018	100	11/22
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 10/11/2018	100	11/09	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/01/2019	100	11/01	mnt zero cpn equity-linked (ctgnt abs ret autocall opt sec) 0 02/23/2018	100	11/22
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 10/22/2018	100	11/22	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/01/2019	100	11/01	mnt zero cpn equity-linked (ctgnt abs ret autocall opt sec) 0 05/24/2019	100	11/27
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 11/05/2018	100	11/06	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/01/2019	100	11/01	mnt zero cpn equity-linked (ctgnt abs ret autocall opt sec) 0 08/29/2019	100	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 11/09/2018	100	11/09	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/02/2019	100	11/02	mnt zero cpn equity-linked (ctgnt abs ret autocallable opt sec) 0 02/04/2019	100	11/02
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 11/17/2018	100	11/28	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/02/2019	100	11/02	mnt zero cpn equity-linked (ctgnt abs ret autocallable opt sec) 0 08/29/2019	100	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 11/19/2018	100	11/17	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/02/2019	100	11/02	mnt zero cpn equity-linked (ctgnt abs ret autocallable opt sec) 0 08/29/2019	100	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 11/21/2018	100	11/21	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/02/2019	100	11/02	mnt zero cpn equity-linked (ctgnt absolute return autocall opt) 0 08/29/2019	100	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 01/29/2019	100	11/28	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/02/2019	100	11/02	mnt zero cpn equity-linked (ctgnt absolute return autocall opt) 0 08/29/2019	100	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 01/29/2019	100	11/28	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/02/2019	100	11/02	mnt zero cpn equity-linked (ctgnt absolute return autocall opt) 0 08/29/2019	100	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/04/2019	100	11/03	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/02/2019	100	11/02	mnt zero cpn equity-linked (ctgnt absolute return autocall opt) 0 08/29/2019	100	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/04/2019	100	11/03	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/05/2019	100	11/03	mnt zero cpn equity-linked (ctgnt absolute return autocall opt) 0 08/29/2019	100	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/04/2019	100	11/06	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/07/2019	100	11/07	mnt zero cpn equity-linked (trigger autocallable optimization) 0 08/28/2018	100	11/29
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/04/2019	100	11/03	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/07/2019	100	11/07	mnt zero cpn equity-linked (trigger autocallable optimization) 0 08/28/2018	100	11/29
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/04/2019	100	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/08/2019	100	11/08	mnt zero cpn equity-linked (trigger autocallable optimization) 0 11/30/2018	100	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/11/2019	100	11/13	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/08/2019	100	11/08	mnt zero cpn equity-linked (trigger autocallable optimization) 0 11/30/2018	100	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/15/2019	100	11/15	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/08/2019	100	11/08	mnt zero cpn equity-linked (trigger autocallable optimization) 0 02/25/2019	100	11/22
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/16/2019	100	11/15	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/08/2019	100	11/08	mnt zero cpn equity-linked (trigger autocallable optimization) 0 08/08/2019	100	11/08
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/26/2019	100	11/24	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/15/2019	100	11/15	mnt zero cpn equity-linked (trigger autocallable optimization) 0 08/09/2019	100	11/09
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/26/2019	100	11/27	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/16/2019	100	11/16	mnt zero cpn equity-linked (trigger autocallable optimization) 0 08/16/2019	100	11/16
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/26/2019	100	11/27	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/16/2019	100	11/16	mnt zero cpn equity-linked (trigger autocallable optimization) 0 08/19/2019	100	11/17
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/26/2019	100	11/27	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/19/2019	100	11/17	mnt zero cpn equity-linked (trigger autocallable optimization) 0 08/23/2019	100	11/24
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/26/2019	100	11/27	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/19/2019	100	11/20	mnt zero cpn equity-linked (trigger autocallable optimization) 0 08/29/2019	100	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/26/2019	100	11/28	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/19/2019	100	11/17	mnt zero cpn equity-linked (trigger autocallable optimization) 0 08/29/2019	100	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/26/2019	100	11/27	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/19/2019	100	11/20	mnt zero cpn equity-linked (trigger autocallable optimization) 0 02/22/2018	100	11/21
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/26/2019	100	11/24	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/21/2019	100	11/21	<b>Verizon Communications Inc</b> global nt 4.5 09/15/2020	106.164	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/28/2019	100	11/29	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/21/2019	100	11/21	<b>Waste Mgmt Inc</b> global gtd sr nt 6.1 03/15/2018	101.293	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/28/2019	100	11/29	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/21/2019	100	11/21	<b>Watson Pharmaceuticals Inc</b> global nt 6.125 08/15/2019	106.696	11/30
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/28/2019	100	11/29	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/21/2019	100	11/21	<b>Wells Fargo &amp; Co New</b> mnt fltg rt ser k index-linked (market linked sec) 05/06/2019	100	11/03
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 02/28/2019	100	11/29	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/23/2019	100	11/24	mnt fltg rt ser k index-linked (market linked sec) 05/03/2021	100	11/02
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 05/03/2019	100	11/02	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/23/2019	100	11/24	mnt fltg rt ser k index-linked (market-linked secs) 07/31/2026	100	11/02
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 05/13/2019	100	11/13	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/26/2019	100	11/27	mnt fltg rt ser k index-linked (market-linked secs) 10/30/2026	100	11/01
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 05/15/2019	100	11/15	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/26/2019	100	11/27	mnt fltg rt ser k index-linked (mkt linked sec) 11/02/2026	100	11/02
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 05/16/2019	100	11/16	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/26/2019	100	11/28	<b>Whitewave Foods Co</b> gtd sr nt 5.375 10/01/2022	124.412	11/22
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 05/16/2019	100	11/16	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/26/2019	100	11/27	<b>Wind Acquisition Fin S A</b> sr secd nt rule 144a 4.75 07/15/2020	101.188	11/03
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 05/20/2019	100	11/20	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/28/2019	100	11/29	<b>Wind Acquisition Fin SA</b> sr nt rule 144a 7.375 04/23/2021	103.688	11/17
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 05/20/2019	100	11/20	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/28/2019	100	11/29	sr secd nt rule 144a 6.5 04/30/2020	103.25	11/17
mnt fltg rt equity-linked (trigger phoenix autocallable opt) 05/22/2019	100	11/22	mnt fltg rt equity-linked (trigger phoenix autocallable opt) 08/29/2019	100	11/30			

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Corporate Bond Yield Averages

	AV. CORP.	CORPORATE BY RATINGS				CORPORATE BY GROUPS			PUBLIC UTILITY BONDS				INDUSTRIAL BONDS				RAILROAD BONDS						
		Aaa	Aa	A	Baa	P.U.	IND.	R.R.	Aaa	Aa	A	Baa	Aaa	Aa	A	Baa	Aaa	Aa	A	Baa			
<b>2011</b>																							
Jan.	5.56	5.04	5.26	5.53	6.09	5.64	5.46	---	Jan.	---	5.29	5.57	6.06	Jan.	5.04	5.22	5.48	6.11	Jan.	---	---	---	---
Feb.	5.66	5.22	5.37	5.64	6.15	5.73	5.58	---	Feb.	---	5.42	5.68	6.10	Feb.	5.22	5.31	5.59	6.19	Feb.	---	---	---	---
Mar.	5.55	5.13	5.28	5.52	6.03	5.62	5.48	---	Mar.	---	5.33	5.56	5.97	Mar.	5.13	5.22	5.48	6.09	Mar.	---	---	---	---
Apr.	5.56	5.16	5.29	5.52	6.02	5.62	5.49	---	Apr.	---	5.32	5.55	5.98	Apr.	5.16	5.25	5.48	6.06	Apr.	---	---	---	---
May	5.33	4.96	5.06	5.29	5.78	5.38	5.27	---	May	---	5.08	5.32	5.74	May	4.96	5.04	5.26	5.81	May	---	---	---	---
June	5.30	4.99	5.04	5.26	5.75	5.33	5.27	---	June	---	5.04	5.26	5.67	June	4.99	5.02	5.25	5.82	June	---	---	---	---
July	5.30	4.93	5.03	5.26	5.76	5.34	5.25	---	July	---	5.05	5.27	5.70	July	4.93	4.99	5.25	5.81	July	---	---	---	---
Aug.	4.79	4.37	4.47	4.74	5.36	4.78	4.79	---	Aug.	---	4.44	4.69	5.22	Aug.	4.37	4.50	4.79	5.49	Aug.	---	---	---	---
Sept.	4.60	4.09	4.23	4.54	5.27	4.61	4.58	---	Sept.	---	4.24	4.48	5.11	Sept.	4.09	4.21	4.59	5.42	Sept.	---	---	---	---
Oct.	4.60	4.08	4.16	4.54	5.37	4.66	4.54	---	Oct.	---	4.21	4.52	5.24	Oct.	3.98	4.11	4.56	5.50	Oct.	---	---	---	---
Nov.	4.39	3.87	3.97	4.34	5.14	4.37	4.41	---	Nov.	---	3.92	4.25	4.93	Nov.	3.87	4.01	4.43	5.34	Nov.	---	---	---	---
Dec.	4.47	3.93	4.03	4.40	5.25	4.47	4.47	---	Dec.	---	4.00	4.33	5.07	Dec.	3.93	4.06	4.46	5.43	Dec.	---	---	---	---
<b>2012</b>																							
Jan.	4.45	3.85	4.01	4.39	5.23	4.48	4.41	---	Jan.	---	4.03	4.34	5.06	Jan.	3.85	3.98	4.43	5.39	Jan.	---	---	---	---
Feb.	4.42	3.85	3.99	4.39	5.14	4.47	4.37	---	Feb.	---	4.02	4.36	5.02	Feb.	3.85	3.96	4.41	5.26	Feb.	---	---	---	---
Mar.	4.54	3.99	4.14	4.51	5.23	4.59	4.50	---	Mar.	---	4.16	4.48	5.13	Mar.	3.99	4.12	4.53	5.33	Mar.	---	---	---	---
Apr.	4.49	3.96	4.08	4.44	5.19	4.53	4.44	---	Apr.	---	4.10	4.40	5.11	Apr.	3.96	4.06	4.48	5.27	Apr.	---	---	---	---
May	4.33	3.80	3.91	4.26	5.07	4.36	4.30	---	May	---	3.92	4.20	4.97	May	3.80	3.90	4.32	5.17	May	---	---	---	---
June	4.22	3.64	3.78	4.14	5.02	4.26	4.18	---	June	---	3.79	4.08	4.91	June	3.64	3.77	4.18	5.13	June	---	---	---	---
July	4.03	3.40	3.54	3.93	4.87	4.12	3.93	---	July	---	3.58	3.93	4.85	July	3.40	3.49	3.93	4.89	July	---	---	---	---
Aug.	4.09	3.48	3.61	3.99	4.91	4.18	3.99	---	Aug.	---	3.65	4.00	4.88	Aug.	3.48	3.57	3.98	4.93	Aug.	---	---	---	---
Sept.	4.09	3.49	3.68	4.01	4.84	4.17	4.00	---	Sept.	---	3.69	4.02	4.81	Sept.	3.49	3.66	4.00	4.87	Sept.	---	---	---	---
Oct.	3.97	3.47	3.63	3.90	4.58	4.05	3.89	---	Oct.	---	3.68	3.91	4.54	Oct.	3.47	3.58	3.89	4.62	Oct.	---	---	---	---
Nov.	3.92	3.50	3.57	3.87	4.51	3.95	3.88	---	Nov.	---	3.60	3.84	4.42	Nov.	3.50	3.64	3.89	4.60	Nov.	---	---	---	---
Dec.	4.05	3.65	3.70	3.98	4.63	4.10	3.99	---	Dec.	---	3.75	4.00	4.56	Dec.	3.65	3.85	3.96	4.70	Dec.	---	---	---	---
<b>2013</b>																							
Jan.	4.19	3.80	3.87	4.14	4.73	4.24	4.14	---	Jan.	---	3.90	4.15	4.66	Jan.	3.80	3.84	4.13	4.81	Jan.	---	---	---	---
Feb.	4.27	3.90	3.95	4.19	4.85	4.29	4.25	---	Feb.	---	3.95	4.18	4.74	Feb.	3.90	3.95	4.20	4.95	Feb.	---	---	---	---
Mar.	4.29	3.93	3.97	4.23	4.85	4.29	4.29	---	Mar.	---	3.95	4.20	4.72	Mar.	3.93	3.98	4.25	4.99	Mar.	---	---	---	---
Apr.	4.07	3.73	3.77	4.03	4.59	4.08	4.07	---	Apr.	---	3.74	4.00	4.49	Apr.	3.73	3.79	4.05	4.69	Apr.	---	---	---	---
May	4.23	3.89	3.94	4.19	4.73	4.24	4.22	---	May	---	3.91	4.17	4.65	May	3.89	3.97	4.20	4.80	May	---	---	---	---
June	4.63	4.27	4.32	4.56	5.19	4.63	4.63	---	June	---	4.27	4.53	5.08	June	4.27	4.36	4.58	5.29	June	---	---	---	---
July	4.76	4.44	4.46	4.69	5.32	4.78	4.74	---	July	---	4.44	4.68	5.21	July	4.34	4.47	4.69	5.43	July	---	---	---	---
Aug.	4.88	4.54	4.63	4.78	5.42	4.85	4.92	---	Aug.	---	4.53	4.73	5.28	Aug.	4.54	4.72	4.83	5.57	Aug.	---	---	---	---
Sept.	4.95	4.64	4.69	4.85	5.47	4.90	4.99	---	Sept.	---	4.58	4.80	5.31	Sept.	4.64	4.80	4.90	5.62	Sept.	---	---	---	---
Oct.	4.82	4.53	4.59	4.73	5.31	4.78	4.86	---	Oct.	---	4.48	4.70	5.17	Oct.	4.53	4.69	4.76	5.44	Oct.	---	---	---	---
Nov.	4.91	4.63	4.67	4.82	5.38	4.86	4.95	---	Nov.	---	4.56	4.77	5.24	Nov.	4.63	4.79	4.85	5.52	Nov.	---	---	---	---
Dec.	4.92	4.62	4.68	4.85	5.38	4.89	4.95	---	Dec.	---	4.59	4.81	5.25	Dec.	4.62	4.76	4.89	5.51	Dec.	---	---	---	---
<b>2014</b>																							
Jan.	4.76	4.49	4.53	4.69	5.19	4.72	4.78	---	Jan.	---	4.44	4.63	5.09	Jan.	4.49	4.62	4.74	5.29	Jan.	---	---	---	---
Feb.	4.68	4.45	4.46	4.60	5.10	4.64	4.71	---	Feb.	---	4.38	4.53	5.01	Feb.	4.45	4.54	4.66	5.19	Feb.	---	---	---	---
Mar.	4.65	4.38	4.44	4.56	5.06	4.63	4.65	---	Mar.	---	4.40	4.51	5.00	Mar.	4.38	4.49	4.60	5.13	Mar.	---	---	---	---
Apr.	4.52	4.24	4.33	4.45	4.90	4.52	4.51	---	Apr.	---	4.30	4.41	4.85	Apr.	4.24	4.36	4.48	4.96	Apr.	---	---	---	---
May	4.38	4.16	4.20	4.31	4.76	4.37	4.40	---	May	---	4.16	4.26	4.69	May	4.16	4.24	4.35	4.83	May	---	---	---	---
June	4.44	4.25	4.26	4.35	4.80	4.42	4.45	---	June	---	4.23	4.29	4.73	June	4.25	4.29	4.41	4.86	June	---	---	---	---
July	4.37	4.16	4.20	4.28	4.73	4.35	4.39	---	July	---	4.16	4.23	4.66	July	4.16	4.23	4.34	4.80	July	---	---	---	---
Aug.	4.29	4.08	4.10	4.20	4.69	4.29	4.30	---	Aug.	---	4.07	4.13	4.65	Aug.	4.08	4.13	4.26	4.72	Aug.	---	---	---	---
Sept.	4.39	4.11	4.19	4.30	4.80	4.40	4.37	---	Sept.	---	4.18	4.24	4.79	Sept.	4.11	4.19	4.35	4.82	Sept.	---	---	---	---
Oct.	4.22	3.92	3.99	4.13	4.69	4.24	4.20	---	Oct.	---	3.98	4.06	4.67	Oct.	3.92	4.00	4.20	4.70	Oct.	---	---	---	---
Nov.	4.28	3.92	4.04	4.18	4.79	4.29	4.26	---	Nov.	---	4.03	4.09	4.75	Nov.	3.92	4.04	4.27	4.82	Nov.	---	---	---	---
Dec.	4.17	3.79	3.89	4.05	4.74	4.18	4.15	---	Dec.	---	3.90	3.95	4.70	Dec.	3.79	3.89	4.15	4.77	Dec.	---	---	---	---
<b>2015</b>																							
Jan.	3.84	3.46	3.54	3.70	4.45	3.83	3.84	---	Jan.	---	3.52	3.58	4.39	Jan.	3.46	3.55	3.82	4.51	Jan.	---	---	---	---
Feb.	3.93	3.61	3.64	3.81	4.51	3.91	3.94	---	Feb.	---	3.62	3.67	4.44	Feb.	3.61	3.65	3.94	4.57	Feb.	---	---	---	---
Mar.	3.98	3.64	3.70	3.85	4.54	3.97	3.97	---	Mar.	---	3.67	3.74	4.51	Mar.	3.64	3.72	3.96	4.56	Mar.	---	---	---	---
Apr.	3.93	3.52	3.64	3.82	4.48	3.96	3.88	---	Apr.	---	3.63	3.75	4.51	Apr.	3.52	3.65	3.89	4.45	Apr.	---	---	---	---
May	4.35	3.98	4.07	4.24	4.89	4.38	4.31	---	May	---	4.05	4.17	4.91	May	3.98	4.09	4.30	4.86	May	---	---	---	---
June	4.56	4.19	4.27	4.45	5.13	4.60	4.52	---	June	---	4.29	4.39	5.13	June	4.19	4.25	4.51	5.12	June	---	---	---	---
July	4.57	4.15	4.25	4.44	5.20	4.63	4.51	---	July	---	4.27	4.40	5.22	July	4.15	4.22	4.49	5.18	July	---	---	---	---
Aug.	4.48	4.04	4.13	4.32	5.19	4.54	4.42	---	Aug.	---	4.13	4.25	5.23	Aug.	4.04	4.11	4.39	5.15	Aug.	---	---	---	---
Sept.	4.59	4.07	4.21	4.43	5.34	4.68	4.49	---	Sept.	---	4.25	4.39	5.42	Sept.	4.07	4.16	4.46	5.25	Sept.	---	---	---	---
Oct.	4.52	3.95	4.11	4.33	5.34	4.63	4.40	---	Oct.	---	4.13	4.29	5.47	Oct.	3.95	4.08	4.37	5.21	Oct.	---	---	---	---
Nov.	4.62	4.06	4.21	4.43	5.46	4.73	4.51	---	Nov.	---	4.22	4.40	5.57	Nov.	4.06	4.20	4.45	5.34	Nov.	---	---	---	---
Dec.	4.58	3.97	4.16	4.38	5.46	4.69	4.47	---	Dec.	---	4.16	4.35	5.55	Dec.	3.97	4.16	4.40	5.36	Dec.	---	---	---	---
<b>2016</b>																							
Jan.	4.56	4.00	4.12	4.35	5.45	4.62	4.50	---	Jan.	---	4.09	4.27	5.49	Jan.	4.00	4.16	4.42	5.40	Jan.	---	---	---	---
Feb.	4.44	3.96	3.98	4.22	5.34	4.44	4.43	---	Feb.	---	3.94	4.11	5.28	Feb.	3.96	4.02	4.33	5.39	Feb.	---	---	---	---
Mar.	4.33	3.82	3.91	4.16	5.13	4.40	4.25	---	Mar.	---	3.93	4.16	5.12	Mar.	3.82	3.89	4.16	5.14	Mar.	---	---	---	---
Apr.	4.09	3.62	3.71	3.98	4.79	4.16	4.01	---	Apr.	---	3.74	4.00	4.75	Apr.	3.62	3.67	3.95	4.82	Apr.				

U.S. Corporate Bonds (New)

CUSIP	ISSUE	MOODY'S® RATING	INTEREST DATES	CURRENT CALL PRICE	CALL DATE	SINK FUND PROV	CURRENT PRICE	YIELD TO MAT.	2017		AMT. OUTST. MIL. \$	ISSUED	ISSUED PRICE
									HIGH	LOW			
00774MAC 010392FR	☐ AerCap Ireland Cap Designated Activity Co / AerCap Global global gtd sr nt 3.5 01/15/25 Alabama Pwr Co global sr nt ser 2017b 3.7 12/01/47 ☐ Alexandria Real Estate Equities Inc global gtd sr	Baa3 A1	J&J 15 J&D 01	100.00 100.00	NoChangeNo NoChangeNo		---	---	---	---	800 550	11/16/17 11/02/17	99.44 99.87
015271AL 02361DAR 025537AH	nt 3.45 04/30/25 Ameren III Co 1st mtg bd 3.7 12/01/47 American Elec Pwr Co Inc global sr nt ser g 2.15 11/13/20	Baa2 A1 Baa1	A&O 30 J&D 01 M&N 13	100.00 100.00 N.C.	NoChangeNo NoChangeNo - No		---	---	---	---	600 500 500	11/09/17 11/16/17 11/08/17	99.81 99.28 99.87
025537AJ 025932AC 036752AE 036752AF 036752AC	global sr nt ser h 3.2 11/13/27 American Finl Group Inc sr nt 3.5 08/15/26 Anthem Inc global nt 2.5 11/21/20 global nt 2.95 12/01/22 global nt 3.35 12/01/24	Baa1 Baa1 Baa2 Baa2 Baa2	M&N 13 F&A 15 M&N 21 J&D 01 J&D 01	100.00 100.00 --- 100.00 100.00	NoChangeNo NoChangeNo - No NoChangeNo NoChangeNo		---	---	---	---	500 425 900 750 850	11/08/17 08/15/16 11/14/17 11/14/17 11/14/17	99.83 99.61 99.82 99.95 99.97
036752AB 036752AD 037833DH 037833DJ 037833DE	global nt 3.65 12/01/27 global nt 4.375 12/01/47 Apple Inc global nt 1.8 11/13/19 global nt 2 11/13/20 global nt 2.4 01/13/23	Baa2 Baa2 Aa1 Aa1 Aa1	J&D 01 J&D 01 M&N 13 M&N 13 J&J 13	100.00 100.00 --- --- 100.00	NoChangeNo NoChangeNo - No - No NoChangeNo		---	---	---	---	1600 1400 1000 1000 750	11/14/17 11/14/17 11/06/17 11/06/17 11/06/17	99.80 100.00 99.95 99.92 99.99
037833DF 037833DK 037833DG 037833DD 05329WAW 05329WAP	global nt 2.75 01/13/25 global nt 3 11/13/27 global nt 3.75 11/13/47 Autonation Inc global gtd sr nt 3.5 11/15/24 global gtd sr nt 3.8 11/15/27	Aa1 Aa1 Aa1 Baa3 Baa3	J&J 13 M&N 13 M&N 13 M&N 15 M&N 15	100.00 100.00 100.00 100.00 100.00	NoChangeNo NoChangeNo NoChangeNo NoChangeNo NoChangeNo		---	---	---	---	1500 1500 1250 450 300	11/06/17 11/06/17 11/06/17 11/07/17 11/07/17	99.85 99.71 99.18 99.88 99.92
05351WAA 05464HAC 05462GAJ 10112RAZ	Avangrid Inc global nt 3.15 12/01/24 ☐ Axis Specialty Fin LLC global gtd sr nt 4 12/06/27 Axtel S A B De C V sr nt rule 144a 6.375 11/14/24 Boston Pptys Ltd Partnership global sr nt 3.2 01/15/25	Baa1 Baa1 Baa3 Baa2	J&D 01 J&D 06 M&N 14 J&J 15	100.00 100.00 104.78 100.00	NoChangeNo NoChangeNo fr 11/14/20 NoChangeNo		---	---	---	---	600 350 500 850	11/16/17 11/29/17 11/09/17 11/17/17	99.76 99.78 100.00 99.76
105340AM 105340AQ 142339AG 142339AH 124857AU 124857AV	☐ Brandywine Operating Partnership L P gtd nt 3.95 02/15/23 gtd nt 3.95 11/15/27 Carlisle Cos Inc global nt 3.5 12/01/24 global nt 3.75 12/01/27 CBS Corp New gtd sr nt rule 144a 2.9 06/01/23 gtd sr nt rule 144a 3.7 06/01/28	Baa3 Baa3 Baa2 Baa2 Baa2 Baa2	F&A 15 M&N 15 J&D 01 J&D 01 J&D 01 J&D 01	100.00 100.00 100.00 100.00 100.00 100.00	NoChangeNo NoChangeNo NoChangeNo NoChangeNo NoChangeNo NoChangeNo		---	---	---	---	350 450 400 600 400 500	12/12/12 11/09/17 11/13/17 11/13/17 11/13/17 11/13/17	99.27 99.25 99.27 99.60 99.13 98.30
15138AAA 177376AE 12594KAB 209111FM 209111FN	Centennial Resource Prodn LLC sr nt rule 144a 5.375 01/15/26 Citrix Sys Inc global sr nt 4.5 12/01/27 CNH Indl N V nt 3.85 11/15/27 Consolidated Edison Co N Y Inc deb ser 2017 b 3.125 11/15/27 deb ser 2017 c 4 11/15/57	B3 Ba1 Ba2 A2 A2	J&D 15 J&D 01 M&N 15 M&N 15 M&N 15	102.69 100.00 100.00 100.00 100.00	fr 01/15/21 No NoChangeNo NoChangeNo NoChangeNo NoChangeNo		---	---	---	---	400 750 500 350 350	11/15/17 11/13/17 11/09/17 11/13/17 11/13/17	100.00 99.78 99.38 99.97 99.60
219350BF 233851DA 233851CZ 247361ZL 26442CAT	Corning Inc global sr nt 4.375 11/15/57 Daimler Fin North Amer LLC sr nt fltg rt rule 144a 1.84289 02/12/21 sr nt rule 144a 2.3 02/12/21 Delta Air Lines Inc Del nt 2.6 12/04/20 Duke Energy Carolinas Llc global 1st & ref mtg bd 3.7 12/01/47	Baa1 A2 A2 Baa3 Aa2	M&N 15 F&A 12 F&A 12 J&D 04 J&D 01	100.00 N.C. N.C. ---	NoChangeNo - No - No - No		---	---	---	---	750 400 1100 450 550	11/06/17 11/09/17 11/09/17 11/28/17 11/09/17	99.96 100.00 99.79 99.94 99.85
278865BB 278865AZ 29362UAB 29364NAU 29365TAF	Ecobac Inc sr nt rule 144a 3.25 12/01/27 sr nt rule 144a 3.95 12/01/47 ☐ Entegris Inc gtd sr nt rule 144a 4.625 02/10/26 Entergy Miss Inc 1st mtg bd 3.25 12/01/27 Entergy Tex Inc 1st mtg bd 3.45 12/01/27	Baa1 Baa1 Baa3 A2 Baa1	J&D 01 J&D 01 F&A 15 J&D 01 J&D 01	100.00 100.00 103.47 100.00 100.00	NoChangeNo NoChangeNo fr 11/10/20 No NoChangeNo NoChangeNo		---	---	---	---	500 325 550 150 150	11/16/17 11/16/17 11/02/17 11/09/17 11/14/17	99.69 99.48 100.00 99.66 99.74
30034VAB 30219GAT 30219GAS 30219GAR 33834YAA	☐ Everi Pmts Inc gtd sr nt rule 144a 7.5 12/15/25 Express Scripts Hldg Co global gtd sr nt 3.05 11/30/22 global gtd sr nt fltg rt 2.22882 11/30/20 Express Scripts Hldg Co global sr nt 2.6 11/30/20 ☐ Five Pt Oper Co LP / Five Pt Cap Corp gtd sr nt rule 144a 7.875 11/15/25	Caa1 Baa2 Baa2 Baa2 B3	J&D 15 M&N 30 M&S 01 M&N 30 M&N 15	103.75 100.00 100.00 100.00 105.91	fr 12/15/20 No NoChangeNo NoChangeNo - No fr 11/15/20 No		---	---	---	---	375 500 400 500 500	11/20/17 11/20/17 11/20/17 11/20/17 11/17/17	100.00 99.79 100.00 99.98 100.00
341081FP 345397YS 345397YT 345397YR 361448BB	Florida Pwr & Lt Co global 1st mtg bd 3.7 12/01/47 Ford Mtr Cr Co LLC global nt 2.343 11/02/20 global nt 3.815 11/02/27 global nt fltg rt 1.81122 11/02/20 GATX Corp sr nt fltg rt 2.11139 11/05/21	Aa2 Baa2 Baa2 Baa2 Baa2	J&D 01 M&N 02 M&N 02 F,M,A&N 02 F,M,A&N 05	100.00 N.C. 100.00 N.C. N.C.	NoChangeNo - No NoChangeNo - No - No		---	---	---	---	700 1000 750 250 200	11/13/17 10/30/17 10/30/17 10/30/17 11/02/17	99.21 100.00 100.00 100.00 100.00
37045XCB 37045XCD 37045XCC 421946AK 428102AA	☐ ☐ General Mtrs Finl Co Inc global gtd sr nt 2.45 11/06/20 global gtd sr nt 3.5 11/07/24 global gtd st nt fltg rt 1.93194 11/06/20 Healthcare Rlty Tr Inc global sr nt 3.625 01/15/28 Hess Infrastructure Partners LP / Fin Corp sr nt rule 144a 5.625 02/15/26	Baa3 Baa3 Baa3 Baa2 Ba3	M&N 06 M&N 07 F,M,A&N 06 J&J 15 F&A 15	--- 100.00 N.C. 100.00 104.22	- No NoChangeNo - No NoChangeNo fr 02/15/21 No		---	---	---	---	850 750 400 300 800	11/02/17 11/02/17 11/02/17 11/27/17 11/20/17	99.92 99.85 100.00 99.15 100.00
404280BM 446413AK 461070AL 465685AL 465685AN	• HSBC Hldgs PLC global sr nt fixed/fltg rt 3.033 11/22/23 Huntington Ingalls Inds Inc sr nt rule 144a 3.483 12/01/27 Interstate Pwr & Lt Co sr deb 3.25 12/01/24 ITC Hldgs Corp sr nt rule 144a 3.7 11/15/22 sr nt rule 144a 3.35 11/15/27	A2 Baa3 Baa1 Baa2 Baa2	M&N 22 J&D 01 J&D 01 M&N 15 M&N 15	100.00 100.00 100.00 100.00 100.00	NoChangeNo NoChangeNo NoChangeNo NoChangeNo NoChangeNo		---	---	---	---	1000 600 500 500 500	11/15/17 11/16/17 11/17/14 11/09/17 11/09/17	100.00 100.00 99.25 99.92 99.93
47233JBC 478160CH 478160CJ 478160CK 478160CL	Jefferies Group LLC / Jefferies Group Cap Fin Inc sr nt fixed/fltg rt (cms) 8.5 10/31/37 Johnson & Johnson global sr nt 1.95 11/10/20 global sr nt 2.625 01/15/25 global sr nt 2.9 01/15/28 global sr nt 3.4 01/15/38	Baa3 Aaa Aaa Aaa Aaa	Monthly M&N 10 J&J 15 J&J 15 J&J 15	N.C. --- 100.00 100.00 100.00	- No - No NoChangeNo NoChangeNo NoChangeNo		---	---	---	---	15 500 750 1500 1000	10/25/17 11/08/17 11/08/17 11/08/17 11/08/17	100.00 99.89 99.98 99.88 99.70
478160CM 46647PAL 487836BU 49427RAM 524660AY	global sr nt 3.5 01/15/48 JPMorgan Chase & Co sr nt fixed/fltg rt 3.964 11/15/48 Kellogg Co global sr nt 3.4 11/15/27 ☐ ☐ Kilroy Rlty L P gtd sr nt 3.45 12/15/24 Leggett & Platt Inc global sr nt 3.5 11/15/27	Aaa A3 Baa2 Baa2 Baa1	J&J 15 M&N 15 M&N 15 J&D 15 M&N 15	100.00 100.00 100.00 100.00 100.00	NoChangeNo NoChangeNo NoChangeNo NoChangeNo NoChangeNo		---	---	---	---	750 1750 600 425 500	11/08/17 11/03/17 11/07/17 11/27/17 11/14/17	99.62 100.00 99.73 99.87 99.34
526057CA 526057CB 53227JAA 539439AQ 539439AP	☐ Lennar Corp gtd sr nt rule 144a 2.95 11/29/20 gtd sr nt rule 144a 4.75 11/29/27 ☐ Life Storage LP gtd sr nt 3.875 12/15/27 • Lloyds TSB Group PLC global sr nt fixed/fltg rt 3.574 11/07/28 global sr nt fixed/fltg rt 2.907 11/07/23	Ba1 Ba1 Baa2 A3 A3	M&N 29 M&N 29 J&D 15 M&N 07 M&N 07	100.00 100.00 100.00 100.00 100.00	NoChangeNo NoChangeNo NoChangeNo NoChangeNo NoChangeNo		---	---	---	---	300 900 450 1750 2250	11/14/17 11/14/17 11/28/17 10/31/17 10/31/17	100.00 100.00 99.52 100.00 100.00
57665RAG	Match Group Inc sr nt rule 144a 5 12/15/27	Ba3	J&D 15	102.50	fr 12/15/22 No		---	---	---	---	450	11/17/17	99.03

Notes: Moody's® ratings are subject to change. Because of the possible time lapse between Moody's® assignment or change of a rating and your use of this monthly publication, we suggest you verify the current rating of any security or issuer in which you are interested. For standard abbreviations and symbols, see page 6.



CUSIP	ISSUE	MOODY'S® RATING	INTEREST DATES	CURRENT CALL PRICE	CALL DATE	SINK FUND PROV	CURRENT PRICE	YIELD TO MAT.	2017		AMT. OUTST. MIL. \$	ISSUED	ISSUED PRICE
									HIGH	LOW			
61945CAF	Mosaic Co global sr nt 3.25 11/15/22	Baa3	M&N 15	100.00	NoChange	No	---	---	---	---	550	11/08/17	99.99
61945CAG	global sr nt 4.05 11/15/27	Baa3	M&N 15	100.00	NoChange	No	---	---	---	---	700	11/08/17	99.80
65473QBH	☐ ☐ Nisource Fin Corp global gtd nt 2.65 11/17/22	Baa2	M&N 17	100.00	NoChange	No	---	---	---	---	500	11/08/17	99.87
665789AZ	Northern Sls Pwr Co Wis 1st mtg bd 3.75 12/01/47	Aa3	J&D 01	100.00	NoChange	No	---	---	---	---	100	11/27/17	99.73
68389XBR	Oracle Corp global nt 2.625 02/15/23	A1	F&A 15	100.00	NoChange	No	---	---	---	---	1250	11/07/17	99.93
68389XBS	global nt 2.95 11/15/24	A1	M&N 15	100.00	NoChange	No	---	---	---	---	2000	11/07/17	99.84
68389XBN	global nt 3.25 11/15/27	A1	M&N 15	100.00	NoChange	No	---	---	---	---	2750	11/07/17	99.89
68389XBP	global nt 3.8 11/15/37	A1	M&N 15	100.00	NoChange	No	---	---	---	---	1750	11/07/17	99.62
68389XBP	global nt 4 11/15/47	A1	M&N 15	100.00	NoChange	No	---	---	---	---	2250	11/07/17	99.53
694308HV	Pacific Gas & Elec Co sr nt rule 144a 3.3 12/01/27	A2	J&D 01	100.00	NoChange	No	---	---	---	---	1150	11/27/17	99.70
694308HX	sr nt rule 144a 3.95 12/01/47	A2	J&D 01	100.00	NoChange	No	---	---	---	---	850	11/27/17	99.56
718172CC	• Phillip Morris Intl inc global nt 1.875 11/01/19	A2	M&N 01	---	No	No	---	---	---	---	750	11/08/17	99.80
718172CD	global nt 2.5 11/02/22	A2	M&N 02	100.00	NoChange	No	---	---	---	---	750	10/31/17	99.57
718172CE	global nt 3.125 03/02/28	A2	M&S 02	100.00	NoChange	No	---	---	---	---	500	10/31/17	99.30
71951QAB	☐ Physicians Realty L P gtd sr nt 3.95 01/15/28	Baa3	J&J 15	100.00	NoChange	No	---	---	---	---	350	11/28/17	99.78
723484AG	Pinnacle West Cap Corp sr nt 2.25 11/30/20	A3	M&N 30	---	No	No	---	---	---	---	300	11/28/17	99.94
72766QAD	☐ Platform Specialty Prods Corp gtd sr nt rule 144a 5.875 12/01/25	Caa1	J&D 01	102.94	fr 12/01/20	No	---	---	---	---	800	11/09/17	99.21
73107GAA	Polaris Inter Corp sr pik toggle nt rule 144a 8.5 12/01/22	Caa2	J&D 01	104.00	fr 06/01/19	No	---	---	---	---	1300	11/16/17	99.00
742718EZ	Procter & Gamble Co global nt 1.75 10/25/19	Aa3	A&O 25	---	No	No	---	---	---	---	600	10/23/17	99.97
742718FA	global nt 1.9 10/23/20	Aa3	A&O 23	---	No	No	---	---	---	---	600	10/23/17	99.85
742718FB	global nt 3.5 10/25/47	Aa3	A&O 25	---	No	No	---	---	---	---	600	10/23/17	98.70
744573AL	Public Svc Enterprise Group Inc global sr nt 2.65 11/15/22	Baa1	M&N 15	100.00	NoChange	No	---	---	---	---	700	11/02/17	99.87
74733VAD	QEP Res Inc global sr nt 5.625 03/01/26	Ba3	M&S 01	100.00	NoChange	No	---	---	---	---	500	11/06/17	100.00
756109AU	Realty Income Corp global nt 3.65 01/15/28	A3	J&J 15	100.00	NoChange	No	---	---	---	---	550	11/29/17	99.78
756109AT	global nt 4.65 03/15/47	A3	M&S 15	100.00	NoChange	No	---	---	---	---	550	03/08/17	99.97
756109AN	nt 3.25 10/15/22	A3	A&O 15	100.00	NoChange	No	---	---	---	---	950	10/02/12	99.38
780153AX	Royal Caribbean Cruises Ltd global sr nt 2.65 11/28/20	Baa3	M&N 28	---	No	No	---	---	---	---	300	11/20/17	99.98
780153AW	global sr nt 3.7 03/15/28	Baa3	M&S 15	100.00	NoChange	No	---	---	---	---	500	11/20/17	99.62
80281LAG	• Santander UK Group Hldgs Inc global sr nt fixed/fltg	Baa1	M&N 03	100.00	NoChange	No	---	---	---	---	1000	10/27/17	100.00
844741BD	Southwest Airis Co global nt 2.75 11/16/22	A3	M&N 16	100.00	NoChange	No	---	---	---	---	300	11/14/17	99.93
844741BE	global nt 3.45 11/16/27	A3	M&N 16	100.00	NoChange	No	---	---	---	---	300	11/14/17	99.73
855244AL	Starbucks Corp global sr nt 2.2 11/22/20	A3	May 22	---	No	No	---	---	---	---	500	11/20/17	99.92
855244AM	global sr nt 3.75 12/01/47	A3	J&D 01	100.00	NoChange	No	---	---	---	---	500	11/20/17	99.73
867224AB	Suncor Energy Inc nt 4 11/15/47	Baa1	M&N 15	100.00	NoChange	No	---	---	---	---	750	11/08/17	99.50
879369AF	☐ Teleflex Inc global gtd sr nt 4.625 11/15/27	Ba3	M&N 15	102.31	fr 11/15/22	No	---	---	---	---	500	11/16/17	100.00
883203BZ	Textron Inc global nt fltg rt 1.95981 11/10/20	Baa2	F,MA&N 10	100.00	NoChange	No	---	---	---	---	350	11/07/17	100.00
89352HAV	Transcanada Pipelines Ltd sr nt 2.125 11/15/19	A3	M&N 15	N.C.	No	No	---	---	---	---	700	11/15/17	99.99
89352HAU	sr nt fltg rt 1.6969 11/15/19	A3	F,MA&N 15	N.C.	No	No	---	---	---	---	550	11/15/17	100.00
902674XH	UBS AG London Brh sr nt fltg rt rule 144a 1.79882 05/28/19	A1	F,MA&N 28	N.C.	No	No	---	---	---	---	1500	11/27/17	100.00
902674XJ	sr nt fltg rt rule 144a 1.95882 12/01/20	A1	M,J,S&D 01	100.00	NoChange	No	---	---	---	---	1000	11/27/17	100.00
902674XK	sr nt rule 144a 2.45 12/01/20	A1	J&D 01	100.00	NoChange	No	---	---	---	---	1800	11/27/17	99.91
911312BL	United Parcel Svc Inc sr nt 2.8 11/15/24	A1	M&N 15	100.00	NoChange	No	---	---	---	---	500	11/09/17	99.65
911312BM	sr nt 3.05 11/15/27	A1	M&N 15	100.00	NoChange	No	---	---	---	---	1000	11/09/17	99.56
911312BN	sr nt 3.75 11/15/47	A1	M&N 15	100.00	NoChange	No	---	---	---	---	1150	11/09/17	99.75
911312BH	sr nt fltg rt 1.56289 04/01/21	A1	J,A,J&O 01	N.C.	No	No	---	---	---	---	350	11/09/17	100.00
911312BJ	sr nt fltg rt 1.86289 04/01/23	A1	J,A,J&O 01	N.C.	No	No	---	---	---	---	500	11/09/17	100.00
960413AU	☐ ☐ Westlake Chem Corp global gtd sr nt 4.375 11/15/47	Baa3	M&N 15	100.00	NoChange	No	---	---	---	---	500	11/13/17	98.98
92924FAC	WGL Hldgs Inc sr nt fltg rt 1.87725 11/29/19	A3	F,MA&N 28	N.C.	No	No	---	---	---	---	300	11/27/17	100.00
92940QAA	☐ WTT Invnt Ltd gtd sr nt rule 144a 5.5 11/21/22	B1	M&N 21	102.75	fr 11/21/20	No	---	---	---	---	670	11/14/17	100.00

FOOTNOTES: ☐ Fungible ☐ Gtd. by Brandywine Realty Trust ☐ Gtd. by Life Storage Incorporated ☐ Gtd. by Physicians Realty Trust ☐ Gtd. by Subsidiaries ☐ Gtd. by Nisource Incorporated ☐ Gtd. by Alexandria Real Estate Equities Lp ☐ Gtd. by Arcap Holdings Nv ☐ Gtd. by Axis Capital Holdings Limited ☐ Gtd. by Kilroy Realty Corporation ☐ Gtd. by Cbs Operations Incorporated ☐ Gtd. by Wtt HK Limited ☐ Gtd. by Medco Health Solutions Incorporated ☐ Gtd. by Express Scripts Incorporated ☐ Gtd. by Everi Holdings Incorporated

U.S. Corporate Bonds (Revised)

Table with columns: CUSIP, ISSUE, MOODY'S® RATING, INTEREST DATES, CURRENT CALL PRICE, CALL DATE, SINK FUND PROV, CURRENT PRICE, YIELD TO MAT., 2017 HIGH, 2017 LOW, AMT. OUTST. MIL. \$, ISSUED PRICE. Rows include various corporate bonds from entities like Argentina, BMC Software, Citgo, Citizens, etc.

Notes: Moody's® ratings are subject to change. Because of the possible time lapse between Moody's® assignment or change of a rating and your use of this monthly publication, we suggest you verify the current rating of any security or issuer in which you are interested. For standard abbreviations and symbols, see page 6.

CUSIP	ISSUE	MOODY'S® RATING	INTEREST DATES	CURRENT CALL PRICE	CALL DATE	SINK FUND PROV	CURRENT PRICE	YIELD TO MAT.	2017		AMT. OUTST. MIL. \$	ISSUED	ISSUED PRICE	
									HIGH	LOW				
44841CAB	Hutchison Whampoa Intl 11 Ltd gtd nt rule 144a 4.625 01/13/22	A2	J&J 13	N.C.	-	No	---	---	---	---	1000	01/10/12	99.25	
44842CAB	Hutchison Whampoa Intl 12 II Ltd gtd nt rule 144a 3.25 11/08/22	A2	M&N 08	N.C.	-	No	---	---	---	---	500	11/05/12	99.48	
44841DAB	Hutchison Whampoa Intl 14 Ltd gtd nt rule 144a 3.625 10/31/24	A2	A&O 30	N.C.	-	No	---	---	---	---	1500	10/28/14	99.88	
44841BAA	Hutchison Whampoa Intl Ltd gtd nt rule 144a 5.75 09/11/19	A2	M&S 11	N.C.	-	No	100.56	bid	5.68	---	1000	09/08/09	99.42	
44841SAC	Hutchison Whampoa Intl Ltd nt rule 144a 7.45 11/24/33	A2	M&N 24	N.C.	-	No	111.33	bid	6.60	117.47	114.16	1144.387	11/19/03	99.77
47102XAJ	Janus Cap Group Inc global sr nt 4.875 08/01/25	Baa2	F&A 01	100.00	NoChangeNo	---	---	---	---	---	300	07/28/15	99.03	
512807AM	Lam Resh Corp global sr nt 2.75 03/15/20	A3	M&S 15	100.00	NoChangeNo	---	---	---	---	---	500	03/05/15	99.92	
512807AR	global sr nt 2.8 06/15/21	A3	J&D 15	100.00	NoChangeNo	---	---	---	---	---	800	05/23/16	99.92	
512807AN	global sr nt 3.8 03/15/25	A3	M&S 15	100.00	NoChangeNo	---	---	---	---	---	500	03/05/15	99.96	
554480AQ	Mack Cali Rity L P nt 4.5 04/18/22	Ba1	A&O 15	100.00	NoChangeNo	---	---	---	---	---	300	04/10/12	99.80	
554480AS	Mack Cali Rity L P nt 3.15 05/15/23	Ba1	M&N 15	100.00	NoChangeNo	---	---	---	---	---	275	04/29/13	97.79	
639365AF	Navios Maritime Hlgs Inc gtd sr nt 8.125 02/15/19 Neuberger Berman Group LLC / Neuberger Berman Fin Corp sr nt rule	Caa3	F&A 15	100.00	fr 02/15/18 No	---	---	---	---	---	350	08/24/11	0.00	
64128XAG	144a 4.5 03/15/27	Baa2	M&S 15	100.00	NoChangeNo	---	---	---	---	---	300	03/09/17	99.20	
64128XAE	sr nt rule 144a 4.875 04/15/45	Baa2	A&O 15	100.00	NoChangeNo	---	---	---	---	---	300	04/15/15	99.38	
69327RAG	PDC Energy Inc gtd sr nt 6.125 09/15/24	B1	M&S 15	104.59	fr 09/15/19 No	---	---	---	---	---	400	08/11/17	0.00	
69327RAC	sr nt 7.75 10/15/22	B1	A&O 15	102.58	fr 10/15/18 No	---	---	---	---	---	500	07/11/13	0.00	
716558AH	Petroleos De Venezuela SA gtd sr secnd nt rule 144a 8.5 10/27/20	Ca	A&O 27	---	---	-	---	---	---	---	2525.647	09/16/16	0.00	
723664AB	Pioneer Energy Svcs Corp sr nt 6.125 03/15/22 Rain CII Carbon LLC / CII Carbon Corp sr nt rule	Caa3	M&S 15	103.06	fr 03/15/18 No	---	---	---	---	---	300	10/02/14	0.00	
75079RAC	144a 7.25 04/01/25	B2	A&O 01	105.44	fr 04/01/20 No	---	---	---	---	---	550	03/17/17	99.25	
756109AS	Realty Income Corp global sr nt 3.01/15/27	A3	J&J 15	100.00	NoChangeNo	---	---	---	---	---	600	10/04/16	98.67	
756109AM	nt 2.01/31/18	A3	J&J 31	100.00	NoChangeNo	---	---	---	---	---	350	10/02/12	99.91	
756109AK	Realty Income Corp nt 6.75 08/15/19	A3	F&A 15	---	-	No	101.44	bid	6.55	---	550	08/30/07	99.83	
756109AL	nt 5.75 01/15/21	A3	J&J 15	---	-	No	---	---	---	---	250	06/24/10	99.40	
756109AP	Realty Income Corp nt 4.65 08/01/23	A3	F&A 01	100.00	NoChangeNo	---	---	---	---	---	750	07/09/13	99.78	
756109AQ	nt 3.875 07/15/24	A3	J&J 15	100.00	NoChangeNo	---	---	---	---	---	350	06/18/14	99.96	
756109AR	nt 4.125 10/15/26	A3	A&O 15	100.00	NoChangeNo	---	---	---	---	---	650	09/16/14	99.50	
756109AS	sr deb 5.875 03/15/35	A3	M&S 15	---	-	No	81.92	bid	7.24	97.08	93.04	250	03/08/05	98.30
812350AE	Sears Hldgs Corp gtd sr secnd nt 6.625 10/15/18	Caa3	A&O 15	---	-	No	---	---	---	---	303.838	08/02/11	0.00	
812404AX	Sears Roebuck Accep Corp nt 7.5 10/15/27	Ca	A&O 15	100.00	fr 10/15/18 No	---	70.00	bid	10.79	99.96	98.49	69.338	09/23/97	99.85
812404AZ	nt 6.75 01/15/28	Ca	J&J 15	---	-	No	57.00	bid	11.61	93.16	90.05	24.24	01/08/98	99.48
812404BE	nt 6.5 12/01/28	Ca	J&D 01	---	-	No	59.13	bid	10.86	90.32	87.21	47.69	11/19/98	97.02
812404BK	nt 7.06/01/32	Ca	J&D 01	---	-	No	56.00	bid	11.47	96.70	90.75	91.052	05/21/02	97.10
81413PAG	Security Cap Group Inc nt 7.7 06/15/28	A2	J&D 15	---	-	No	89.48	bid	8.73	131.22	126.46	---	09/07/98	0.00
81618TAE	Select Income REIT global sr nt 4.25 05/15/24	Baa3	M&N 15	100.00	NoChangeNo	---	---	---	---	---	350	05/10/17	98.68	
855244AF	Starbucks Corp global sr nt 2.12/05/18	A3	J&D 05	100.00	NoChangeNo	---	---	---	---	---	350	12/02/13	99.79	
855244AJ	global sr nt 2.1 02/04/21	A3	F&A 04	100.00	NoChangeNo	---	---	---	---	---	750	02/01/16	99.94	
855244AD	global sr nt 3.85 10/01/23	A3	A&O 01	100.00	NoChangeNo	---	---	---	---	---	750	09/03/13	99.96	
855244AK	global sr nt 2.45 06/15/26	A3	J&D 15	100.00	NoChangeNo	---	---	---	---	---	500	05/11/16	99.77	
855244AG	sr nt 2.7 06/15/22	A3	J&D 15	100.00	NoChangeNo	---	---	---	---	---	500	06/01/15	99.98	
855244AH	sr nt 4.3 06/15/45	A3	J&D 15	N.C.	-	No	---	---	---	---	350	06/01/15	99.60	
85628UAE	State Bk India London Brh nt rule 144a 3.622 04/17/19	Baa2	A&O 17	N.C.	-	No	---	---	---	---	750	04/10/14	100.00	
85628UAF	nt rule 144a 4.875 04/17/24	Baa2	A&O 17	N.C.	-	No	---	---	---	---	500	04/10/14	99.94	
86614WAD	Summit Midstream Hlgs LLC / Summit Midstream Fin Corp gtd sr nt 5.75 04/15/25	B1	A&O 15	104.31	fr 04/15/20 No	---	---	---	---	---	500	02/08/17	100.00	
869049AE	Susa Partnership L P deb 7.5 12/01/27	A2	J&D 01	---	-	No	101.52	bid	7.36	126.65	122.07	100	12/02/97	99.11
87264AAR	T Mobile USA Inc gtd sr nt 4.04/15/22	Ba2	A&O 15	100.00	NoChangeNo	---	---	---	---	---	500	03/13/17	100.00	
87264AAM	T Mobile USA Inc gtd sr nt 6.03/01/23	Ba2	A&O 01	103.00	fr 09/01/18 No	---	---	---	---	---	1300	09/03/14	100.00	
87264AAL	T Mobile USA Inc gtd sr nt 6.625 04/01/23	Ba2	A&O 01	103.31	fr 04/01/18 No	---	---	---	---	---	1744.075	01/06/14	0.00	
87264AAN	T Mobile USA Inc gtd sr nt 6.375 03/01/25	Ba2	M&S 01	103.19	fr 09/01/19 No	---	---	---	---	---	1700	09/03/14	100.00	
87264AAS	T Mobile USA Inc gtd sr nt 5.125 04/15/25	Ba2	A&O 15	102.56	fr 04/15/20 No	---	---	---	---	---	500	03/13/17	100.00	
87264AAT	gtd sr nt 5.375 04/15/27	Ba2	A&O 15	102.69	fr 04/15/22 No	---	---	---	---	---	500	03/13/17	100.00	
87264AAQ	T Mobile USA Inc sr nt 6.04/15/24	Ba2	A&O 15	104.50	fr 04/15/19 No	---	---	---	---	---	1000	03/29/16	100.00	
87264AAP	T Mobile USA Inc sr nt 6.5 01/15/26	Ba2	J&J 15	103.25	fr 01/15/21 No	---	---	---	---	---	2000	11/02/15	100.00	
87264AAH	T-Mobile USA Inc gtd sr nt 6.125 01/15/22	Ba2	J&J 15	103.06	fr 01/15/18 No	---	---	---	---	---	1000	11/18/13	100.00	
87264AAE	gtd sr nt 6.836 04/28/23	Ba2	J&J 28	103.42	fr 04/28/18 No	---	---	---	---	---	600	10/08/13	98.00	
87264AAJ	gtd sr nt 6.5 01/15/24	Ba2	J&J 15	103.25	fr 01/15/19 No	---	---	---	---	---	1000	11/18/13	100.00	
89469AAB	Treehouse Foods Inc global gtd sr nt 4.875 03/15/22	Ba2	M&S 15	102.44	fr 03/15/18 No	---	---	---	---	---	400	02/25/14	100.00	
89469AAC	Treehouse Foods Inc gtd global sr nt rule 144a 6.02/15/24	Ba2	F&A 15	104.50	fr 02/15/19 No	---	---	---	---	---	775	01/21/16	100.00	
91339TAA	United Bk For Africa PLC sr nt rule 144a 7.75 06/08/22	B2	J&D 08	N.C.	-	No	---	---	---	---	500	06/01/17	99.49	
915436AF	UPM Kymmene Corp bd rule 144a 5.5 01/30/18	Baa2	J&J 30	N.C.	-	No	108.79	bid	4.24	102.91	99.69	250	01/15/03	99.90
915436AC	deb rule 144a 7.45 11/26/27	Baa2	M&N 26	---	-	No	78.50	bid	9.69	128.91	124.20	375	11/20/97	99.49
903293BD	USG Corp sr nt rule 144a 5.5 03/01/25	Ba1	M&S 01	100.00	NoChangeNo	---	---	---	---	---	350	02/17/15	100.00	
903293BE	sr nt rule 144a 4.875 06/01/27	Ba1	J&D 01	102.44	fr 06/01/22 No	---	---	---	---	---	500	05/01/17	100.00	
92241TAH	Vedanta Res PLC bd rule 144a 6.01/31/19	B2	J&D 03	N.C.	-	No	---	---	---	---	252.259	05/22/13	100.00	
92241TAG	bd rule 144a 8.25 06/07/21	B2	J&D 07	N.C.	-	No	---	---	---	---	670.157	05/26/11	100.00	
92241TAJ	bd rule 144a 7.125 05/31/23	B2	J&D 03	N.C.	-	No	---	---	---	---	500	05/22/13	100.00	
92241TAM	sr nt rule 144a 6.125 08/09/24	B2	F&A 09	100.00	NoChangeNo	---	---	---	---	---	1000	08/03/17	100.00	
96926DAH	William Lyon Homes Inc gtd sr nt 7.08/15/22	B2	F&A 15	101.75	fr 08/15/18 No	---	---	---	---	---	350	12/29/14	0.00	
96926DAR	William Lyon Homes Inc gtd sr nt 5.875 01/31/25	B2	J&J 31	102.94	fr 01/31/20 No	---	---	---	---	---	450	04/28/17	0.00	
96926DAF	sr nt 5.75 04/15/19	B2	A&O 15	100.00	fr 04/15/18 No	---	---	---	---	---	150	07/10/14	0.00	
97381WAN	Windstream Corp gtd sr nt 7.75 10/15/20	B3	A&O 15	100.00	fr 10/15/18 No	---	---	---	---	---	492.975	10/27/10	0.00	
97381WAT	Windstream Corp gtd sr nt 7.75 10/01/21	B3	A&O 01	101.29	fr 10/01/18 No	---	---	---	---	---	628.122	04/08/11	0.00	
97381WAX	Windstream Corp gtd sr nt 7.5 06/01/22	B3	J&D 01	102.50	fr 06/01/18 No	---	---	---	---	---	273.674	02/28/12	0.00	
97381WAU	Windstream Corp gtd sr nt 7.5 04/01/23	B3	A&O 01	101.25	fr 04/01/18 No	---	---	---	---	---	120.344	04/08/11	0.00	
97381WAZ	Windstream Corp sr nt 6.375 08/01/23	B3	F&A 01	103.19	fr 02/01/18 No	---	---	---	---	---	585.747	03/13/13	0.00	
98935LAN	Zenith Bk PLC sr nt rule 144a 7.375 05/30/22	B2	M&N 30	N.C.	-	No	---	---	---	---	500	05/22/17	100.00	
98954UAB	Ziggo Bd Fin B V sr nt rule 144a 6.01/15/27	B3	J&J 15	N.C.	-	No	---	---	---	---	625	09/16/16	100.00	
98954NAA	Ziggo Secd Fin B V sr secnd nt rule 144a 5.5 01/15/27	B1	J&J 15	N.C.	-	No	---	---	---</					

**U.S. Convertible Bonds (Revised)**

CUSIP	ISSUE	MOODY'S® RATING	INT. DATES	ANN. S.F. THOUS.	CURR. CALL PRICE	AMT. OUTS. MILL.	CONV. PRICE‡	SHS. \$1,000 DEB.	— CURRENT PRICE COM.	— DEB. YIELDS CURR. MAT.	DEB. CONV. VALUE	2017		LAT ANN. PER EARN\$	COM. ANN. DIV. j RATE
												— PRICE COM.	— RANGE DEB		
47102XAH	JanusCap Group Inc Sr Mt Com Rule 144A - 0.75 07/15/18 Lam Resch Corp Sr Mt Com Rule 144A -	Baa2	J&J 15	None	N.C.	116.602	10.86	92.06	---	-	---	---	---	-	-
512807AK	1.25 05/15/18	A3	M&N 15	None	N.C.	0.001	63.02	15.87	---	-	---	---	---	9.24	2.00
69327RAD	PDC Energy Inc Sr Mt Conv - 1.125 09/15/21	B1	M&S 15	None	N.C.	200	85.39	11.71	---	-	---	---	---	d5.01	-

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tions and symbols, see page 2.  
**FOOTNOTES:**





ISSUE	MOODY'S RATING®	INTEREST DATES	*AMT. OUTST. MIL.	ISSUED	LOCAL CURRENCY
Ritz Pass-Thru Cf 11/30/54, .....	<b>A1</b>	Monthly	4321.17	11/30/17	JPY
Roadster UK Plc Sec Nt Ser 2017-11 10/31/32, .....	<b>Baa3</b>	---	600	11/07/17	EUR
Sr Sec Nt 10/31/32, .....	<b>Baa3</b>	---	225	11/07/17	EUR
Sr Sec Nt Ser 64 10/31/36, .....	<b>Baa3</b>	---	282	11/07/17	EUR
Sakai City Japan Bds Cl A-2B 0.334 11/20/37, .....	<b>A1</b>	M&N 20	7000	11/10/17	JPY
Japan Bds Ser A2017-1 0.91 09/20/47, .....	<b>A1</b>	M&S 20	12000	11/10/17	JPY
Santander UK PLC Covered Bds Ser 66 11/16/22, .....	<b>Aaa</b>	F,M,A&N 16	500	11/07/17	GBP
Sapphire XVII Series 2017-2 Tr Pass-Thru Cf Cl A2 04/21/49, .....	<b>Aaa</b>	Monthly	60	11/08/17	AUD
Pass-Thru Cf Cl E 04/21/49, .....	<b>Ba2</b>	Monthly	5.4	11/08/17	AUD
Pass-Thru Cf Cl A3 04/21/49, .....	<b>Aaa</b>	Monthly	34.5	11/08/17	AUD
Pass-Thru Cf Cl C 04/21/49, .....	<b>A2</b>	Monthly	7.8	11/08/17	AUD
Pass-Thru Cf Cl A1 04/21/49, .....	<b>Aaa</b>	Monthly	150	11/08/17	AUD
Pass-Thru Cf Cl B 04/21/49, .....	<b>Aa2</b>	Monthly	30	11/08/17	AUD
Pass-Thru Cf Cl F 04/21/49, .....	<b>B2</b>	Monthly	3	11/08/17	AUD
Pass-Thru Cf Cl D 04/21/49, .....	<b>Baa2</b>	Monthly	6	11/08/17	AUD
Sapporo City of Japan Bds Cl A-4 0.185 09/17/27, .....	<b>A1</b>	M&S 17	10000	11/22/17	JPY
Schlumberger Fin Canada Ltd Gtd Sr Nt Cl A-2.2 11/20/20, .....	<b>A1</b>	M&N 20	500	11/14/17	USD
Gtd Sr Nt Cl D 2.65 11/20/22, .....	<b>A1</b>	M&N 20	600	11/14/17	USD
SEB Covered Bds Ser 5.75 1.5 12/21/22, .....	<b>Aaa</b>	Dec 21	0.001	12/21/16	SEK
Covered Bds Ser 308 0.75 11/15/27, .....	<b>Aaa</b>	Nov 15	750	11/15/17	EUR
Selp Fin SARL Gtd Sr Euronotes Ser 2017-XG0 1.5 11/20/25, .....	<b>Baa2</b>	Nov 20	500	11/17/17	EUR
Shanghai Commercial Bank Ltd Sub Eurobonds Ser A2024, C1 2017 12/30/99, .....	<b>Baa1</b>	---	0	11/17/17	USD
Shenzhen Int'l Hldgs Ltd Perp Eurobonds Cl A-4 3.95 12/30/99, .....	<b>Baa2</b>	---	300	11/16/17	USD
Shizuoka City Japan Bds Cl B1 11/24/27, .....	<b>A1</b>	M&N 24	20000	11/02/17	JPY
Shizuoka Prefecture Japan Bds Cl M2 09/17/27, .....	<b>A1</b>	M&S 17	10000	11/08/17	JPY
Slovakia Govt of Government Bds Ser 2017-006 2 10/17/47, .....	<b>A2</b>	Oct 17	1000	10/17/17	EUR
SME Grecale 2017 SRL Pass-Thru Cf Cl B 03/20/56, .....	<b>A3</b>	M,J,S&D 20	77	11/08/17	EUR
Pass-Thru Cf Cl A 03/20/56, .....	<b>Aa2</b>	M,J,S&D 20	508.22	11/08/17	EUR
Sotera Health Topco Inc Sr PayIn-Kind Global Nt Cl M1 11/01/21, .....	<b>Caa2</b>	---	75	11/27/17	USD
Sparebank 1 Boljgkredit AS Covered Bds Ser 2017-5 11/14/22, .....	<b>Aaa</b>	F,M,A&N 14	500	11/14/17	GBP
SRC Energy Inc Sr Global Nt Cl B 12/30/99, .....	<b>B3</b>	---	550	11/09/17	USD
Stadshypotek AB Covered Bds Ser SH2014 12/03/20, .....	<b>Aaa</b>	M,J,S&D 03	5000	12/01/17	SEK
Starwood Property Tr Inc Sr Nt Cl M1 12/30/99, .....	<b>Ba3</b>	---	500	11/27/17	USD
Swisscom AG Swiss Bds Cl C 0.75 11/24/33, .....	<b>A2</b>	Nov 24	150	11/21/17	CHF
Tahoe Group Global (Co) Ltd Gtd Eurobonds Cl A 12/30/99, .....	<b>B2</b>	---	0	11/16/17	USD
Talen Energy Supply LLC Gtd Global Nt Cl C 10.5 01/15/26, .....	<b>B1</b>	---	625	11/29/17	USD
Tepecol SA Gtd Sr Nt Cl A 12/30/99, .....	<b>Ba3</b>	---	500	11/28/17	USD
Telefonica Brasil SA Brazilian Debentures Ser 1946 12/30/99, .....	<b>Ba1</b>	---	1000	11/24/17	BRL
Telenet Fin LUX Notes SA RL Sr Sec Global Nt Cl A-2B 3.5 03/01/28, .....	<b>Ba3</b>	M&S 01	600	11/28/17	EUR
Sr Sec Global Nt Cl A-1 5.5 03/01/28, .....	<b>Ba3</b>	M&S 01	1000	11/28/17	USD
Terraform Power Operating LLC Sr Nt Cl C 12/30/99, .....	<b>B2</b>	---	1000	11/27/17	USD
Thomas Cook Fin 2 PLC Gtd Sr Global Nt Cl B 12/30/99, .....	<b>B1</b>	---	400	11/28/17	EUR
Tianqi Finco Co Ltd Gtd Eurobonds Ser RCB, Cl 2017-14 3.75 11/28/22, .....	<b>Baa3</b>	M&N 28	300	11/28/17	USD
Takehau CLO III BV Coll Nt Cl A 12/02/30, .....	<b>Aaa</b>	M,J,S&D 02	244.7	11/09/17	EUR
Coll Nt Cl C 12/02/30, .....	<b>A2</b>	M,J,S&D 02	28.6	11/09/17	EUR

ISSUE	MOODY'S RATING®	INTEREST DATES	*AMT. OUTST. MIL.	ISSUED	LOCAL CURRENCY
Coll Nt Cl D 12/02/30, .....	<b>Baa2</b>	M,J,S&D 02	19.7	11/09/17	EUR
Coll Nt Cl E 12/02/30, .....	<b>B2</b>	M,J,S&D 02	12.6	11/09/17	EUR
Coll Nt Cl E 12/02/30, .....	<b>Ba2</b>	M,J,S&D 02	26.25	11/09/17	EUR
Coll Nt Cl B 12/02/30, .....	<b>Aa2</b>	M,J,S&D 02	57.7	11/09/17	EUR
Times Property Hldgs Ltd Gtd Eurobonds 12/30/99, .....	<b>B2</b>	---	0	11/21/17	USD
Titan Int'l Inc Sr Sec Global Nt Cl A-R 12/30/99, .....	<b>B3</b>	---	400	11/01/17	USD
TLG Immobilien AG Sr Unsec Nt Cl B1 11/27/24, .....	<b>Baa2</b>	---	400	11/09/17	EUR
TMF Tr Co (Argentina) SA Coll Nt 07/19/21, .....	<b>Ca</b>	Monthly	26.522	11/30/17	ARS
Coll Nt 07/19/21, .....	<b>Ba3</b>	Monthly	44.015	11/30/17	ARS
Toyota Glory 2017 Phase II Auto Loan Credit Asset-Backed Sec Pass-Thru Cf Cl B 04/26/24, .....	<b>A1</b>	Monthly	275	11/21/17	CNY
Pass-Thru Cf Cl A 04/26/24, .....	<b>Aa3</b>	Monthly	2440	11/21/17	CNY
Transec 3 (Rf) Ltd Pass-Thru Cf 11/15/27, .....	<b>A2</b>	F,M,A&N 15	179	11/08/17	ZAR
Pass-Thru Cf Cl A3 11/15/27, .....	<b>A2</b>	F,M,A&N 15	166	11/08/17	ZAR
Pass-Thru Cf Cl B 11/15/27, .....	<b>Ba1</b>	F,M,A&N 15	90	11/08/17	ZAR
Turkey Govt of Japan Bds Cl A4 12/07/20, .....	<b>Ba1</b>	Dec 07	60000	12/07/17	JPY
Unicredit Bank AG Covered Bds Ser 1942 0.13 11/02/22, .....	<b>Aaa</b>	Nov 02	3	11/02/17	EUR
Covered Bds Ser 1943 0.14 11/03/22, .....	<b>Aaa</b>	Nov 03	50	11/03/17	EUR
Covered Bds Ser 1946 0.2 11/13/23, .....	<b>Aaa</b>	Nov 13	4	11/13/17	EUR
Covered Bds Ser 1944 0.4299 11/04/24, .....	<b>Aaa</b>	Nov 04	50	11/03/17	EUR
Unicredit SPA Covered Bds Ser 2017-5 04/30/22, .....	<b>Aa2</b>	J,A,J&O 31	1000	11/23/17	EUR
United Parcel Service Inc Sr Nt Cl B 2.05 04/01/21, .....	<b>A1</b>	A&O 01	700	11/09/17	USD
Sr Nt Cl A 2.5 04/01/23, .....	<b>A1</b>	A&O 01	1000	11/09/17	USD
• United Parcel Svc Inc EUR\$ Global Sr Nt 0.375 11/15/23, .....	<b>A1</b>	Nov 15	1700	11/08/17	EUR
EUR\$ Global Sr Nt 1.5 11/15/32, .....	<b>A1</b>	Nov 15	500	11/08/17	EUR
• United Technologies Corp EUR\$ Nt Fltg Rt 0 11/13/19, .....	<b>A3</b>	F,M,A&N 13	750	11/06/17	EUR
Urban Renaissance Agency Sr Sec Japan Bds Cl A-2-R 0.606 11/27/37, .....	<b>A1</b>	M&N 27	10000	11/08/17	JPY
Sr Sec Japan Bds Cl A-2-R 0.953 09/20/47, .....	<b>A1</b>	M&S 20	10000	11/08/17	JPY
VCL Multi-Compartment SACompartment VCL 25 Pass-Thru Cf 09/21/23, .....	<b>Aaa</b>	Monthly	1500	11/27/17	EUR
Pass-Thru Cf Cl B 09/21/23, .....	<b>A1</b>	Monthly	34.5	11/27/17	EUR
Verisure Midholding AB Gtd Sr Global Nt 12/30/99, .....	<b>Caa1</b>	---	1145	11/09/17	EUR
Weight Watchers Int'l Inc Sr Nt Cl E 12/30/99, .....	<b>B3</b>	---	300	11/13/17	USD
Welltec A/S Gtd Sr Sec Global Nt Cl MIA 9.5 12/30/99, .....	<b>B2</b>	---	340	11/28/17	USD
☐ ☐ Whirlpool Fin Luxembourg S A R L EUR\$ Gtd Sr Nt 1.1 11/09/27, .....	<b>Baa1</b>	Nov 09	600	11/06/17	EUR
Williams Scotsman Int'l Inc Gtd Sr Sec 2nd Lien Nt Cl D 12/30/99, .....	<b>B2</b>	---	300	11/14/17	USD
Windstream Svcs LLC Gtd Sr Sec 1st Lien Global Nt Ser 2017-11 8.625 12/30/99, .....	<b>B2</b>	---	250	11/03/17	USD
Woolf Card 2017-2 Int'l Ltd Pass-Thru Cf Cl A1 02/28/22, .....	<b>Aaa</b>	Monthly	150	11/09/17	USD
Pass-Thru Cf Cl A2 02/28/22, .....	<b>Aaa</b>	Monthly	204	11/09/17	SGD
Yamana Gold Inc Sr Nt Ser SH2014 12/30/99, .....	<b>Baa3</b>	---	300	11/29/17	USD
Yango Justice Int'l Ltd Gtd Eurobonds Cl D 12/30/99, .....	<b>B3</b>	---	0	11/09/17	USD
Yokohama City of Japan Bds Ser 17 0.01 12/08/22, .....	<b>A1</b>	J&D 08	1100	12/08/17	JPY
Japan Bds Cl C 11/20/37, .....	<b>A1</b>	M&N 20	10000	11/09/17	JPY

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tions and symbols, see page 6. \* Amount Outstanding is reflected in US dollars. FOOTNOTES:☐Fungible ☐Gtd. by Whirlpool Corporation

International Corporate and Convertible Bonds (Revised)

Table with columns: ISSUE, MOODY'S RATING, INTEREST DATES, \*AMT. OUTST. MIL., ISSUED, LOCAL CURRENCY. Contains various international bond listings.

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ISSUE	MOODY'S RATING®	INTEREST DATES	*AMT. OUTST. MIL.	ISSUED	LOCAL CURRENCY	ISSUE	MOODY'S RATING®	INTEREST DATES	*AMT. OUTST. MIL.	ISSUED	LOCAL CURRENCY
Pepper Residential Secs Tr No 16 Pass-Thru Cif Cl F 08/13/57, .....	<b>Ba2</b>	Monthly	9.1	03/31/16	AUD	Sansar Tr March 2016 III Pass-Thru Cif Ser A2 7.5 10/20/20, .....	<b>Baa1</b>	Monthly	255.168	03/31/16	INR
Pass-Thru Cif Cl E 08/13/57, .....	<b>Baa2</b>	Monthly	7.7	03/31/16	AUD	Pass-Thru Cif Ser A1 7.5 10/20/20, .....	<b>Baa1</b>	Monthly	9457.454	03/31/16	INR
Pass-Thru Cif Cl D 08/13/57, .....	<b>A1</b>	Monthly	12.6	03/31/16	AUD	SAS Denmark-Norway-Sweden Gtd Perp Sub Nt 5.75 12/30/99, .....	<b>B3</b>	Jan 14	200	01/14/86	CHF
Pass-Thru Cif Cl B 08/13/57, .....	<b>Aaa</b>	Monthly	61.6	03/31/16	AUD	SCF Rahoituspalvelut I Designated Activity Co Pass-Thru Cif 1.3 10/25/24, .....	<b>Aaa</b>	Monthly	6.418	10/29/15	EUR
Petroleos de Venezuela SA Gtd Sr Nt 12/30/99, .....	<b>Ca</b>	---	3000	05/14/12	USD	Pass-Thru Cif 3.5 10/25/24, .....	<b>A1</b>	Monthly	7.303	10/29/15	EUR
Promsvyazbank Contingent Cap Secs Ser 9 10.5 07/30/21, .....	<b>Caa3</b>	J&J 30	333.367	07/15/14	USD	Pass-Thru Cif 2.1 10/25/24, .....	<b>Aa1</b>	Monthly	4.205	10/29/15	EUR
Fixed/Fitg Rt Russian Bds Ser B006 12 10/02/19, .....	<b>B2</b>	A&O 02	126.11	10/02/14	RUB	SCFI Rahoituspalvelut Ltd Pass-Thru Cif 3.5 09/25/23, .....	<b>Aaa</b>	Monthly	10.198	11/06/14	EUR
Loan Participation Nt 5.25 10/19/19, .....	<b>B2</b>	A&O 19	250	10/12/16	USD	Starbucks Corp Sr Global Nt 12/30/99, .....	<b>A3</b>	---	750	03/08/17	USD
Raiffeisen Bank Intl AG Sub Zero Cpn Austrian Bds 03/08/22, .....	<b>Baa3</b>	---	136.524	03/08/10	EUR	State Bank of India London Branch Global Nt 12/30/99, .....	<b>Baa2</b>	---	0.001	04/04/13	USD
Sub Zero Cpn Austrian Bds 08/30/22, .....	<b>Baa3</b>	---	123.16	06/24/10	EUR	Steers High-Grade CMBS Resecuritization Tr Coll Nt 0.95 10/12/52, .....	<b>Baa3</b>	Monthly	5	05/12/06	USD
Raiffeisen Zentralbank Oesterreich AG Austrian Bd						Coll Nt 0.95 10/12/52, .....	<b>Baa3</b>	Monthly	6	05/12/06	USD
Fixed/Fitg Rt 5.4 02/16/25, .....	<b>A3</b>	Feb 16	5	02/03/05	EUR	Stfcl Cv Tr Nov 2015 Pass-Thru Cif Ser A 7.85 05/22/20, .....	<b>Baa1</b>	Monthly	75.852	12/02/15	INR
Zero Cpn Austrian Bds 10/29/21, .....	<b>A3</b>	---	72.908	09/09/09	EUR	Synergy Resources Corp Sr Unsec Nt 12/30/99, .....	<b>B3</b>	---	80	09/30/16	USD
Raiffeisen Zentralbank Oesterreich AG (Austria) Fxd/Fitg Rt BD 5 03/10/18, .....	<b>A3</b>	Mar 10	30	03/17/03	EUR	T-Mobile Usa Inc Gtd Sr Nt 04/28/19, .....	<b>Ba2</b>	---	1250	10/22/13	USD
Raiffeisenlandesbank Niederoesterreich - Wien Fitg Rt Austrian Bds 11/13/18, .....	<b>Baa1</b>	F,M,A&N 13	5	11/06/15	EUR	Gtd Sr Nt 04/28/21, .....	<b>Ba2</b>	---	1250	10/22/13	USD
Fitg Rt Austrian Bds 01/31/24, .....	<b>Baa1</b>	J,A,J&O 30	5	12/31/13	EUR	Gtd Sr Nt 04/28/22, .....	<b>Ba2</b>	---	1250	10/22/13	USD
Raiffeisenlandesbank Oberoesterreich Aktiengesellschaft Austrian Bds 1.1 07/06/18, .....	<b>Baa1</b>	Jul 06	40	06/23/15	EUR	Sr Reset Nt 04/28/20, .....	<b>Ba2</b>	---	1250	10/22/13	USD
Austrian Bds 1.125 10/14/19, .....	<b>Baa1</b>	Oct 14	50	09/24/15	EUR	Sr Reset Nt 04/28/23, .....	<b>Ba2</b>	---	600	10/22/13	USD
Austrian Bds 2.3 01/08/25, .....	<b>Baa1</b>	Jan 08	40	04/29/14	EUR	Turbo Fin 5 PLC Pass-Thru Cif Ser B 08/20/21, .....	<b>Aaa</b>	Monthly	61.679	09/23/14	GBP
Fixed/Fitg Rt Austrian Bds 07/06/20, .....	<b>Baa1</b>	Jul 06	50	05/23/15	EUR	Under Armour Inc Global Sr Nt 3.25 06/15/26, .....	<b>Baa3</b>	J&D 15	600	06/08/16	USD
Fixed/Fitg Rt Austrian Bds 01/08/25, .....	<b>Baa1</b>	J,A,J&O 08	40	04/29/14	EUR	Vedanta Resources PLC Global Bds 6.375 07/30/22, .....	<b>B2</b>	J&J 30	1000	01/24/17	USD
Step Up Austrian Bds 1.75 06/03/21, .....	<b>Baa1</b>	Jun 03	40	05/23/14	EUR	Verisure Hldg AB Gtd Sr Sec Global Nt 6 11/01/22, .....	<b>B1</b>	M&N 01	796.079	10/15/15	EUR
Zero Cpn Austrian Bds 12/27/22, .....	<b>Baa1</b>	---	10	09/30/15	EUR	WFRBS Comm'l Mtge Tr 2012-C7 Pass-Thru Cif Cl X-B 06/15/45, .....	<b>B1</b>	Monthly	0.001	06/28/12	USD
Zero Cpn Austrian Bds 04/25/23, .....	<b>Baa1</b>	---	5	01/27/16	EUR	Pass-Thru Cif Cl F 06/15/45, .....	<b>B1</b>	Monthly	19.319	06/28/12	USD
Zero Cpn Austrian Bds 08/25/23, .....	<b>Baa1</b>	---	5	05/30/16	EUR	Pass-Thru Cif Cl E 06/15/45, .....	<b>Ba1</b>	Monthly	48.298	06/28/12	USD
Renoir CDO BV Coll Nt Cl D-2 04/08/95, .....	<b>Caa2</b>	J,A,J&O 08	6.488	04/12/05	EUR	Pass-Thru Cif Cl G 06/15/45, .....	<b>Caa1</b>	Monthly	19.319	06/28/12	USD
Coll Nt Cl C 04/08/95, .....	<b>Aa3</b>	J,A,J&O 08	19.018	04/12/05	EUR	Willow No 2 (Ireland) PLC Coll Nt 05/17/21, .....	<b>A2</b>	F,M,A&N 17	29.207	07/09/08	SEK
Sansar Tr Feb 2016 Pass-Thru Cif Ser A 7.7 07/25/20, .....	<b>Baa1</b>	Monthly	58.589	02/29/16	INR	Wood Street CLO III BV Coll Nt Cl E 08/27/22, .....	<b>A2</b>	F&A 27	20.783	06/27/06	EUR
Sansar Tr Feb 2016 II Pass-Thru Cif Ser A 7.49 06/22/19, .....	<b>Baa1</b>	Monthly	18.098	02/29/16	INR	Coll Nt Cl D 08/27/22, .....	<b>Aa1</b>	F&A 27	31.174	06/27/06	EUR
Sansar Tr Feb 2016 III Pass-Thru Cif Ser A1 7.661 08/20/20, .....	<b>Baa1</b>	Monthly	106.243	02/29/16	INR	Ziggo Bond Fin BV Gtd Sr Global Nt 4.625 01/15/25, .....	<b>B3</b>	J&J 15	463.499	01/14/15	EUR
Pass-Thru Cif Ser A2 7.661 08/20/20, .....	<b>Baa1</b>	Monthly	25.374	02/29/16	INR	Ziggo BV Gtd Sr Sec Global Nt 3.625 03/27/20, .....	<b>B1</b>	M&S 27	969.418	03/21/13	EUR
						Ziggo Secured Fin BV Gtd Sr Sec Global Nt 3.75 01/15/25, .....	<b>B1</b>	J&J 15	926.924	01/21/15	EUR
						Gtd Sr Sec Global Nt 4.25 01/15/27, .....	<b>B1</b>	J&J 15	775	09/16/16	EUR

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**FOOTNOTES:** ☐ Fungible ☐ Gtd. by Prologis Incorporated ☐ Gtd. by Subsidiaries

Structured Finance Issues (New)

Table with columns: CUSIP, ISSUE, MOODY'S RATING, INTEREST DATES, AMT. ISS. MIL. \$, ISSUED. Contains two main sections of data.

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Structured Finance Issues (Revised)

Table with columns: CUSIP, ISSUE, MOODY'S RATING, INTEREST DATES, AMT. ISS. MIL. \$, ISSUED. Contains structured finance data for various entities like 5180-2 CLO LP, 33830LAC, etc.

Table with columns: CUSIP, ISSUE, MOODY'S RATING, INTEREST DATES, AMT. ISS. MIL. \$, ISSUED. Contains structured finance data for various entities like 02146BAK, 02146BAA, etc.

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Table with columns: CUSIP, ISSUE, MOODY'S RATING®, INTEREST DATES, AMT. ISS. MIL.\$, ISSUED, CUSIP, ISSUE, MOODY'S RATING®, INTEREST DATES, AMT. ISS. MIL.\$, ISSUED. Contains two columns of bond data.

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STRUCTURED FINANCE ISSUES (REVISED)

CUSIP	ISSUE	MOODY'S RATING®	INTEREST DATES	AMT. ISS. MIL.\$	ISSUED	CUSIP	ISSUE	MOODY'S RATING®	INTEREST DATES	AMT. ISS. MIL.\$	ISSUED
89171YAD	Towd Point Mtge Tr 2015-2 Pass-Thru Cif Cl 1-M1 3.25 11/25/60	Aaa	Nov 25	35.753	05/29/15	89172YAJ	Pass-Thru Cif Cl A2A 2.75 04/25/56	Aaa	Monthly	0.001	07/29/16
89171VAZ	Towd Point Mtge Tr 2015-5 Pass-Thru Cif Cl A4B 3.25 05/25/55	Aaa	May 25	0.001	10/30/15	89172YAB	Pass-Thru Cif Cl A2 3.04/25/56 Trapeza CDO VI Ltd	Aaa	Monthly	58.489	07/29/16
89171VBD	Pass-Thru Cif Cl X9 0.25 05/25/55	Aaa	May 25	0.001	10/30/15	89412UAC	Coll Nt Cl A-2 11/16/34	Aaa	M&N 16	59.35	04/20/04
89171VBC	Pass-Thru Cif Cl X8 0.25 05/25/55	Aaa	May 25	0.001	10/30/15	89412UAD	Coll Nt Cl B-1 11/16/34	B1	M&N 16	39.5	04/20/04
89171VBB	Pass-Thru Cif Cl X7 0.5 05/25/55	Aaa	May 25	0.001	10/30/15	89412UAE	Coll Nt Cl B-2 5.186 11/16/34 Trapeza CDO XI Ltd	B1	M&N 16	56.5	04/20/04
89171VBA	Pass-Thru Cif Cl A4C 2.75 05/25/55	Aaa	May 25	0.001	10/30/15	89412KAA	Coll Nt Cl A-1 10/10/41	Aa2	J,A,J&O 10	281	11/08/06
89171VAY	Pass-Thru Cif Cl A4A 3.05/25/55	Aaa	May 25	0.001	10/30/15	89412KAC	Coll Nt Cl A-2 10/10/41	A1	J,A,J&O 10	53	11/08/06
89171VAX	Pass-Thru Cif Cl A4 3.5 05/25/55	Aaa	May 25	0.001	10/30/15	89412KAG	Coll Nt Cl B 10/10/41 Triaxx Prime CDO 2006-2 Ltd	Ba3	J,A,J&O 10	25	11/08/06
89171VAC	Pass-Thru Cif Cl M1 3.5 05/25/55	Aaa	May 25	73.463	10/30/15	896008AE	Coll Nt Ser 2006-2 Cl A-2 10/02/39 Union Planters Mtge Loan Tr 2003-UP1	Caa3	Monthly	400	12/14/06
89172PAQ	Pass-Thru Cif Cl A3 3.08/25/55	Aaa	Monthly	0.001	05/26/16	79549ASK	Pass-Thru Cif Cl A 3.45 04/25/32 Volvo Financial Equipment LLC	Baa3	Monthly	86.512	04/03/03
89172PAB	Pass-Thru Cif Cl A2 3.08/25/55	Aaa	Monthly	53.799	05/26/16	92887KAE	Coll Nt Cl B 2.3999 01/18/22	Aa1	Monthly	18.72	02/22/17
89172PAT	Pass-Thru Cif Cl A3C 2.25 08/25/55	Aaa	Monthly	0.001	05/26/16	92887KAF	Coll Nt Cl C 2.6 04/15/24 WaMu Mtg Pass Thru Cifs	A1	Monthly	21.71	02/22/17
89172PAW	Pass-Thru Cif Cl X6 0.75 08/25/55	Aaa	Monthly	0.001	05/26/16	92922FYL	Pass Thru Cif Ser 200, CII-S 0 08/25/34 Wells Fargo Mtg Backed Secs	Caa2	Monthly	0.001	08/30/04
89172PAS	Pass-Thru Cif Cl A3B 2.5 08/25/55	Aaa	Monthly	0.001	05/26/16	949781AC	Pass Thru Cif Ser 2005-AR1, Cl II-A-1 01/25/35 Ziggo Bond Fin BV	B1	Monthly	193.04	01/18/05
89172PAR	Pass-Thru Cif Cl A3A 2.75 08/25/55	Aaa	Monthly	0.001	05/26/16	98954UAA	Gld Sr Global Nt 5.875 01/15/25	B3	J&J 15	400	01/14/15
89172PAU	Pass-Thru Cif Cl X4 0.25 08/25/55	Aaa	Monthly	0.001	05/26/16						
89172PAV	Pass-Thru Cif Cl X5 0.5 08/25/55	Aaa	Monthly	0.001	05/26/16						
89172YAL	Towd Point Mtge Tr 2016-3 Pass-Thru Cif Cl X1 0.25 04/25/56	Aaa	Monthly	0.001	07/29/16						
89172YAM	Pass-Thru Cif Cl X2 0.5 04/25/56	Aaa	Monthly	0.001	07/29/16						
89172YAK	Pass-Thru Cif Cl A2B 2.5 04/25/56	Aaa	Monthly	0.001	07/29/16						

Notes: Moody's® ratings are subject to change. Because of the possible time lapse between Moody's® assignment or change of a rating and your use of this monthly publication, we suggest you

verify the current rating of any security or issuer in which you are interested. For standard abbreviations and symbols, see page 6.

## Commercial Paper Ratings (New)

ISSUE	RATING	ISSUE	RATING	ISSUE	RATING
<b>Essilor Int'l Sas</b> .....	P-1	<b>Lam Research Corp</b> .....	P-2	(U.S. CP )	
(Euro CP )		(U.S. CP )		GTD Toronto-Dominion Bank (The)	
GTD Essilor Int'l (Compagnie Generale		<b>Macro Tr</b> .....	P-1	<b>Toronto-Dominion Bank (The)</b> .....	P-1
D'Optique) SA .....	P-1	(U.S. CP )		(U.S. CP )	
(U.S. CP )		Macro Tr .....	P-1	<b>Westrock Co</b> .....	P-2
GTD Essilor Int'l (Compagnie Generale		(U.S. CP )		(U.S. CP )	
D'Optique) SA		Macro Tr		GTD Westrock Mww LLC	
<b>Houston (City of) TX</b> .....	P-1	<b>Toronto Dominion Hldgs (USA) Inc</b> .....	P-1		
(U.S. CP )					
LOC Barclays Bank PLC					

\* This company is not an issuer of commercial paper.

Moody's® ratings are opinions, not recommendations, to buy or sell, and their accuracy is not guaranteed. A rating should be weighed solely as one factor in an investment decision and you should make your own study and evaluation of any issuer who securities or debt obligations you consider buying or selling.

**Notes:** Moody's® ratings are subject to change. Because of the possible time lapse between Moody's® assignment or change of a rating and your use of this monthly publication, we suggest you verify the current rating of any security or issuer in which you are interested. For standard abbreviation and symbols, see page 8.

### Commercial Paper Ratings (Revised)

ISSUE	RATING	ISSUE	RATING	ISSUE	RATING
CA (State of) .....	P-1	(U.S. CP )		Starbucks Corp .....	P-2
(U.S. CP )		LOC US Bank National Association		(U.S. CP )	
LOC Morgan Stanley Bank NA .....	P-1				

\* This company is not an issuer of commercial paper.  
 Moody's® ratings are opinions, not recommendations, to buy or sell, and their accuracy is not guaranteed. A rating should be weighed solely as one factor in an investment decision and you should make your own study and evaluation of any issuer who securities or debt obligations you consider buying or selling.  
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## Medium-Term-Notes (New)

Moody's® assigns ratings to individual long-term debt securities issued from medium-term note (MTN) programs, in addition to indicating ratings to (MTN) programs themselves. Notes issued under MTN programs with such indicated ratings are rated at issuance at the rating applicable to all *pari passu* notes issued under the same program, at the program's relevant indicated rating, provided such notes do not exhibit any of the characteristics listed below. For notes with any of the following characteristics, the rating of the individual note may differ from the indicated rating of the program:

- 1) Notes containing features which link the cash flow and/or market value to the credit performance of any third party or parties.
- 2) Notes allowing for negative coupons, or negative principal.
- 3) Notes containing any provision which could obligate the investor to make any additional payments.

Market participants must determine whether any particular note is rated, and if so, at what rating level. Moody's® encourages market participants to contact Moody's® Ratings Desks directly if they have questions regarding ratings for specific notes issued under a medium-term note program.

ISSUER	MOODY'S® RATING	RATING DATE	ORIGINAL AMOUNT *(MILL.)	ISSUE DATE	INTEREST RATES/MATURITY/LOCAL CURRENCY
Adecco Int'l Financial Svcs BV	Baa1	11/17/2017	300	11/21/2017	2.63% Gtd Euro 11/21/2021 (USD)
Affinity Water Programme Fin Ltd	A3	11/20/2017	60	11/22/2017	2.70% Gtd Euro Matures 11/22/2033 (GBP)
	A3	11/20/2017	60	11/22/2017	Gtd Flt Rt Indx Lnkd Euro Matures 11/22/2042 (GBP)
African Dev Bank	Aaa	11/06/2017	6.3	11/08/2017	9.63% Euro Matures 11/09/2020 (TRY)
	Aaa	11/06/2017	5.8	11/07/2017	Dual Curr Flt Rt Euro Matures 11/08/2021 (BRL)
	Aaa	11/06/2017	3.2	11/08/2017	Dual Curr Flt Rt Euro Matures 11/09/2021 (BRL)
	Aaa	11/06/2017	300	11/01/2017	Dual Curr Flt Rt Euro Matures 08/01/2047 (JPY)
	Aaa	11/06/2017	18000	11/07/2017	Dual Curr Flt Rt Euro Matures 11/08/2021 (IDR)
	Aaa	11/08/2017	25	11/08/2017	Zero Cpn Euro Matures 11/07/2025 (TRY)
	Aaa	11/10/2017	500	11/13/2017	Dual Curr Flt Rt Euro Matures 08/01/2047 (JPY)
	Aaa	11/17/2017	2000	11/16/2017	2.13% Global Matures 11/16/2022 (USD)
	Aaa	11/20/2017	24	11/21/2017	6.95% Euro Matures 11/22/2021 (ZAR)
	Aaa	11/20/2017	500	11/21/2017	0.25% Euro Matures 11/21/2024 (EUR)
	Aaa	11/23/2017	24000	11/24/2017	Dual Curr Flt Rt Euro Matures 11/27/2019 (IDR)
AKZO Nobel NV	Baa1	11/06/2017	500	11/06/2017	Gtd Flt Rt Euro Matures 11/08/2019 (EUR)
American Honda Fin Corp	A2	11/15/2017	300	11/13/2017	Flt Rt Global Matures 11/16/2022 (USD)
	A2	11/15/2017	600	11/13/2017	2.00% Global Matures 11/13/2019 (USD)
	A2	11/15/2017	500	11/13/2017	2.60% Global Matures 11/16/2022 (USD)
	A2	11/15/2017	350	11/13/2017	Flt Rt Global Matures 11/13/2019 (USD)
ASB Fin Ltd	A1	11/07/2017	52	11/01/2017	1.69% Gtd Euro 11/01/2032 (EUR)
	A1	11/16/2017	200	11/16/2017	2.00% Gtd Euro 11/16/2020 (HKD)
Asian Dev Bank	Aaa	11/03/2017	20	10/26/2017	3.40% Euro Matures 10/26/2047 (USD)
Auckland Council	Aa2	11/09/2017	500	11/13/2017	0.63% Euro Matures 11/13/2024 (EUR)
Australia and New Zealand Banking Group Ltd	Aa3	11/09/2017	250	11/06/2017	Flt Rt Global Matures 11/09/2022 (USD)
	Aa3	11/09/2017	500	11/06/2017	Flt Rt Global Matures 11/09/2020 (USD)
Banco Bilbao Vizcaya Argentaria SA	Baa3	11/07/2017	140	11/10/2017	1.72% Euro Matures 05/10/2028 (EUR)
	Baa3	11/29/2017	150	12/01/2017	Flt Rt Euro Matures 12/01/2023 (EUR)
Banco Santander SA (Spain)	Baa1	11/07/2017	500	11/03/2017	3.01% Euro Matures 11/17/2027 (NOK)
	Baa1	11/09/2017	52	11/07/2017	Flt Rt Euro Matures 11/21/2024 (EUR)
	Baa1	11/22/2017	50	11/21/2017	1.72% Euro Matures 06/05/2028 (EUR)
Bank of America Corp	Baa1	11/20/2017	200	06/27/2007	5.15% Indx Linked Euro Matures 06/27/2022 (EUR)
	Baa1	11/24/2017	15	10/25/2017	Zero Cpn Euro Matures 11/08/2047 (AUD)
Bank of China Ltd Paris Branch	A1	11/14/2017	1000	11/22/2017	4.50% Euro 11/22/2020 (CNY)
	A1	11/14/2017	500	11/22/2017	Flt Rt Euro 11/22/2020 (USD)
	A1	11/14/2017	700	11/22/2017	Flt Rt Euro 11/22/2020 (EUR)
Bank of Montreal	A1	11/15/2017	1	11/27/2017	Indx Linked Matures 05/31/2024 (USD)
	A1	11/28/2017	0	12/19/2017	2.30% Matures 06/21/2021 (USD)
Banque Federative Du Credit Mutuel	Aa3	11/01/2017	100	10/31/2017	1.40% Euro Matures 10/31/2029 (EUR)
Barclays Bank PLC	A1	11/01/2017	0	11/27/2017	2.00% Matures 11/27/2019 (USD)
	A1	11/16/2017	100	11/10/2017	Euro Matures 11/21/2018 (EUR)
	A1	11/22/2017	210	11/21/2017	Global Matures 11/23/2018 (USD)
Barclays PLC	Baa2	11/15/2017	500	11/14/2017	0.63% Fixed/Flt Rt Euro Matures 11/14/2023 (EUR)
	Baa3	11/23/2017	200	11/23/2017	3.75% Sub Fixed/Flt Rt Euro Matures 05/23/2030 (SGD)
BASF (SE)	A1	11/29/2017	750	11/15/2017	1.63% Euro Matures 11/15/2037 (EUR)
	A1	11/29/2017	1000	11/15/2017	0.88% Euro Matures 11/15/2027 (EUR)
	A1	11/29/2017	1250	11/15/2017	Flt Rt Euro Matures 11/15/2019 (EUR)
Bayerische Landesbank	Baa2	11/10/2017	5	11/15/2017	2.20% Sub German Matures 11/15/2027 (EUR)
	A1	11/10/2017	100	11/15/2017	Flt Rt Euro Matures 11/15/2022 (EUR)
Bazalgette Fin PLC	Baa1	11/27/2017	200	11/30/2017	Flt Rt Indx Lnkd Euro 11/30/2042 (GBP)
	Baa1	11/27/2017	250	11/29/2017	2.38% Euro 11/29/2027 (GBP)
BNP Paribas	Aa3	11/03/2017	30	10/24/2017	4.85% Fixed/Flt Rt Euro Matures 10/24/2032 (USD)
	Aa3	11/03/2017	20	11/08/2017	Zero Cpn Euro Matures 11/08/2037 (USD)
	Baa1	11/13/2017	1500	11/09/2017	3.50% Global Matures 11/16/2027 (USD)
	Aa3	11/13/2017	30	11/02/2017	Zero Cpn Euro Matures 11/02/2047 (AUD)
	Aa3	11/13/2017	0.875	11/03/2017	Flt Rt Euro Matures 11/03/2020 (USD)
	Aa3	11/14/2017	1.063	11/02/2017	Flt Rt Euro Matures 11/02/2020 (USD)
	Baa2	11/15/2017	150	11/16/2017	2.25% Sub Euro Matures 01/11/2027 (EUR)
	Aa3	11/16/2017	20	11/20/2017	Flt Rt Euro Matures 11/20/2032 (USD)
	Baa1	11/20/2017	50	11/22/2017	4.01% Euro Matures 11/22/2027 (AUD)
	Baa1	11/22/2017	1000	11/23/2017	1.50% Euro Matures 05/23/2028 (EUR)
	Aa3	11/24/2017	50	11/14/2017	Zero Cpn Euro Matures 11/14/2047 (USD)
	Aa3	11/24/2017	1.05	11/13/2017	Flt Rt Euro Matures 11/13/2022 (USD)
BNZ Int'l Funding Ltd London Branch	A1	11/08/2017	500	11/13/2017	0.50% Gtd Euro Matures 05/13/2023 (EUR)
Bpifrance Finment	Aa2	11/27/2017	500	11/30/2017	0.13% Gtd Euro Matures 11/25/2023 (EUR)
British Telecommunications PLC	Baa1	11/15/2017	250	11/14/2017	3.63% Euro Matures 11/21/2047 (GBP)
	Baa1	11/15/2017	1100	11/14/2017	1.00% Euro Matures 11/21/2024 (EUR)
	Baa1	11/15/2017	500	11/14/2017	3.13% Euro Matures 11/21/2031 (GBP)
Caisse des Depots et Consignations	Aa2	11/10/2017	250	10/30/2017	0.30% Euro Matures 11/12/2027 (CHF)
	Aa2	11/13/2017	1000	11/14/2017	2.00% Euro Matures 11/14/2020 (USD)
	Aa2	11/15/2017	50	11/16/2017	2.64% Euro Matures 11/15/2027 (USD)
Cassa Depositi e Prestiti SPA	Baa2	11/16/2017	500	11/21/2017	0.75% Euro Matures 11/21/2022 (EUR)
Caterpillar Financial Svcs Corp	A3	11/07/2017	0	11/13/2017	1.70% Matures 11/15/2019 (USD)
	A3	11/14/2017	2.048	11/20/2017	1.95% Matures 11/15/2020 (USD)
China Construction Bank (New Zealand) Ltd	A1	11/02/2017	150	11/09/2017	3.93% Gtd New Zealand 11/09/2022 (NZD)
China Construction Bank Corp Hong Kong Branch	A1	11/28/2017	500	12/04/2017	2.75% Euro 12/04/2020 (USD)
	A1	11/28/2017	400	12/04/2017	3.00% Euro 12/04/2022 (USD)
	A1	11/28/2017	800	12/04/2017	Flt Rt Euro 12/04/2020 (USD)
China Dev Bank	A1	11/09/2017	500	11/16/2017	2.75% Euro Matures 11/16/2022 (USD)
	A1	11/09/2017	1000	11/16/2017	0.38% Euro Matures 11/16/2021 (EUR)
Citigroup Inc	Baa1	11/15/2017	50	09/27/2017	0.29% Euro Matures 09/27/2021 (EUR)
CMT MTN Pte Ltd	A2	11/10/2017	100	11/10/2017	2.88% Gtd Euro 11/10/2027 (SGD)

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ISSUER	MOODY'S® RATING	RATING DATE	ORIGINAL AMOUNT *(MIL.)	ISSUE DATE	INTEREST RATES/MATURITY/LOCAL CURRENCY
Commerzbank AG	Baa1	11/13/2017	500	09/12/2017	1.13% Euro Matures 09/19/2025 (EUR)
	Baa1	11/13/2017	10	09/25/2017	0.75% German Matures 10/02/2023 (EUR)
	Baa1	11/13/2017	10	08/14/2017	Flt Rt German Matures 08/22/2022 (EUR)
	Baa1	11/13/2017	6	09/22/2017	Zero Cpn German Matures 04/12/2033 (EUR)
	Baa1	11/13/2017	10	05/24/2017	1.66% German Matures 05/24/2027 (EUR)
Commonwealth Bank of Australia	Baa1	11/16/2017	10	10/20/2017	0.52% German Matures 10/27/2022 (EUR)
	Aa3	11/02/2017	50	11/06/2017	Zero Cpn Euro Matures 11/06/2047 (USD)
	Aa3	11/06/2017	300	11/09/2017	2.20% Global Matures 11/09/2020 (USD)
	Aa3	11/08/2017	20	11/09/2017	Zero Cpn Euro Matures 11/09/2037 (USD)
	Aa3	11/08/2017	4	11/15/2017	4.10% Euro Matures 11/15/2027 (NZD)
	Aa3	11/08/2017	173	11/10/2017	1.79% Euro Matures 11/10/2020 (HKD)
	Aa3	11/16/2017	20	11/20/2017	1.01% Euro Matures 11/19/2027 (EUR)
Communaute Francaise de Belgique	Aa3	11/23/2017	14	11/21/2017	4.44% Euro Matures 11/21/2047 (AUD)
	Aa3	11/27/2017	80	11/30/2017	1.14% Euro Matures 11/30/2042 (EUR)
	A1	11/21/2017	0.363	10/26/2017	Indx Linked 04/28/2023 (USD)
Credit Suisse AG (Nassau) Branch	A2	11/17/2017	1000	11/15/2017	1.00% Euro Matures 11/15/2027 (EUR)
Daimler AG	A2	11/17/2017	175	11/22/2017	Gtd Flt Rt Canadian Matures 02/24/2020 (CAD)
Daimler Canada Fin Inc	A2	11/17/2017	325	11/22/2017	2.30% Gtd Canadian Matures 11/23/2020 (CAD)
Daimler Int'l Fin BV	A2	11/17/2017	250	11/22/2017	2.57% Gtd Canadian Matures 11/22/2022 (CAD)
Danske Bank A/S	A2	11/21/2017	500	11/13/2017	Gtd Flt Rt Euro 11/13/2019 (EUR)
Dekabank Deutsche Girozentrale	Aa3	11/24/2017	750	11/28/2017	0.25% Euro Matures 11/28/2022 (EUR)
	Aa3	11/23/2017	50	11/20/2017	0.05% German Matures 11/27/2020 (EUR)
	Aa3	11/24/2017	25	11/23/2017	0.50% German Matures 11/30/2020 (EUR)
Deutsche Bahn Fin GmbH	Aa1	11/07/2017	300	11/08/2017	0.45% Gtd Euro 11/08/2030 (CHF)
	Aa1	11/07/2017	150	10/27/2017	4.05% Gtd Australian 10/27/2032 (AUD)
Deutsche Bank AG London Branch	Baa2	11/14/2017	1	11/20/2017	2.35% Matures 11/24/2020 (USD)
Dev Bank of Kazakhstan	Baa3	11/29/2017	0	11/29/2017	Flt Rt Euro (USD)
Diageo Fin PLC	A3	11/15/2017	775	11/17/2017	Gtd Euro Matures 11/17/2020 (EUR)
DZ Bank AG Deutsche Zentral-Genossenschaftsbank	Aa3	11/15/2017	500	11/17/2017	0.50% Gtd Euro Matures 06/19/2024 (EUR)
	Aa3	11/02/2017	10	11/06/2017	1.13% Euro Matures 11/06/2029 (EUR)
	Aa3	11/02/2017	50	11/03/2017	0.27% Euro Matures 11/03/2022 (EUR)
	Aa3	11/02/2017	200	11/03/2017	0.01% Euro Matures 11/04/2019 (EUR)
	Aa3	11/02/2017	50	11/03/2017	0.11% Euro Matures 11/03/2021 (EUR)
	Aa3	11/20/2017	50	11/10/2017	0.80% Step Up German Matures 11/10/2027 (EUR)
	Aa3	11/20/2017	50	11/15/2017	1.00% Step Up German Matures 11/15/2029 (EUR)
	Aa3	11/20/2017	50	11/10/2017	0.60% Step Up German Matures 11/10/2025 (EUR)
	Aa3	11/20/2017	10	11/09/2017	1.00% Euro Matures 11/09/2023 (EUR)
	Aa3	11/20/2017	10	11/09/2017	1.00% Euro Matures 11/09/2022 (EUR)
	Aa3	11/20/2017	20	11/13/2017	0.01% Euro Matures 11/27/2019 (EUR)
	Aa3	11/20/2017	15	11/13/2017	0.01% Euro Matures 11/13/2019 (EUR)
	EDP Fin BV	Baa3	11/16/2017	500	11/20/2017
Efsf (European Financial Stability Facility)	Aa1	11/08/2017	3000	11/10/2017	1.46% Gtd Euro Matures 11/10/2047 (EUR)
Emirates Nbd Pjsc	A3	11/08/2017	750	11/14/2017	3.25% Euro Matures 11/14/2022 (USD)
Erste Abwicklungsanstalt	A3	11/14/2017	6	10/19/2017	3.00% Euro Matures 10/19/2020 (USD)
	Aa1	11/14/2017	1000	11/16/2017	2.00% Euro Matures 11/16/2020 (USD)
European Investment Bank	Aaa	11/03/2017	750	10/27/2017	2.25% Euro Matures 05/25/2021 (PLN)
	Aaa	11/03/2017	300	10/27/2017	2.75% Euro Matures 09/13/2030 (EUR)
	Aaa	11/13/2017	300	11/06/2017	Euro Matures 03/13/2026 (EUR)
	Aaa	11/13/2017	550	11/06/2017	8.50% Euro Matures 09/17/2024 (ZAR)
	Aaa	11/24/2017	500	11/17/2017	7.25% Euro Matures 02/28/2023 (ZAR)
	Aaa	11/24/2017	500	11/08/2017	1.25% Euro Matures 05/12/2025 (SEK)
	Aaa	11/24/2017	500	11/09/2017	8.75% Euro Matures 08/18/2025 (ZAR)
European Stability Mechanism (Esm)	Aa1	11/15/2017	996.5	11/16/2017	Euro Matures 10/18/2022 (EUR)
European Union	Aaa	11/03/2017	300	10/25/2017	0.75% Euro Matures 04/04/2031 (EUR)
Export-Import Bank of China (The)	A1	11/19/2017	0	11/19/2017	Euro (USD)
Export-Import Bank of Korea (The)	A1	11/19/2017	0	11/19/2017	Euro (EUR)
Ford Motor Credit Co LLC	Aa2	11/06/2017	200	10/11/2017	Zero Cpn Euro Matures 10/11/2047 (USD)
	Aa2	11/07/2017	50	11/08/2017	3.55% Euro Matures 11/08/2037 (USD)
	Aa2	11/07/2017	50	11/08/2017	3.55% Euro Matures 11/08/2037 (USD)
	Aa2	11/17/2017	50	11/17/2017	3.65% Euro Matures 11/17/2047 (USD)
	Aa2	11/17/2017	50	11/17/2017	3.65% Euro Matures 11/17/2047 (USD)
	Aa2	11/17/2017	50	11/17/2017	3.72% Euro Matures 11/17/2047 (USD)
	Aa2	11/17/2017	20	11/17/2017	3.72% Euro Matures 11/17/2047 (USD)
	Aa2	11/24/2017	50	11/27/2017	3.65% Euro Matures 11/27/2047 (USD)
	Baa2	11/29/2017	600	11/27/2017	Flt Rt Euro Matures 12/01/2024 (EUR)
	Baa2	11/29/2017	600	11/27/2017	Flt Rt Euro Matures 12/01/2021 (EUR)
Gas Natural Fenosa Fin BV	Baa2	11/14/2017	800	11/15/2017	0.88% Gtd Euro 05/15/2025 (EUR)
General Motors Financial Co Inc	Baa3	11/07/2017	5.061	11/13/2017	3.90% Gtd 11/20/2027 (USD)
	Baa3	11/07/2017	3.621	11/13/2017	2.85% Gtd 11/20/2022 (USD)
	Baa3	11/14/2017	1	11/20/2017	3.50% Gtd 11/20/2024 (USD)
	Baa3	11/14/2017	1	11/20/2017	2.40% Gtd 11/20/2020 (USD)
	Baa3	11/28/2017	0	12/04/2017	3.95% Gtd 12/20/2027 (USD)
	Baa3	11/28/2017	0	12/04/2017	3.00% Gtd 12/20/2022 (USD)
	Baa3	11/28/2017	0	12/04/2017	3.00% Gtd 12/20/2022 (USD)
Goldman Sachs Group Inc The	A3	11/02/2017	30	10/19/2017	Zero Cpn Euro 10/30/2032 (EUR)
	A3	11/02/2017	0	11/02/2017	2.50% Step Up (USD)
	A3	11/02/2017	0	11/02/2017	3.00% Step Up (USD)
	A3	11/07/2017	0	11/07/2017	3.00% (USD)
	A3	11/10/2017	20	09/15/2017	Zero Cpn Euro 09/29/2047 (AUD)
	A3	11/13/2017	0	11/13/2017	4.00% Step Up (USD)
	A3	11/14/2017	0	11/14/2017	3.25% (USD)
	A1	11/17/2017	135	10/11/2017	0.00% Gtd Euro Matures 10/11/2022 (EUR)
	A3	11/16/2017	2.025	08/28/2017	Gtd Indx Linked Matures 09/14/2027 (USD)
	A3	11/16/2017	1.424	08/28/2017	Gtd Indx Linked Matures 09/12/2024 (USD)
	A3	11/16/2017	0.961	09/25/2017	Gtd Indx Linked Matures 09/30/2025 (USD)
	A3	11/16/2017	1	10/10/2017	Gtd Indx Linked Matures 07/13/2023 (USD)
	A3	11/16/2017	3.982	09/26/2017	Gtd Indx Linked Matures 06/29/2023 (USD)
A3	11/16/2017	3.73	09/11/2017	Gtd Indx Linked Matures 09/15/2022 (USD)	
A3	11/16/2017	1	10/10/2017	Gtd Indx Linked Matures 10/13/2027 (USD)	
A3	11/16/2017	0.349	09/26/2017	Gtd Indx Linked Matures 10/10/2024 (USD)	
A3	11/16/2017	0.17	08/28/2017	Gtd Indx Linked Matures 09/03/2024 (USD)	
A3	11/16/2017	1	10/31/2017	Gtd Indx Linked Matures 08/05/2020 (USD)	
A3	11/16/2017	0.865	08/28/2017	Gtd Indx Linked Matures 09/12/2024 (USD)	
A3	11/22/2017	1	10/26/2017	Gtd Indx Linked Matures 07/31/2023 (USD)	
A3	11/22/2017	1	10/26/2017	Gtd Indx Linked Matures 10/31/2024 (USD)	
A3	11/22/2017	2.019	09/26/2017	Gtd Indx Linked Matures 10/01/2024 (USD)	
A3	11/22/2017	1.024	09/26/2017	Gtd Indx Linked Matures 10/10/2024 (USD)	
A3	11/22/2017	1	10/25/2017	Gtd Indx Linked Matures 10/30/2025 (USD)	
A3	11/22/2017	1	10/26/2017	Gtd Indx Linked Matures 11/12/2024 (USD)	
A3	11/22/2017	0.382	09/26/2017	Gtd Indx Linked Matures 09/29/2022 (USD)	
A3	11/22/2017	1	10/26/2017	Gtd Indx Linked Matures 11/09/2027 (USD)	
A3	11/22/2017	0.157	09/26/2017	Gtd Indx Linked Matures 10/01/2024 (USD)	
A3	11/22/2017	3.196	09/27/2017	Gtd Indx Linked Matures 03/31/2023 (USD)	

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ISSUER	MOODY'S® RATING	RATING DATE	ORIGINAL AMOUNT *(Mill.)	ISSUE DATE	INTEREST RATES/MATURITY/LOCAL CURRENCY
Hldg D'Infrastructures de Transport	Baa3	11/23/2017	500	11/27/2017	1.63% Euro Matures 11/27/2027 (EUR)
	Baa3	11/23/2017	500	11/27/2017	0.63% Euro Matures 03/27/2023 (EUR)
Hong Kong and China Gas Fin Ltd	A1	11/14/2017	600	11/17/2017	2.84% Gtd Euro Matures 11/17/2027 (HKD)
	A1	11/22/2017	2000	11/24/2017	0.35% Gtd Euro Matures 11/24/2027 (JPY)
Housing and Dev Board (HDB)	Aaa	11/15/2017	680	11/21/2017	2.25% Singapore 11/21/2024 (SGD)
HSBC Hldgs PLC	A2	11/08/2017	1000	11/06/2017	2.26% Fixed/Flt Rt Euro Matures 11/13/2026 (GBP)
	A2	11/13/2017	650	11/16/2017	Flt Rt Euro Matures 02/16/2024 (AUD)
HSH Portfoliomanagement Aor	Aa1	11/28/2017	500	11/21/2017	Gtd Flt Rt Euro 11/19/2021 (USD)
Huarong Fin 2017 Co Ltd	Baa1	11/02/2017	400	11/07/2017	3.80% Gtd Euro 11/07/2025 (SGD)
	Baa1	11/02/2017	700	11/07/2017	4.95% Gtd Euro 11/07/2047 (USD)
	Baa1	11/02/2017	600	11/07/2017	Gtd Flt Rt Euro 11/07/2022 (USD)
	Baa1	11/02/2017	700	11/07/2017	4.00% Perp (USD)
	Baa1	11/02/2017	1100	11/07/2017	4.25% Gtd Euro 11/07/2027 (USD)
Iberdrola Finanzas SAU	Baa1	11/24/2017	300	11/29/2017	1.62% Gtd Euro Matures 11/29/2029 (EUR)
ICBCILFin Co Ltd	A2	11/07/2017	250	11/15/2017	3.63% Euro 11/15/2027 (USD)
	A2	11/07/2017	700	11/15/2017	3.13% Euro 11/15/2022 (USD)
Innogy Fin BV	Baa2	11/09/2017	850	10/19/2017	1.25% Gtd Euro 10/19/2027 (EUR)
Int'l Bank For Reconstruction Dev	Aaa	11/13/2017	100	11/06/2017	Zero Cpn Euro 11/06/2056 (EUR)
	Aaa	11/13/2017	250	11/03/2017	5.25% Euro 10/17/2019 (MXN)
	Aaa	11/24/2017	25	11/21/2017	2.13% Global 11/21/2022 (USD)
Int'l Fin Corp	Aaa	11/09/2017	155	10/25/2017	2.03% Euro Matures 10/25/2019 (RON)
	Aaa	11/17/2017	100	07/11/2017	10.25% Euro Matures 07/11/2019 (TRY)
Int'l Fin Facility For Immunisation (Iffim)	Aa1	11/14/2017	300	11/16/2017	Flt Rt Euro 11/16/2020 (USD)
Inter-American Dev Bank	Aaa	11/08/2017	3000	08/09/2017	Dual Curr Flt Rt Euro Matures 08/23/2021 (INR)
	Aaa	11/16/2017	300	10/04/2017	Flt Rt Global Matures 10/09/2020 (USD)
	Aaa	11/17/2017	100	03/13/2015	Flt Rt Global Matures 03/13/2020 (USD)
Jefferies Group LLC	Baa3	11/03/2017	20	10/19/2017	10.00% Fixed/Flt Rt 10/31/2037 (USD)
	Baa3	11/13/2017	15	10/25/2017	8.50% Fixed/Flt Rt 10/31/2037 (USD)
JPMorgan Chase Co	A3	11/22/2017	500	11/29/2017	Flt Rt 01/10/2025 (USD)
Korea Dev Bank	Aa2	11/01/2017	1400	11/10/2017	4.50% Euro Matures 11/10/2020 (CNY)
	Aa2	11/09/2017	70	11/13/2017	Zero Cpn Euro Matures 08/13/2020 (EUR)
	Aa2	11/22/2017	100	11/27/2017	Flt Rt Euro Matures 11/27/2020 (USD)
	Aa2	11/29/2017	410	11/30/2017	1.74% Euro Matures 11/30/2027 (SEK)
Korea Midland Power Co Ltd	Aa2	11/12/2017	450	11/16/2017	2.36% Euro Matures 11/16/2037 (SEK)
Kreditanstalt Fuer Wiederaufbau	Aaa	11/08/2017	15	11/08/2017	0.30% Step Up Euro Matures 11/08/2027 (EUR)
	Aaa	11/08/2017	15	11/03/2017	0.40% Step Up Euro Matures 11/03/2027 (EUR)
	Aaa	11/21/2017	250	11/10/2017	7.50% Euro Matures 11/10/2022 (ZAR)
	Aaa	11/21/2017	50	11/10/2017	1.60% Euro Matures 11/10/2037 (EUR)
	Aaa	11/21/2017	10	11/15/2017	0.40% Step Up Euro Matures 11/15/2027 (EUR)
	Aaa	11/22/2017	150	11/22/2017	1.20% Euro Matures 11/22/2027 (SEK)
Landesbank Baden-Wuerttemberg	A1	11/06/2017	100	07/27/2017	1.20% German Matures 08/02/2027 (EUR)
	A1	11/06/2017	10,856	07/20/2017	0.11% German Matures 01/14/2020 (EUR)
	A1	11/10/2017	100	10/20/2017	0.20% German Matures 04/26/2021 (EUR)
	A1	11/10/2017	100	07/11/2016	0.15% German Matures 07/14/2020 (EUR)
	A1	11/10/2017	100	08/08/2017	0.15% German Matures 07/14/2020 (EUR)
	A1	11/14/2017	100	05/19/2017	0.76% German Matures 11/26/2024 (EUR)
	A1	11/14/2017	100	07/14/2017	0.13% German Matures 11/19/2019 (EUR)
	A1	11/24/2017	24	11/14/2017	0.20% Step Up German Matures 09/16/2022 (EUR)
	Aa3	11/24/2017	70	10/18/2017	Flt Rt German Matures 10/25/2021 (EUR)
	A1	11/24/2017	24	11/14/2017	0.60% Step Up German Matures 08/18/2025 (EUR)
	A1	11/24/2017	100	10/18/2017	0.25% German Matures 10/25/2021 (EUR)
	A1	11/24/2017	10	10/18/2017	0.40% Step Up German Matures 10/23/2026 (EUR)
Landwirtschaftliche Rentenbank	Aaa	11/17/2017	230	11/22/2017	7.46% Euro Matures 11/22/2027 (MXN)
	Aaa	11/20/2017	175	11/23/2017	0.70% Euro Matures 11/05/2020 (GBP)
Leaseplan Corp NV	Baa1	11/10/2017	1050	10/17/2017	Flt Rt Euro Matures 10/17/2024 (CZK)
	Baa1	11/24/2017	30	11/21/2017	3.15% Euro Matures 11/29/2022 (USD)
Lloyds Banking Group PLC	A3	11/15/2017	450	11/22/2017	4.25% Australian Matures 11/22/2027 (AUD)
Malayan Banking Berhad	A3	11/02/2017	500	11/02/2017	4.50% Euro Matures 11/02/2020 (CNY)
Manchester Airport Group Funding PLC	Baa1	11/10/2017	300	11/15/2017	2.88% Euro Matures 03/31/2039 (GBP)
McDonald's Corp	Baa1	11/21/2017	700	11/28/2017	0.63% Euro Matures 01/29/2024 (EUR)
	Baa1	11/21/2017	500	11/28/2017	1.50% Euro Matures 11/28/2029 (EUR)
Members Equity Bank Ltd	Baa1	11/02/2017	300	11/01/2017	Flt Rt Australian Matures 11/09/2020 (AUD)
Mercedes-Benz Australia/Pacific Pty Ltd	A2	11/27/2017	100	11/24/2017	2.63% Gtd Euro Matures 11/24/2020 (AUD)
Mercedes-Benz Japan Co Ltd	A2	11/27/2017	200	11/15/2017	Gtd Euro Matures 01/15/2020 (EUR)
Mitsubishi Ufj Financial Group Inc	A1	11/09/2017	80	11/09/2017	1.64% Euro Matures 11/09/2032 (EUR)
	A1	11/21/2017	50	11/21/2017	1.47% Euro Matures 11/21/2029 (EUR)
Morgan Stanley	A3	11/29/2017	1.5	04/21/2017	Flt Rt Euro Matures 04/27/2020 (USD)
	A3	11/29/2017	1.5	04/21/2017	1.78% Step Up Euro Matures 04/27/2020 (USD)
Muenchener Hypothekenbank EG	A1	11/14/2017	160	10/13/2017	0.30% Euro Matures 12/20/2024 (CHF)
	A1	11/28/2017	50	11/28/2017	0.72% German Matures 11/28/2025 (EUR)
National Australia Bank Ltd	Aa3	11/09/2017	1875	11/10/2017	Flt Rt Australian Matures 02/10/2023 (AUD)
	Aa3	11/09/2017	375	11/10/2017	3.00% Australian Matures 02/10/2023 (AUD)
	Aa3	11/24/2017	250	11/27/2017	1.38% Euro Matures 06/27/2022 (GBP)
	Aa3	11/29/2017	503	11/30/2017	2.38% Euro Matures 11/30/2022 (HKD)
National Bank of Canada	A1	11/22/2017	2	11/17/2017	2.50% Gtd Step Up Matures 11/22/2027 (USD)
National Express Group PLC	Baa3	11/09/2017	250	11/09/2017	Gtd Flt Rt Euro 05/15/2020 (EUR)
Nederlandse Waterschapsbank NV	Aaa	11/07/2017	500	10/31/2017	1.75% Global Matures 09/05/2019 (USD)
	Aaa	11/15/2017	500	11/07/2017	2.13% Global Matures 11/15/2021 (USD)
	Aaa	11/20/2017	10	11/07/2017	1.93% Euro Matures 11/07/2047 (EUR)
	Aaa	11/22/2017	100	10/16/2017	0.75% Euro Matures 10/04/2041 (EUR)
	Aaa	11/23/2017	50	11/27/2017	1.67% Euro Matures 11/27/2047 (EUR)
New South Wales Treas Corp	Aaa	11/12/2017	120	11/20/2017	3.50% Gtd Australian Matures 11/20/2037 (AUD)
Nigeria Gov't of	B2	11/22/2017	1500	11/28/2017	7.63% Global 11/28/2047 (USD)
	B2	11/22/2017	1500	11/28/2017	6.50% Global 11/28/2027 (USD)
Norddeutsche Landesbank GZ	Baa3	11/06/2017	20	09/25/2017	1.75% Euro Matures 09/25/2029 (EUR)
	Baa3	11/08/2017	500	11/04/2016	0.18% Euro Matures 11/08/2018 (EUR)
	Baa3	11/15/2017	20	11/15/2017	0.45% Step Up Euro Matures 11/15/2021 (EUR)
	Baa2	11/15/2017	20	11/28/2017	Flt Rt Euro Matures 05/28/2020 (EUR)
	Baa3	11/15/2017	20	11/14/2017	0.85% Euro Matures 11/14/2023 (EUR)
	Baa3	11/15/2017	10	11/01/2017	1.80% Step Up Euro Matures 11/01/2029 (EUR)
	Baa3	11/15/2017	20	11/24/2017	1.20% Euro Matures 11/24/2025 (EUR)
	Baa3	11/20/2017	20	11/13/2017	1.00% Euro Matures 11/13/2024 (EUR)
	Baa3	11/20/2017	20	11/14/2017	0.75% Euro Matures 11/14/2022 (EUR)
	Baa2	11/20/2017	10	11/15/2017	Flt Rt Euro Matures 11/15/2024 (EUR)
	Baa3	11/20/2017	20	11/13/2017	0.15% Step Up Euro Matures 11/13/2020 (EUR)
	Baa3	11/20/2017	20	11/15/2017	1.25% Step Up Euro Matures 11/15/2027 (EUR)
	Baa3	11/27/2017	10	11/02/2017	1.75% Step Up Euro Matures 11/02/2029 (EUR)
	Baa3	11/27/2017	20	10/06/2017	3.00% Euro Matures 10/04/2022 (USD)
	Baa3	11/27/2017	20	10/06/2017	Flt Rt Euro Matures 10/04/2023 (USD)
	Baa3	11/27/2017	20	09/22/2017	0.25% Euro Matures 09/22/2020 (EUR)
	Baa2	11/29/2017	20	11/09/2017	1.50% Fixed/Flt Rt Euro Matures 11/09/2027 (EUR)
	Baa3	11/29/2017	10	11/27/2017	1.75% Step Up Euro Matures 11/27/2029 (EUR)
	Baa2	11/29/2017	10	11/14/2017	Flt Rt Euro Matures 11/14/2022 (EUR)
	Baa3	11/29/2017	10	10/19/2017	0.78% Euro Matures 10/19/2022 (EUR)

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Nordic Investment Bank	Aaa	11/10/2017	400	11/14/2017	1.89% Euro Matures 11/14/2024 (HKD)
	Aaa	11/14/2017	409.43	11/27/2017	11.78% Euro Matures 11/27/2020 (TRY)
	Aaa	11/14/2017	1032.4	11/27/2017	Dual Curr Flt Rt Euro Matures 11/27/2020 (INR)
	Aaa	11/14/2017	79.61	11/27/2017	Dual Curr Flt Rt Euro Matures 11/27/2020 (BRL)
	Aaa	11/22/2017	300	11/22/2017	0.63% Euro Matures 11/02/2021 (GBP)
Nordrhein-Westfalen Land of NRW.BANK	Aa1	11/28/2017	1000	10/26/2017	1.75% Euro Matures 10/26/2057 (EUR)
	Aa1	11/07/2017	50	10/20/2017	0.50% Step Up German Matures 10/20/2027 (EUR)
	Aa1	11/07/2017	100	10/25/2017	1.22% Euro Matures 10/25/2019 (HKD)
	Aa1	11/07/2017	400	11/02/2017	1.00% Euro Matures 06/15/2022 (GBP)
NV Bank Nederlandse Gemeenten	Aaa	11/10/2017	750	11/09/2017	0.20% Euro 11/09/2024 (EUR)
	Aaa	11/28/2017	50	11/28/2017	1.04% Euro 11/28/2047 (EUR)
	Aaa	11/28/2017	50	11/24/2017	1.87% Euro 11/24/2047 (EUR)
Oesterreichische Kontrollbank AG	Aa1	11/22/2017	100	02/03/2017	3.50% Gtd Australian Matures 08/03/2027 (AUD)
Orsted A/S	Baa1	11/20/2017	750	11/16/2017	1.50% Euro 11/26/2029 (EUR)
Oversea-Chinese Banking Corp Ltd Sydney Branch	Aa1	11/29/2017	125	11/30/2017	Flt Rt Australian 11/30/2018 (AUD)
Paccar Financial Corp	A1	11/13/2017	300	11/13/2017	2.05% Matures 11/13/2020 (USD)
Petroleos Mexicanos	Baa3	11/13/2017	450	11/13/2017	3.75% Gtd Euro Matures 11/16/2025 (GBP)
Places For People Homes Ltd	Baa1	11/20/2017	250	11/22/2017	3.63% Gtd Euro 11/22/2028 (GBP)
Principality Building Society	Baa2	11/21/2017	300	11/16/2017	2.38% Euro Matures 11/23/2023 (GBP)
Rabobank	Aa2	11/09/2017	250	11/08/2017	Flt Rt Euro Matures 11/08/2018 (GBP)
	Aa2	11/09/2017	50	11/08/2017	12.50% Euro Matures 11/08/2019 (TRY)
	Aa2	11/09/2017	50	11/13/2017	Flt Rt Euro Matures 11/13/2019 (EUR)
Raiffeisenlandesbank Oberoesterreich Aktiengesellschaft	Baa1	11/06/2017	500	11/22/2017	0.75% Euro 05/22/2023 (EUR)
RCI Banque	Baa1	11/06/2017	250	11/08/2017	1.88% Euro Matures 11/08/2022 (GBP)
Renault SA	Baa3	11/22/2017	750	11/21/2017	1.00% Euro Matures 11/28/2025 (EUR)
Royal Bank of Canada	A1	11/03/2017	100	09/13/2017	1.88% Fixed/Flt Rt Matures 09/20/2020 (USD)
	A1	11/07/2017	0.4	10/13/2017	Equity Linked Matures 10/18/2023 (USD)
Royal Bank of Canada (Sydney Branch)	A1	11/28/2017	275	11/28/2017	Flt Rt Australian Matures 11/28/2018 (AUD)
Saipem Fin Int'l BV	Ba1	11/03/2017	500	11/07/2017	2.63% Gtd Euro 01/07/2025 (EUR)
Severn Trent Utilities Fin PLC	A3	11/28/2017	250	12/04/2017	1.63% Gtd Euro Matures 12/04/2022 (GBP)
Siam Commercial Bank Pub Co Ltd (Ci)	Baa1	11/10/2017	500	11/16/2017	2.75% Euro 05/16/2023 (USD)
Singapore Mgmt University	Aaa	11/21/2017	150	11/28/2017	1.95% Singapore Matures 11/28/2022 (SGD)
Snct Reseau	Aa2	11/01/2017	400	10/30/2017	2.58% Euro 10/30/2047 (SEK)
Societe Generale	Baa3	11/08/2017	750	11/08/2017	0.50% Euro Matures 01/13/2023 (EUR)
	Baa3	11/08/2017	750	11/08/2017	1.38% Euro Matures 01/13/2028 (EUR)
	A2	11/08/2017	30	10/26/2017	Zero Cpn Euro Matures 10/26/2047 (USD)
Sparebank 1 SMN	A1	11/06/2017	300	11/09/2017	Flt Rt Euro Matures 11/09/2020 (EUR)
Sparebanken Vest	A1	11/29/2017	300	11/29/2017	0.50% Euro Matures 11/29/2022 (EUR)
Suncorp-Metway Ltd	A1	11/06/2017	500	11/02/2017	2.38% Global 11/09/2020 (USD)
	A1	11/13/2017	100	11/15/2017	Flt Rt Australian 11/13/2018 (AUD)
Svenska Handelsbanken AB	A3	11/13/2017	1700	11/15/2017	Sub Flt Rt Euro Matures 11/15/2027 (SEK)
Swedbank AB	Aa3	11/01/2017	500	11/07/2017	0.25% Euro Matures 11/07/2022 (EUR)
	Aa3	11/23/2017	25	10/04/2016	1.53% Euro Matures 10/04/2019 (USD)
Swedish Match AB	Baa2	11/06/2017	200	11/08/2017	1.20% Euro Matures 11/10/2025 (EUR)
Telefonica Emisiones SAU	Baa3	11/10/2017	200	04/18/2017	4.90% Gtd Euro Matures 04/18/2037 (USD)
Telstra Corp Ltd	A2	11/01/2017	500	11/09/2017	3.25% Euro Matures 11/15/2027 (USD)
Toyota Fin Australia Ltd	Aa3	11/21/2017	150	11/13/2017	2.88% Euro Matures 11/21/2022 (AUD)
Toyota Motor Credit Corp	Aa3	11/27/2017	600	11/21/2017	0.63% Euro Matures 11/21/2024 (EUR)
	Aa3	11/27/2017	600	11/21/2017	Euro Matures 07/21/2021 (EUR)
	Aa3	11/28/2017	25	11/27/2017	2.13% Fixed/Flt Rt Matures 11/29/2022 (USD)
Treas Corp of Victoria	Aaa	11/02/2017	100	10/30/2017	4.00% Gtd Australian Matures 11/06/2047 (AUD)
Tritax Big Box Reit PLC	Baa1	11/23/2017	250	11/30/2017	2.63% Gtd Euro 12/14/2026 (GBP)
UBS AG London Branch	A1	11/28/2017	1800	11/27/2017	2.45% Global Matures 12/01/2020 (USD)
	A1	11/28/2017	1500	11/27/2017	Flt Rt Global Matures 05/28/2019 (USD)
	A1	11/28/2017	1000	11/27/2017	Flt Rt Global Matures 12/01/2020 (USD)
UDR Inc	Baa1	11/29/2017	0	11/29/2017	Gtd (USD)
Union Bank of The Philippines	Baa2	11/21/2017	500	11/29/2017	3.37% Euro 11/29/2022 (USD)
Union Nationale Interprofessionnelle Pour L'Emploi	Aa2	11/27/2017	1250	11/28/2017	0.13% Euro Matures 11/25/2024 (EUR)
Unipol Gruppo SPA	Ba2	11/24/2017	500	11/21/2017	3.50% Euro 11/29/2027 (EUR)
United Overseas Bank Ltd Sydney Branch	Aa1	11/21/2017	400	11/28/2017	Flt Rt Australian 11/28/2018 (AUD)
Vanke Real Estate (Hong Kong) Co Ltd	Baa2	11/01/2017	1000	11/09/2017	3.98% Euro 11/09/2027 (USD)
Veolia Environnement SA	Baa1	11/17/2017	500	11/16/2017	Euro Matures 11/23/2020 (EUR)
Verizon Communications Inc	Baa1	11/07/2017	1	11/13/2017	4.65% Matures 11/15/2047 (USD)
	Baa1	11/07/2017	7.113	11/13/2017	3.00% Matures 11/15/2024 (USD)
	Baa1	11/14/2017	4.757	11/20/2017	3.50% Matures 11/15/2027 (USD)
	Baa1	11/14/2017	22.355	11/20/2017	4.65% Matures 11/15/2047 (USD)
	Baa1	11/28/2017	1	12/04/2017	3.50% Matures 12/15/2029 (USD)
Vodafone Group PLC	Baa1	11/20/2017	750	11/20/2017	2.88% Euro Matures 11/20/2037 (EUR)
	Baa1	11/20/2017	750	11/20/2017	1.88% Euro Matures 11/20/2029 (EUR)
	Baa1	11/20/2017	1000	11/20/2017	1.13% Euro Matures 11/20/2025 (EUR)
Volvo Car AB	Ba2	11/21/2017	500	11/24/2017	2.00% Gtd Euro 01/24/2025 (EUR)
Volvo Treas AB	Baa1	11/24/2017	135	11/28/2017	Gtd Flt Rt Euro Matures 11/28/2019 (EUR)
	Baa1	11/27/2017	150	11/22/2017	Gtd Flt Rt Euro Matures 12/04/2019 (EUR)
	Baa1	11/27/2017	500	11/21/2017	0.34% Gtd Euro Matures 11/30/2020 (SEK)
	Baa1	11/29/2017	400	12/04/2017	Gtd Flt Rt Euro Matures 12/04/2020 (SEK)
	Baa1	11/29/2017	250	12/04/2017	0.06% Gtd Euro Matures 12/04/2019 (SEK)
	Baa1	11/29/2017	250	12/04/2017	Gtd Flt Rt Euro Matures 12/04/2019 (SEK)
Western Power Distribution (South West) PLC	Baa1	11/29/2017	1350	12/04/2017	0.35% Gtd Euro Matures 12/04/2020 (SEK)
Westpac Banking Corp	Baa1	11/10/2017	250	11/09/2017	2.38% Euro Matures 05/16/2029 (GBP)
	Aa3	11/17/2017	250	11/28/2017	0.30% Euro Matures 11/28/2025 (CHF)
	Aa3	11/17/2017	570	11/28/2017	Zero Cpn Euro Matures 11/28/2047 (USD)
	Aa3	11/17/2017	500	11/22/2017	0.63% Euro Matures 11/22/2024 (EUR)
Wing Lung Bank Ltd	Baa2	11/09/2017	0	11/09/2017	Sub Euro (USD)

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**Medium Term Note Programs (New)**  
**(Not Registered under Securities Act of 1933)**  
**(Not for Public Offer or Sale)**

Notes issued under these programs are offered and sold from time to time in privately negotiated transactions without registration under the Securities Act of 1933 (the "Act") under circumstances reasonably designed to preclude a distribution thereof in violation of the Act. Notes so issued may be offered and sold only to or for the account of persons that qualify as "accredited investors", as defined in regulation D under the Act.

ISSUER	GUARANTOR/SUPPORT	MOODY'S® RATING	RATING DATE	ORIGINAL AMOUNT *(MILL.)	DESCRIPTION LOCAL CURRENCY
Commonwealth Bank of Australia	----	Baa1/Nr	02/09/2006	15000	Gtd Global (USD)
GE Capital Australia Funding Pty Ltd	----	A2/P-1	08/27/1999	1	Sr Unsec (USD)
General Electric Capital Canada Inc	----	A2/P-1	06/12/1997	1	Sr Unsec (USD)

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Medium-Term-Notes (Revised)

Moody's® assigns ratings to individual long-term debt securities issued from medium-term note (MTN) programs, in addition to indicating ratings to (MTN) programs themselves. Notes issued under MTN programs with such indicated ratings are rated at issuance at the rating applicable to all *pari passu* notes issued under the same program, at the program's relevant indicated rating, provided such notes do not exhibit any of the characteristics listed below. For notes with any of the following characteristics, the rating of the individual note may differ from the indicated rating of the program:

- 1) Notes containing features which link the cash flow and/or market value to the credit performance of any third party or parties.
- 2) Notes allowing for negative coupons, or negative principal.
- 3) Notes containing any provision which could obligate the investor to make any additional payments.

Market participants must determine whether any particular note is rated, and if so, at what rating level. Moody's® encourages market participants to contact Moody's® Ratings Desks directly if they have questions regarding ratings for specific notes issued under a medium-term note program.

ISSUER	MOODY'S® RATING	RATING DATE	ORIGINAL AMOUNT *(MIL.)	ISSUE DATE	INTEREST RATES/MATURITY/LOCAL CURRENCY
Bharat Petroleum Corp Ltd	Baa2	11/17/2017	500	04/22/2015	4.00% Euro Matures 05/08/2025 (USD)
BPRL Int'l Singapore Pte Ltd	Baa2	11/17/2017	600	01/18/2017	4.375% Gtd Euro Matures 01/18/2027 (USD)
Eskom Hldgs Soc Ltd	B1	11/29/2017	1250	02/11/2015	7.13% Global Matures 02/11/2025 (USD)
	B1	11/29/2017	1000	07/30/2013	6.75% Global Matures 08/06/2023 (USD)
Export-Import Bank of India	Baa2	11/17/2017	500	03/24/2015	2.75% Euro Matures 04/01/2020 (USD)
	Baa2	11/17/2017	750	01/07/2013	4.00% Euro Matures 01/14/2023 (USD)
	Baa2	11/17/2017	1000	07/27/2016	3.375% Global Matures 08/05/2026 (USD)
	Baa2	11/17/2017	183.441	02/24/2011	2.80% Euro Matures 02/24/2023 (JPY)
	Baa2	11/17/2017	500	02/04/2015	2.75% Euro Matures 08/12/2020 (USD)
	Baa2	11/17/2017	500	01/11/2016	3.13% Euro Matures 07/20/2021 (USD)
Export-Import Bank of India London Branch	Baa2	11/17/2017	209.549	03/26/2013	5.76% Euro Matures 04/05/2018 (AUD)
GE Capital Australia Funding Pty Ltd	A2	11/16/2017	149.549	02/03/2006	6.00% Gtd Australian Matures 03/15/2019 (AUD)
	A2	11/16/2017	139.14	09/12/2013	5.00% Gtd Euro Matures 09/26/2019 (AUD)
	A2	11/16/2017	132.038	01/21/2014	4.13% Gtd Euro Matures 07/30/2018 (AUD)
	A2	11/16/2017	183.55	09/04/2013	5.25% Gtd Australian Matures 09/04/2020 (AUD)
	A2	11/16/2017	105.675	08/08/2012	Gtd Australian Matures 08/08/2022 (AUD)
	A2	11/16/2017	193.57	05/22/2013	4.00% Gtd Euro Matures 05/22/2018 (AUD)
	A2	11/16/2017	260.664	01/30/2013	Gtd Flt Rt Australian Matures 01/30/2018 (AUD)
	A2	11/16/2017	521.328	01/30/2013	4.50% Gtd Australian Matures 01/30/2018 (AUD)
GE Capital Int'l Funding Co	A2	11/16/2017	1979.425	09/21/2015	3.37% Gtd Global Matures 11/15/2025 (USD)
	A2	11/16/2017	11464.668	09/21/2015	4.42% Gtd Global Matures 11/15/2035 (USD)
	A2	11/16/2017	6106.952	09/21/2015	2.34% Gtd Global Matures 11/15/2020 (USD)
GE Capital UK Funding	A2	11/16/2017	490.115	01/08/2015	Gtd Flt Rt Euro Matures 01/16/2018 (GBP)
	A2	11/16/2017	890.666	07/30/2008	6.75% Gtd Euro Matures 08/06/2018 (GBP)
	A2	11/16/2017	505.272	06/12/2014	2.38% Gtd Euro Matures 12/19/2018 (GBP)
	A2	11/16/2017	49.466	04/10/2008	Gtd Flt Rt Euro Matures 03/05/2038 (GBP)
	A2	11/16/2017	1292.581	04/24/2008	6.25% Gtd Euro Matures 05/05/2038 (GBP)
	A2	11/16/2017	818.706	10/28/2009	5.88% Gtd Euro Matures 11/04/2020 (GBP)
	A2	11/16/2017	791.994	05/10/2006	5.125% Gtd Euro Matures 05/24/2023 (GBP)
	A2	11/16/2017	981.193	01/26/2012	4.38% Gtd Euro Matures 07/31/2019 (GBP)
	A2	11/16/2017	987.842	01/08/2009	8.00% Gtd Euro Matures 01/14/2039 (GBP)
	A2	11/16/2017	864.63	09/09/2013	4.13% Gtd Euro Matures 09/13/2023 (GBP)
	A2	11/16/2017	600.769	04/19/2007	5.625% Gtd Euro Matures 04/25/2019 (GBP)
	A2	11/16/2017	1287.817	01/10/2008	5.875% Gtd Euro Matures 01/18/2033 (GBP)
General Electric Capital Canada Inc	A2	11/16/2017	633.14	09/02/2009	5.68% Gtd Canadian Matures 09/10/2019 (CAD)
General Electric Capital Corp	A2	11/16/2017	7.269	01/09/2006	5.50% Gtd Matures 01/15/2034 (USD)
	A2	11/16/2017	750	01/19/2000	7.375% Global Matures 1/19/2010
	A2	11/16/2017	45.073	12/12/2002	5.625% Matures 12/15/2017 (USD)
	A2	11/16/2017	2.144	04/03/2006	5.70% Matures 04/15/2022 (USD)
	A2	11/16/2017	4.24	04/03/2006	5.90% Matures 04/15/2032 (USD)
	A2	11/16/2017	200	08/16/1999	5.25% Euro Matures 12/7/2028
	A2	11/16/2017	75	05/09/2003	3.25% Step-Up Matures 05/09/2018 (USD)
	A2	11/16/2017	11.416	05/08/2003	5.00% Matures 05/15/2018 (USD)
	A2	11/16/2017	8.33	05/08/2003	5.25% Matures 05/15/2028 (USD)
	A2	11/16/2017	20	03/10/1999	6.00% Matures 2/10/2014
	A2	11/16/2017	20	01/22/1999	6.00% Matures 1/13/2014
	A2	11/16/2017	45	09/24/1998	Flt Rt Matures 8/13/2038
	A2	11/16/2017	25	05/20/2003	4.00% Step-Up Global Matures 06/06/2024 (USD)
	A2	11/16/2017	4.705	02/21/2006	5.65% Matures 02/15/2021 (USD)
	A2	11/16/2017	4.782	02/21/2006	5.75% Matures 02/15/2034 (USD)
	A2	11/16/2017	254	10/23/1998	Flt Rt Matures 10/16/2038
	A2	11/16/2017	40	10/23/1998	Flt Rt Matures 10/20/2038
	A2	11/16/2017	12.151	04/10/2003	5.10% Matures 04/15/2018 (USD)
	A2	11/16/2017	41.906	04/10/2003	5.30% Matures 04/15/2023 (USD)
	A2	11/16/2017	300	08/07/2006	Flt Rt Global Matures 08/15/2036 (USD)
	A2	11/16/2017	28.1	02/11/1998	Flt Rt Matures 9/30/2037
	A2	11/16/2017	20	02/11/1998	6.50% Matures 2/1/2013
	A2	11/16/2017	20	03/06/1998	6.40% Matures 2/6/2013
	A2	11/16/2017	20	03/06/1998	6.50% Matures 1/8/2013
	A2	11/16/2017	20	03/06/1998	7.00% Step-Up Matures 2/20/2013
	A2	11/16/2017	16.307	02/27/2003	5.375% Matures 02/15/2020 (USD)
	A2	11/16/2017	20	02/11/1998	6.40% Matures 1/16/2013
	A2	11/16/2017	293	11/02/2000	6.44% Euro Matures 11/15/2022
	A2	11/16/2017	229.644	12/29/2005	5.012% Global Matures 01/01/2024 (USD)
	A2	11/16/2017	35	02/13/1997	7.15% Matures 2/21/2012
	A2	11/16/2017	20	02/04/1997	7.20% Matures 2/7/2012
	A2	11/16/2017	6.705	03/21/2005	Matures 03/15/2034 (USD)
	A2	11/16/2017	20	01/14/1997	7.40% Matures 1/17/2012
	A2	11/16/2017	25	01/10/1997	7.50% Matures 1/17/2012
	A2	11/16/2017	20	01/16/1997	7.25% Matures 1/23/2012
	A2	11/16/2017	20	01/22/1997	7.25% Matures 1/27/2012
	A2	11/16/2017	20	01/22/1997	Step-Down, 8.125% Matures 1/27/2012
	A2	11/16/2017	20	01/27/1997	7.40% Matures 1/30/2012
	A2	11/16/2017	25	01/30/1997	Step-Up, 7.25% Matures 2/6/2012
	A2	11/16/2017	25	12/05/1996	Flt. rt. Matures 12/1/2036
	A2	11/16/2017	300	01/21/2004	Step Up Global Matures 02/13/2019 (USD)
	A2	11/16/2017	11.659	02/12/2004	Matures 02/15/2019 (USD)
	A2	11/16/2017	50	02/13/2004	Step Up Matures 02/13/2024 (USD)
	A2	11/16/2017	100	05/04/2006	Global Matures 05/12/2018 (USD)
	A2	11/16/2017	175	12/09/1999	5.50% Euro Ser 3493 & 3495 Matures 6/7/2021
	A2	11/16/2017	25.59	05/10/1996	Flt. rt. Matures 5/15/2036
	A2	11/16/2017	14.621	01/15/2004	Matures 01/15/2021 (USD)
	A2	11/16/2017	25	06/19/1997	7.25% Matures 2/28/2012

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ISSUER	MOODY'S® RATING	RATING DATE	ORIGINAL AMOUNT (Mill.)	ISSUE DATE	INTEREST RATES/MATURITY/LOCAL CURRENCY
A2		11/16/2017	2000	11/13/1990	Matures 11/13/2050
A2		11/16/2017	4.5	02/26/1992	Global A.B.& C due 9 mos to 60 yrs.
A2		11/16/2017	30	02/21/1996	6.75%, Step-Up, Sr. Unsec. Matures 2/28/2011
A2		11/16/2017	25	02/15/1996	6.50%, Sr. Unsec. Matures 2/22/2011
A2		11/16/2017	25	02/28/2005	4.875% Step-Up Global Matures 03/11/2025 (USD)
A2		11/16/2017	13.562	03/21/2005	Matures 03/15/2020 (USD)
A2		11/16/2017	5000	03/20/2002	6.75% Global Matures 03/15/2032 (USD)
A2		11/16/2017	200	06/15/2000	6.25% Euro Matures 9/29/2020
A2		11/16/2017	0.001	01/03/2006	5.65% Matures 01/15/2033 (USD)
A2		11/16/2017	500	12/21/2005	Global Matures 01/05/2026 (USD)
A2		11/16/2017	2.571	02/14/2005	4.90% Matures 02/15/2020 (USD)
A2		11/16/2017	5.626	02/14/2005	5.125% Matures 02/15/2034 (USD)
A2		11/16/2017	8.12	11/06/2003	Matures 11/15/2019 (USD)
A2		11/16/2017	6.422	11/06/2003	Matures 11/15/2022 (USD)
A2		11/16/2017	25	02/07/2002	6.20% Global Matures 02/07/2022 (USD)
A2		11/16/2017	9.728	05/14/2003	Matures 05/15/2018 (USD)
A2		11/16/2017	20.167	05/14/2003	Matures 05/15/2023 (USD)
A2		11/16/2017	7	05/14/2003	Matures 05/15/2028 (USD)
A2		11/16/2017	49.921	01/16/2003	5.75% Matures 01/15/2020 (USD)
A2		11/16/2017	785.425	05/10/2002	6.25% Euro Matures 12/15/2017 (GBP)
A2		11/16/2017	9.798	08/22/2005	5.40% Matures 08/15/2030 (USD)
A2		11/16/2017	35	08/26/2002	6.00% Matures 08/23/2027 (USD)
A2		11/16/2017	50	11/21/2002	Flt Rt Global Matures 11/21/2042 (USD)
A2		11/16/2017	9.295	11/21/2005	5.70% Matures 11/15/2024 (USD)
A2		11/16/2017	3.371	11/21/2005	5.80% Matures 11/15/2032 (USD)
A2		11/16/2017	41.137	12/19/2002	5.80% Matures 12/15/2019 (USD)
A2		11/16/2017	36.943	12/27/2002	5.625% Matures 12/15/2017 (USD)
A2		11/16/2017	75	07/15/2002	6.25% Global Matures 07/15/2027 (USD)
A2		11/16/2017	7.657	05/08/2006	Matures 05/15/2022 (USD)
A2		11/16/2017	6.877	05/08/2006	Matures 05/15/2032 (USD)
A2		11/16/2017	0.931	01/09/2003	3.75% Matures 1/15/2010
A2		11/16/2017	32.965	05/30/2003	Matures 05/15/2028 (USD)
A2		11/16/2017	5.155	08/07/2006	5.85% Matures 08/15/2019 (USD)
A2		11/16/2017	11.819	08/07/2006	6.10% Matures 08/15/2030 (USD)
A2		11/16/2017	100	05/13/2003	4.00% Step-Up Global Matures 05/30/2018 (USD)
A2		11/16/2017	29.368	03/06/2003	5.40% Matures 03/15/2020 (USD)
A2		11/16/2017	5.238	05/22/2003	Matures 05/15/2018 (USD)
A2		11/16/2017	24.172	05/22/2003	Matures 05/15/2020 (USD)
A2		11/16/2017	40.685	05/22/2003	Matures 05/15/2028 (USD)
A2		11/16/2017	7.617	06/05/2003	Matures 06/15/2018 (USD)
A2		11/16/2017	23.82	06/05/2003	Matures 06/15/2029 (USD)
A2		11/16/2017	11.221	06/19/2006	6.30% Matures 06/15/2032 (USD)
A2		11/16/2017	13.798	06/19/2006	6.125% Matures 06/15/2019 (USD)
A2		11/16/2017	7.47	08/15/2005	5.45% Matures 08/15/2030 (USD)
A2		11/16/2017	3.748	08/15/2005	5.50% Matures 08/15/2034 (USD)
A2		11/16/2017	75	06/10/2003	3% Step-Up Global Matures 06/27/2018 (USD)
A2		11/16/2017	16.317	03/20/2003	5.00% Matures 03/15/2018 (USD)
A2		11/16/2017	15.317	03/20/2003	5.125% Matures 03/15/2020 (USD)
A2		11/16/2017	72.462	07/03/2003	Matures 07/15/2028 (USD)
A2		11/16/2017	9.416	06/26/2003	Matures 06/15/2020 (USD)
A2		11/16/2017	24.539	06/26/2003	Matures 06/15/2028 (USD)
A2		11/16/2017	6.124	05/30/2006	Matures 06/15/2022 (USD)
A2		11/16/2017	3.137	05/30/2006	Matures 06/15/2032 (USD)
A2		11/16/2017	19.918	07/10/2003	Matures 07/15/2023 (USD)
A2		11/16/2017	61	07/10/2003	Matures 07/15/2028 (USD)
A2		11/16/2017	5.686	03/27/2003	5.00% Matures 03/15/2018 (USD)
A2		11/16/2017	47.173	03/27/2003	5.50% Matures 03/15/2023 (USD)
A2		11/16/2017	23.018	02/13/2003	5.50% Matures 02/15/2020 (USD)
A2		11/16/2017	32.198	01/30/2003	5.50% Matures 01/15/2020 (USD)
A2		11/16/2017	12.097	06/12/2003	Matures 06/15/2018 (USD)
A2		11/16/2017	16.383	06/19/2003	Matures 06/15/2018 (USD)
A2		11/16/2017	65.693	06/12/2003	Matures 06/15/2028 (USD)
A2		11/16/2017	15.402	06/19/2003	Matures 06/15/2028 (USD)
A2		11/16/2017	50	06/16/2003	3.75% Step-Up Global Matures 06/30/2018 (USD)
A2		11/16/2017	21.278	04/03/2003	5.25% Matures 04/15/2018 (USD)
A2		11/16/2017	29.216	04/03/2003	5.45% Matures 04/15/2023 (USD)
A2		11/16/2017	7.252	04/24/2003	Matures 04/15/2018 (USD)
A2		11/16/2017	56.46	04/24/2003	Matures 04/15/2023 (USD)
A2		11/16/2017	7.875	10/09/2003	5.25% Matures 10/15/2019 (USD)
A2		11/16/2017	17.187	10/09/2003	5.40% Matures 10/15/2022 (USD)
A2		11/16/2017	11.107	09/11/2003	Matures 12/15/2018 (USD)
A2		11/16/2017	87.68	09/11/2003	Matures 12/15/2023 (USD)
A2		11/16/2017	8.43	09/05/2003	Matures 09/15/2019 (USD)
A2		11/16/2017	11.924	09/05/2003	Matures 12/15/2023 (USD)
A2		11/16/2017	2.698	01/30/2006	5.35% Matures 02/15/2021 (USD)
A2		11/16/2017	3.308	01/30/2006	5.55% Matures 02/15/2034 (USD)
A2		11/16/2017	13.97	11/14/2003	5.50% Matures 11/15/2019 (USD)
A2		11/16/2017	10.258	11/14/2003	5.65% Matures 11/15/2022 (USD)
A2		11/16/2017	9.998	10/23/2003	Matures 10/15/2019 (USD)
A2		11/16/2017	8.561	10/23/2003	Matures 10/15/2022 (USD)
A2		11/16/2017	783.945	12/11/2003	5.375% Euro Matures 12/18/2040 (GBP)
A2		11/16/2017	4.597	01/02/2004	Matures 01/15/2019 (USD)
A2		11/16/2017	8.628	01/02/2004	Matures 01/15/2024 (USD)
A2		11/16/2017	14	08/21/2003	Matures 08/15/2019 (USD)
A2		11/16/2017	13	08/21/2003	Matures 11/15/2023 (USD)
A2		11/16/2017	1.53	05/01/2006	5.85% Matures 05/15/2022 (USD)
A2		11/16/2017	4.932	05/01/2006	6.00% Matures 05/15/2032 (USD)
A2		11/16/2017	8.904	09/26/2003	Matures 12/15/2019 (USD)
A2		11/16/2017	9.382	09/25/2003	Matures 12/15/2022 (USD)
A2		11/16/2017	13.402	10/30/2003	Matures 10/15/2019 (USD)
A2		11/16/2017	6.471	10/30/2003	Matures 10/15/2022 (USD)
A2		11/16/2017	50	08/09/2006	Flt Rt Global Matures 08/07/2018 (USD)
A2		11/16/2017	4.47	08/28/2003	5.60% Matures 08/15/2019 (USD)
A2		11/16/2017	25	08/12/2003	4.75% Step-Up Global Matures 08/28/2019 (USD)
A2		11/16/2017	20.93	08/28/2003	5.80% Matures 11/15/2023 (USD)
A2		11/16/2017	6.853	10/02/2003	Matures 10/15/2019 (USD)
A2		11/16/2017	11.114	10/02/2003	Matures 10/15/2022 (USD)
A2		11/16/2017	31.671	01/15/2004	Matures 01/15/2024 (USD)
A2		11/16/2017	17.268	03/04/2004	Matures 03/15/2024 (USD)
A2		11/16/2017	11.127	04/19/2004	Matures 04/15/2019 (USD)
A2		11/16/2017	17.163	04/19/2004	Matures 04/15/2024 (USD)
A2		11/16/2017	25	04/30/2004	5.00% Step-Up Matures 04/30/2024 (USD)
A2		11/16/2017	6.767	05/10/2004	Matures 05/15/2024 (USD)
A2		11/16/2017	13.894	07/19/2004	5.50% Matures 07/15/2019 (USD)

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	A2	11/16/2017	15.615	07/19/2004	5.625% Matures 07/15/2029 (USD)
	A2	11/16/2017	55.902	05/17/2004	Matures 05/15/2023 (USD)
	A2	11/16/2017	10.493	06/07/2004	Matures 06/15/2023 (USD)
	A2	11/16/2017	8.985	06/14/2004	Matures 12/15/2023 (USD)
	A2	11/16/2017	11.966	04/26/2004	Matures 10/15/2021 (USD)
	A2	11/16/2017	7.023	07/26/2004	5.45% Matures 07/15/2019 (USD)
	A2	11/16/2017	8.794	07/26/2004	5.60% Matures 07/15/2029 (USD)
	A2	11/16/2017	13.725	03/15/2004	Matures 03/15/2023 (USD)
	A2	11/16/2017	6.957	09/11/2006	5.80% Matures 09/15/2019 (USD)
	A2	11/16/2017	32.282	09/11/2006	6.00% Matures 09/15/2030 (USD)
	A2	11/16/2017	75	03/24/2004	5% Step-Up Global Matures 03/15/2019 (USD)
	A2	11/16/2017	20.579	03/22/2004	Matures 03/15/2029 (USD)
	A2	11/16/2017	211.651	01/06/2004	6.50% Euro Matures 01/27/209 (NZD)
	A2	11/16/2017	3.098	12/04/2003	5.375% Matures 12/15/2019 (USD)
	A2	11/16/2017	9.672	12/04/2003	5.50% Matures 12/15/2023 (USD)
	A2	11/16/2017	13.453	02/05/2004	Matures 02/15/2023 (USD)
	A2	11/16/2017	5.023	06/21/2004	Matures 06/15/2019 (USD)
	A2	11/16/2017	17.454	06/21/2004	Matures 12/15/2023 (USD)
	A2	11/16/2017	10.058	03/29/2004	Matures 10/15/2021 (USD)
	A2	11/16/2017	15.864	03/29/2004	Matures 04/15/2029 (USD)
	A2	11/16/2017	6.301	06/28/2004	5.625% Matures 07/15/2019 (USD)
	A2	11/16/2017	6.032	06/28/2004	5.875% Matures 01/15/2024 (USD)
	A2	11/16/2017	12.957	04/05/2004	Matures 04/15/2024 (USD)
	A2	11/16/2017	11.13	04/19/2004	Matures 04/15/2019 (USD)
	A2	11/16/2017	17.16	04/19/2004	Matures 04/15/2024 (USD)
	A2	11/16/2017	11.111	05/03/2004	Matures 05/15/2024 (USD)
	A2	11/16/2017	11.803	02/20/2004	5.25% Matures 02/15/2023 (USD)
	A2	11/16/2017	6.431	02/27/2006	5.625% Matures 03/15/2022 (USD)
	A2	11/16/2017	3.933	02/27/2006	5.70% Matures 03/15/2032 (USD)
	A2	11/16/2017	50	03/16/2004	5.00% Global Matures 03/30/2019 (USD)
	A2	11/16/2017	75	03/16/2004	4.75% Step-Up Global Matures 03/30/2024 (USD)
	A2	11/16/2017	11.336	02/26/2004	5.00% Matures 02/15/2018 (USD)
	A2	11/16/2017	21.345	02/26/2004	5.25% Matures 02/15/2024 (USD)
	A2	11/16/2017	25	03/26/2004	Step-Up Matures 04/02/2024 (USD)
	A2	11/16/2017	7.779	09/20/2004	5.125% Matures 09/15/2019 (USD)
	A2	11/16/2017	8.264	09/20/2004	5.35% Matures 09/15/2022 (USD)
	A2	11/16/2017	10.664	08/23/2004	5.25% Matures 08/15/2019 (USD)
	A2	11/16/2017	20.117	08/23/2004	5.50% Matures 08/15/2023 (USD)
	A2	11/16/2017	7.356	09/27/2004	5.00% Matures 09/15/2019 (USD)
	A2	11/16/2017	10.34	09/27/2004	5.25% Matures 09/15/2023 (USD)
	A2	11/16/2017	100	12/18/2003	Step-Up Matures 12/18/2018 (USD)
	A2	11/16/2017	19.885	12/12/1995	Flt Rt Global Matures 12/15/2035 (USD)
	A2	11/16/2017	25	03/28/2005	5.25% Step Up Gibl Matures 04/11/2025 (USD)
	A2	11/16/2017	25	09/17/2004	4.50% Step-Up Matures 09/24/2024 (USD)
	A2	11/16/2017	9.887	12/18/2003	5.50% Matures 12/15/2022 (USD)
	A2	11/16/2017	8.598	10/04/2004	5.00% Matures 10/15/2019 (USD)
	A2	11/16/2017	5.792	10/04/2004	5.15% Matures 10/15/2023 (USD)
	A2	11/16/2017	175.5	09/21/2004	Flt Rt Global Matures 05/13/2024 (USD)
	A2	11/16/2017	35.88	12/26/2003	Matures 12/15/2023 (USD)
	A2	11/16/2017	6.601	08/30/2004	5.25% Matures 09/15/2019 (USD)
	A2	11/16/2017	12.564	08/30/2004	5.50% Matures 09/15/2023 (USD)
	A2	11/16/2017	8.5	04/11/2005	5.25% Matures 04/15/2020 (USD)
	A2	11/16/2017	4.324	04/11/2005	5.50% Matures 04/15/2034 (USD)
	A2	11/16/2017	31.969	12/05/2003	Flt Rt Global Matures 12/10/2043 (USD)
	A2	11/16/2017	10.08	08/02/2004	5.75% Matures 08/15/2029 (USD)
	A2	11/16/2017	6.464	09/07/2004	5.125% Matures 09/15/2019 (USD)
	A2	11/16/2017	6.505	09/07/2004	5.375% Matures 09/15/2022 (USD)
	A2	11/16/2017	2.953	02/22/2005	4.90% Matures 02/15/2020 (USD)
	A2	11/16/2017	6.067	02/22/2005	5.15% Matures 02/15/2034 (USD)
	A2	11/16/2017	21.275	09/01/2004	Flt Rt Matures 09/01/2044 (USD)
	A2	11/16/2017	10.433	05/22/2006	Matures 05/15/2022 (USD)
	A2	11/16/2017	5.637	05/22/2006	Matures 05/15/2032 (USD)
	A2	11/16/2017	4.589	08/09/2004	5.375% Matures 08/15/2019 (USD)
	A2	11/16/2017	10.075	08/09/2004	5.625% Matures 08/15/2023 (USD)
	A2	11/16/2017	7.31	08/16/2004	5.25% Matures 08/15/2019 (USD)
	A2	11/16/2017	9.503	08/16/2004	5.50% Matures 11/15/2023 (USD)
	A2	11/16/2017	5.675	09/13/2004	5.25% Matures 09/15/2019 (USD)
	A2	11/16/2017	8.733	09/13/2004	5.375% Matures 09/15/2022 (USD)
	A2	11/16/2017	8.542	05/16/2005	5.25% Matures 05/15/2025 (USD)
	A2	11/16/2017	5.923	05/16/2005	5.40% Matures 05/15/2034 (USD)
	A2	11/16/2017	6.035	06/06/2005	5.05% Matures 06/15/2025 (USD)
	A2	11/16/2017	3.143	06/06/2005	5.15% Matures 06/15/2034 (USD)
	A2	11/16/2017	6.084	06/13/2005	5.00% Matures 06/15/2025 (USD)
	A2	11/16/2017	4.136	06/13/2005	5.125% Matures 06/15/2034 (USD)
	A2	11/16/2017	11.042	01/31/2005	Matures 02/15/2020 (USD)
	A2	11/16/2017	7.314	03/07/2005	5.15% Matures 03/15/2020 (USD)
	A2	11/16/2017	6.951	03/07/2005	5.30% Matures 03/15/2034 (USD)
	A2	11/16/2017	1.595	05/02/2005	5.25% Matures 05/15/2025 (USD)
	A2	11/16/2017	0	05/02/2005	5.30% Matures 05/13/2034 (USD)
	A2	11/16/2017	13.351	05/23/2005	5.20% Matures 05/15/2025 (USD)
	A2	11/16/2017	8.4	05/23/2005	5.30% Matures 05/15/2034 (USD)
	A2	11/16/2017	8.326	02/28/2005	5.30% Matures 03/15/2030 (USD)
	A2	11/16/2017	4.381	02/28/2005	5.375% Matures 03/15/2034 (USD)
	A2	11/16/2017	3.174	09/25/2006	5.65% Matures 10/15/2023 (USD)
	A2	11/16/2017	25	07/22/2004	4.75% Step-Up Matures 07/22/2024 (USD)
	A2	11/16/2017	11.356	04/04/2005	5.50% Matures 04/15/2020 (USD)
	A2	11/16/2017	5.78	04/04/2005	5.65% Matures 04/15/2034 (USD)
	A2	11/16/2017	25	02/22/2005	4.75% Step Up Global Matures 03/01/2021 (USD)
	A2	11/16/2017	6.052	05/31/2005	5.10% Matures 06/15/2025 (USD)
	A2	11/16/2017	6.256	05/31/2005	5.25% Matures 06/15/2034 (USD)
	A2	11/16/2017	2.442	03/14/2005	5.15% Matures 03/15/2020 (USD)
	A2	11/16/2017	4.046	03/14/2005	5.30% Matures 03/15/2034 (USD)
	A2	11/16/2017	5.736	04/25/2005	5.15% Matures 04/15/2020 (USD)
	A2	11/16/2017	4.994	04/25/2005	5.35% Matures 04/15/2034 (USD)
	A2	11/16/2017	7.079	03/28/2005	5.35% Matures 03/15/2020 (USD)
	A2	11/16/2017	3.393	03/28/2005	5.55% Matures 03/15/2034 (USD)
	A2	11/16/2017	8.348	05/20/2005	5.10% Matures 06/15/2025 (USD)
	A2	11/16/2017	3.749	05/20/2005	5.20% Matures 06/15/2034 (USD)
	A2	11/16/2017	4.469	09/12/2005	5.20% Matures 09/15/2025 (USD)
	A2	11/16/2017	2.85	09/12/2005	5.30% Matures 09/15/2034 (USD)
	A2	11/16/2017	4.126	07/05/2005	5.05% Matures 07/15/2034 (USD)
	A2	11/16/2017	0.844	07/05/2005	4.95% Matures 07/15/2025 (USD)
	A2	11/16/2017	14.972	01/18/2005	Matures 01/15/2020 (USD)
	A2	11/16/2017	24.587	01/18/2005	Matures 01/15/2029 (USD)

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ISSUER	MOODY'S® RATING	RATING DATE	ORIGINAL AMOUNT *(Mill.)	ISSUE DATE	INTEREST RATES/MATURITY/LOCAL CURRENCY
	A2	11/16/2017	25	07/18/2005	Step-Up Matures 07/29/2020 (USD)
	A2	11/16/2017	4,054	08/01/2005	Matures 08/15/2025 (USD)
	A2	11/16/2017	3,762	08/01/2005	Matures 08/15/2034 (USD)
	A2	11/16/2017	2,927	08/29/2005	5.20% Matures 09/15/2025 (USD)
	A2	11/16/2017	3,346	08/29/2005	5.25% Matures 09/15/2034 (USD)
	A2	11/16/2017	0.001	11/17/2003	5.75% Matures 11/15/2023 (USD)
	A2	11/16/2017	0.001	11/17/2003	5.625% Matures 02/15/2021 (USD)
	A2	11/16/2017	2,283	01/10/2005	5.125% Matures 01/15/2020 (USD)
	A2	11/16/2017	19,522	01/10/2005	5.25% Matures 01/15/2022 (USD)
	A2	11/16/2017	7,302	09/26/2005	5.25% Matures 09/15/2025 (USD)
	A2	11/16/2017	2,259	09/26/2005	5.35% Matures 09/15/2034 (USD)
	A2	11/16/2017	5,058	07/11/2005	5.15% Matures 07/15/2025 (USD)
	A2	11/16/2017	5,685	07/11/2005	5.25% Matures 07/15/2034 (USD)
	A2	11/16/2017	20,965	02/07/2005	Matures 02/15/2020 (USD)
	A2	11/16/2017	7,599	02/07/2005	Matures 02/15/2034 (USD)
	A2	11/16/2017	10,498	07/25/2005	5.15% Matures 07/15/2025 (USD)
	A2	11/16/2017	7,965	07/25/2005	5.25% Matures 7/15/2034 (USD)
	A2	11/16/2017	7,583	09/06/2005	5.10% Matures 09/15/2025 (USD)
	A2	11/16/2017	3,467	09/06/2005	5.25% Matures 09/15/2034 (USD)
	A2	11/16/2017	8,432	08/08/2005	Matures 08/15/2025 (USD)
	A2	11/16/2017	3,877	08/08/2005	Matures 08/15/2034 (USD)
	A2	11/16/2017	6,018	06/27/2005	5.15% Matures 06/15/2025 (USD)
	A2	11/16/2017	7,095	06/27/2005	5.25% Matures 06/15/2034 (USD)
	A2	11/16/2017	3,536	09/12/2005	5.05% Matures 09/15/2025 (USD)
	A2	11/16/2017	1,445	09/12/2005	5.15% Matures 09/15/2034 (USD)
	A2	11/16/2017	2,507	03/06/2006	5.60% Matures 03/15/2022 (USD)
	A2	11/16/2017	4,579	03/06/2006	5.75% Matures 03/15/2032 (USD)
	A2	11/16/2017	95	09/25/2008	Flt Rt Euro Matures 01/04/2028 (USD)
	A2	11/16/2017	25	09/28/2005	Step-Up Matures 10/07/2021 (USD)
	A2	11/16/2017	5,201	02/06/2006	5.50% Matures 02/15/2021 (USD)
	A2	11/16/2017	3,81	02/06/2006	5.70% Matures 02/15/2034 (USD)
	A2	11/16/2017	2,253	11/28/2005	Matures 12/15/2024 (USD)
	A2	11/16/2017	1,362	11/28/2005	Matures 12/15/2032 (USD)
	A2	11/16/2017	2,599	03/13/2006	5.75% Matures 03/15/2022 (USD)
	A2	11/16/2017	5,545	03/13/2006	5.90% Matures 03/15/2032 (USD)
	A2	11/16/2017	7,079	12/05/2005	5.50% Matures 12/15/2024 (USD)
	A2	11/16/2017	2,586	10/31/2005	5.45% Matures 11/15/2025 (USD)
	A2	11/16/2017	0,587	10/31/2005	5.55% Matures 11/15/2034 (USD)
	A2	11/16/2017	0,001	12/12/2005	5.75% Matures 12/15/2024 (USD)
	A2	11/16/2017	936,108	09/06/2005	4.125% Sub Euro Matures 09/19/2035 (EUR)
	A3	11/16/2017	750	09/06/2005	4.875% Sub Euro Matures (GBP)
	A2	11/16/2017	450	01/26/2006	6.00% Euro Matures 02/02/2046 (USD)
	A2	11/16/2017	72,254	11/22/2005	Flt Rt Global Matures 11/28/2045 (USD)
	A2	11/16/2017	6,766	10/03/2005	5.30% Matures 10/15/2025 (USD)
	A2	11/16/2017	2,927	10/03/2005	5.40% Matures 10/15/2034 (USD)
	A2	11/16/2017	0,001	12/19/2005	5.65% Matures 12/15/2024
	A2	11/16/2017	0,001	12/19/2005	5.8% Matures 12/15/2032
	A2	11/16/2017	25	10/18/2005	4.875% Step-Up Global Matures 10/28/2021 (USD)
	A2	11/16/2017	7,293	01/17/2006	5.50% Matures 01/15/2034 (USD)
	A2	11/16/2017	1,771	01/17/2006	5.375% Matures 01/15/2021 (USD)
	A2	11/16/2017	5,614	02/13/2006	5.60% Matures 02/15/2021 (USD)
	A2	11/16/2017	7,128	02/13/2006	5.75% Matures 02/15/2034 (USD)
	A2	11/16/2017	2,388	11/07/2005	5.625% Matures 11/15/2025 (USD)
	A2	11/16/2017	2,918	11/07/2005	5.70% Matures 11/15/2032 (USD)
	A2	11/16/2017	16,379	09/18/2006	5.85% Matures 09/15/2019 (USD)
	A2	11/16/2017	42,115	09/18/2006	6.00% Matures 09/15/2030 (USD)
	A2	11/16/2017	13,666	10/11/2005	5.40% Matures 10/15/2025 (USD)
	A2	11/16/2017	3,809	10/11/2005	5.50% Matures 10/15/2034 (USD)
	A2	11/16/2017	5,756	11/14/2005	5.75% Matures 11/15/2025 (USD)
	A2	11/16/2017	2,055	11/14/2005	5.85% Matures 11/15/2032 (USD)
	A2	11/16/2017	25	07/27/2005	Step Up Global Matures 08/05/2025 (USD)
	A2	11/16/2017	4,521	06/05/2006	6.20% Matures 06/15/2032 (USD)
	A2	11/16/2017	8,06	06/05/2006	6.00% Matures 06/15/2022 (USD)
	A2	11/16/2017	13,988	09/05/2006	6.00% Matures 09/15/2030 (USD)
	A2	11/16/2017	3,77	09/05/2006	5.75% Matures 09/15/2019 (USD)
	A2	11/16/2017	7,835	06/05/2006	6.00% Matures 06/15/2022 (USD)
	A2	11/16/2017	4,206	06/05/2006	6.15% Matures 06/15/2022 (USD)
	A2	11/16/2017	0,001	07/17/2006	6.30% Matures 07/15/2032 (USD)
	A2	11/16/2017	0,001	07/17/2006	6.15% Matures 07/15/2019 (USD)
	A2	11/16/2017	11,885	04/24/2006	6.00% Matures 04/15/2022 (USD)
	A2	11/16/2017	18,354	04/24/2006	6.15% Matures 04/15/2032 (USD)
	A2	11/16/2017	9,549	07/24/2006	6.15% Matures 08/15/2032 (USD)
	A2	11/16/2017	14,818	07/24/2006	6.05% Matures 08/15/2019 (USD)
	A2	11/16/2017	5,028	06/12/2006	6.00% Matures 06/15/2022 (USD)
	A2	11/16/2017	4,313	06/12/2006	6.15% Matures 06/15/2032 (USD)
	A2	11/16/2017	16,088	08/07/2006	6.00% Matures 08/15/2019 (USD)
	A2	11/16/2017	5,307	08/07/2006	6.15% Matures 08/15/2032 (USD)
	A2	11/16/2017	5,08	03/20/2006	5.80% Matures 03/15/2022 (USD)
	A2	11/16/2017	48,408	03/20/2006	6.00% Matures 03/15/2032 (USD)
	A2	11/16/2017	600	05/02/2006	Flt Rt Global Matures 05/05/2026 (USD)
	A2	11/16/2017	39,473	08/14/2006	6.00% Matures 08/15/2019 (USD)
	A2	11/16/2017	25.2	08/14/2006	6.125% Matures 08/15/2030 (USD)
	A2	11/16/2017	0,001	05/15/2006	Matures 05/15/2022 (USD)
	A2	11/16/2017	0,001	05/15/2006	Matures 05/15/2032 (USD)
	A2	11/16/2017	2,529	03/27/2006	5.70% Matures 03/15/2022 (USD)
	A2	11/16/2017	5,022	03/27/2006	5.875% Matures 03/15/2032 (USD)
	A2	11/16/2017	7,373	08/21/2006	5.75% Matures 08/15/2019 (USD)
	A2	11/16/2017	13,547	08/21/2006	6.00% Matures 08/15/2030 (USD)
	A2	11/16/2017	2,729	04/10/2006	5.85% Matures 04/15/2022 (USD)
	A2	11/16/2017	10,268	04/10/2006	6.05% Matures 04/15/2032 (USD)
	A2	11/16/2017	6,993	08/28/2006	5.75% Matures 09/15/2019 (USD)
	A2	11/16/2017	21,58	08/28/2006	6.00% Matures 09/15/2030 (USD)
	A2	11/16/2017	3,51	11/27/2006	5.05% Matures 12/15/2018 (USD)
	A2	11/16/2017	1,399	03/19/2007	5.00% Matures 03/15/2018 (USD)
	A2	11/16/2017	6,287	03/12/2007	5.00% Matures 03/15/2018 (USD)
	A2	11/16/2017	100	11/14/2006	Flt Rt Euro Matures 12/28/2018 (USD)
	A2	11/16/2017	121,266	12/14/2006	Flt Rt Global Matures 12/21/2046 (USD)
	A2	11/16/2017	43,426	11/29/2006	4.208% Euro Matures 12/06/2021 (SEK)
	A2	11/16/2017	1,784	05/21/2007	Matures 05/15/2018 (USD)
	A2	11/16/2017	750	04/27/2007	Global Matures 05/04/2020 (USD)
	A2	11/16/2017	1,884	06/11/2007	Matures 06/15/2018 (USD)
	A2	11/16/2017	69,945	09/24/2007	6.00% Matures 09/15/2023 (USD)
	A2	11/16/2017	126,824	10/01/2007	6.15% Matures 10/15/2026 (USD)
	A2	11/16/2017	2000	08/02/2007	Global Matures 08/07/2037 (USD)

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	A2	11/16/2017	13.193	09/17/2007	5.65% Matures 09/15/2019 (USD)
	A2	11/16/2017	143.185	08/27/2007	6.125% Matures 08/15/2027 (USD)
	A2	11/16/2017	288.167	09/03/2007	8.35% Euro Matures 09/03/2022 (MXN)
	A2	11/16/2017	48.353	09/04/2007	6.05% Matures 09/15/2024 (USD)
	A2	11/16/2017	125.749	08/20/2007	6.25% Matures 08/15/2027 (USD)
	A2	11/16/2017	105.575	09/10/2007	6.10% Matures 09/15/2026 (USD)
	A2	11/16/2017	129	09/17/2007	6.15% Matures 09/15/2040 (USD)
	A2	11/16/2017	160.412	10/22/2007	6.10% Matures 10/15/2026 (USD)
	A2	11/16/2017	167.43	10/17/2007	Flt Rt Global Matures 11/20/2047 (USD)
	A2	11/16/2017	206	01/11/2008	Matures 01/15/2038 (USD)
	A2	11/16/2017	31.149	11/14/2007	5.085% Euro Matures 11/14/2026 (SKK)
	A2	11/16/2017	29.739	11/13/2007	5.75% Matures 11/15/2022 (USD)
	A2	11/16/2017	73.729	11/13/2007	6.00% Matures 11/15/2037 (USD)
	A2	11/16/2017	33.531	11/30/2007	4.96% Euro Matures 11/30/2022 (CZK)
	A2	11/16/2017	25	11/26/2007	Gld Indx Lkd Global (USD)
	A2	11/16/2017	20.511	10/29/2007	5.55% Matures 11/15/2019 (USD)
	A2	11/16/2017	24.613	10/29/2007	5.90% Matures 11/15/2025 (USD)
	A2	11/16/2017	15.468	10/03/2007	5.50% Euro Matures 10/03/2019 (HKD)
	A2	11/16/2017	28.25	12/03/2007	4.6385% Euro Matures 12/10/2017 (HKD)
	A2	11/16/2017	32.759	12/17/2007	5.50% Matures 12/15/2019 (USD)
	A2	11/16/2017	25.494	11/19/2007	5.70% Matures 11/15/2022 (USD)
	A2	11/16/2017	46.103	02/28/2008	Matures 02/15/2023 (USD)
	A2	11/16/2017	20.8	02/20/2008	Flt Rt Euro Matures 03/20/2023 (USD)
	A2	11/16/2017	41.866	01/31/2008	Matures 02/15/2023 (USD)
	A2	11/16/2017	42.744	04/24/2008	5.70% Matures 04/15/2026 (USD)
	A2	11/16/2017	98.828	04/21/2008	6.00% Matures 04/15/2038 (USD)
	A2	11/16/2017	0.001	02/07/2008	Matures 02/15/2020 (USD)
	A2	11/16/2017	25	03/05/2008	Flt Rt Euro Matures 12/20/2017 (USD)
	A2	11/16/2017	101.5	02/07/2008	Flt Rt Euro Matures 02/20/2018 (USD)
	A2	11/16/2017	191.731	02/14/2008	Matures 02/15/2019 (USD)
	A2	11/16/2017	40.857	04/10/2008	Matures 04/15/2019 (USD)
	A2	11/16/2017	18.113	02/07/2008	5.143% Euro Matures 02/07/2022 (SKK)
	A2	11/16/2017	6.267	09/18/2008	5.75% Matures 09/15/2023 (USD)
	A2	11/16/2017	35	08/15/2002	6.2% Global Matures 08/15/2027 (USD)
	A2	11/16/2017	20	05/21/1996	Flt Rt Matures 05/28/2036 (USD)
	A2	11/16/2017	19.8	10/30/1996	Flt Rt Matures 11/03/2036 (USD)
	A2	11/16/2017	1	01/31/2003	6.5% Euro Matures (EUR)
	A2	11/16/2017	7.831	11/08/2004	5.1% Matures 11/15/2019 (USD)
	A2	11/16/2017	8.617	11/15/2004	5.375% Matures 11/15/2022 (USD)
	A2	11/16/2017	8.069	09/18/2003	5.5% Matures 12/15/2019 (USD)
	A2	11/16/2017	17.57	12/11/2003	5.625% Matures 12/15/2023 (USD)
	A2	11/16/2017	0	05/15/2008	Matures 05/15/2018 (USD)
	A2	11/16/2017	25	10/18/2004	4.25% Step Up Matures 10/29/2019 (USD)
	A2	11/16/2017	70.57	04/30/2008	4.21% Euro Matures 04/30/2018 (HKD)
	A2	11/16/2017	39.768	05/08/2008	4.433% Euro Matures 05/08/2018 (HKD)
	A2	11/16/2017	27.692	05/01/2008	Matures 05/15/2024 (USD)
	A2	11/16/2017	4000	04/21/2008	Gibl Matures 05/01/2018 (USD)
	A2	11/16/2017	45.168	09/24/2008	5.13% Euro Matures 09/24/2018 (CZK)
	A2	11/16/2017	30.299	09/11/2008	6.10% Matures 09/15/2025 (USD)
	A2	11/16/2017	9.997	10/18/2004	5.25% Matures 10/15/2022 (USD)
	A2	11/16/2017	250	08/08/2008	6.50% Matures 08/15/2048 (USD)
	A2	11/16/2017	40.092	10/30/1998	Flt Rt Matures 11/04/2038 (USD)
	A2	11/16/2017	6.751	12/27/2004	5.15% Matures 12/15/2019 (USD)
	A2	11/16/2017	15.056	12/27/2004	5.25% Matures 12/15/2021 (USD)
	A2	11/16/2017	28.062	09/24/1997	Flt Rt Matures 09/30/2037 (USD)
	A2	11/16/2017	22.196	04/30/2003	2.5% Matures 05/15/2028 (USD)
	A2	11/16/2017	6.278	11/01/2004	5% Matures 11/15/2019 (USD)
	A2	11/16/2017	304.689	03/31/2008	8.50% Global Matures 04/06/2018 (MXN)
	A2	11/16/2017	76.614	04/03/2008	15.75% Euro Matures 04/16/2018 (TRY)
	A2	11/16/2017	98.828	04/21/2008	Matures 04/15/2038 (USD)
	A2	11/16/2017	115	04/15/2003	5.6% Step Up Global Matures 04/25/2018 (USD)
	A2	11/16/2017	4.754	11/01/2004	5.15% Matures 11/15/2022 (USD)
	A2	11/16/2017	41.251	10/15/2004	Flt Rt Matures 10/15/2044 (USD)
	A2	11/16/2017	10.292	12/20/2004	5.1% Matures 12/15/2019 (USD)
	A2	11/16/2017	7.46	01/03/2005	5.3% Matures 01/15/2020 (USD)
	A2	11/16/2017	2.891	10/24/2005	5.625% Matures 10/15/2034 (USD)
	A2	11/16/2017	15	10/23/1996	Flt Rt Matures 10/28/2036 (USD)
	A2	11/16/2017	13.925	03/13/2003	5% Matures 03/15/2018 (USD)
	A2	11/16/2017	75	05/09/2003	5% Step Up Matures 05/09/2018 (USD)
	A2	11/16/2017	13.855	08/21/2003	5.85% Matures 11/15/2023 (USD)
	A2	11/16/2017	14.229	10/18/2004	5.125% Matures 10/15/2019 (USD)
	A2	11/16/2017	5.775	11/08/2004	5.25% Matures 11/15/2022 (USD)
	A2	11/16/2017	8.524	12/13/2004	5.35% Matures 12/15/2022 (USD)
	A2	11/16/2017	36.598	02/06/2003	5.625% Matures 02/15/2020 (USD)
	A2	11/16/2017	15.233	10/24/2005	5.5% Matures 10/15/2025 (USD)
	A2	11/16/2017	9.189	04/30/2003	5.35% Matures 05/15/2023 (USD)
	A2	11/16/2017	25	02/22/2002	6.2% Global Matures 02/22/2022 (USD)
	A2	11/16/2017	25.594	05/10/1996	Flt Rt Matures 05/15/2036 (USD)
	A2	11/16/2017	1	01/29/2003	6.5% Euro Matures (GBP)
	A2	11/16/2017	51.215	08/14/2008	4.54% Euro Matures 08/21/2023 (HKD)
	A2	11/16/2017	10.204	05/24/2004	5.75% Matures 05/15/2019 (USD)
	A2	11/16/2017	10.338	12/06/2004	5.375% Matures 12/15/2021 (GBP)
	A2	11/16/2017	41.855	03/20/2008	5.25% Matures 03/15/2020 (USD)
	A2	11/16/2017	17.542	11/05/2007	5.5% Matures 11/15/2019 (USD)
	A3	11/16/2017	1382.132	09/06/2005	4.875% Sub Euro Matures 09/18/2037 (GBP)
	A2	11/16/2017	24.271	11/05/2007	5.8% Matures 11/15/2023 (USD)
	A2	11/16/2017	13.259	09/18/2003	5.7% Matures 12/15/2022 (USD)
	A2	11/16/2017	279.611	09/09/2002	5.625% Euro Matures 09/16/2031 (GBP)
	A2	11/16/2017	7.456	10/25/2004	5.1% Matures 10/15/2019 (USD)
	A2	11/16/2017	5.304	11/29/2004	5.25% Matures 12/15/2021 (USD)
	A2	11/16/2017	51.256	06/27/2008	4.93% Euro Matures 06/27/2018 (HKD)
	A2	11/16/2017	1.771	05/02/2005	5.3% Matures 05/15/2034 (USD)
	A2	11/16/2017	17.94	06/27/2008	5.05% Euro Matures 06/27/2023 (HKD)
	A2	11/16/2017	196.356	11/12/1998	5.5% Euro Matures 06/07/2021 (GBP)
	A2	11/16/2017	314.17	09/15/2000	6.25% Euro Matures 09/29/2020 (GBP)
	A2	11/16/2017	10.601	10/25/2004	5.25% Matures 10/15/2022 (USD)
	A2	11/16/2017	510.526	03/26/1999	5.25% Euro Matures 12/07/2028 (GBP)
	A2	11/16/2017	14.623	08/21/2003	5.65% Matures 08/15/2019 (USD)
	A2	11/16/2017	25	10/25/2004	4.25% Step Up Matures 11/05/2024 (USD)
	A2	11/16/2017	8.411	12/13/2004	5.15% Matures 12/15/2019 (USD)
	A2	11/16/2017	9.837	07/06/2004	5.75% Matures 07/15/2022 (USD)
	A2	11/16/2017	25	10/08/2004	4.25% Step Up Matures 10/08/2020 (USD)
	A2	11/16/2017	6.826	11/15/2004	5.25% Matures 11/15/2019 (USD)
	A2	11/16/2017	20.5	10/01/2008	Flt Rt Euro Matures 12/30/2024 (USD)

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ISSUER	MOODY'S® RATING	RATING DATE	ORIGINAL AMOUNT *(Mill.)	ISSUE DATE	INTEREST RATES/MATURITY/LOCAL CURRENCY
	A2	11/16/2017	36.484	05/15/2003	5.75% Euro Matures (NOK)
	A2	11/16/2017	17.11	03/13/2003	5.2% Matures 03/15/2020 (USD)
	A2	11/16/2017	75	11/04/2004	5.26% Global Matures 11/18/2019 (USD)
	A2	11/16/2017	369.15	12/09/1999	5.5% Euro Matures 06/07/2021 (GBP)
	A2	11/16/2017	12.808	06/19/2008	4.78% Euro Matures 06/19/2023 (HKD)
	A2	11/16/2017	1	11/22/2004	5.25% Matures 11/15/2021 (USD)
	A2	11/16/2017	242.448	06/02/2008	8.87% Euro Matures 06/02/2018 (MXN)
	A2	11/16/2017	69.59	10/30/1998	Flt Rt Matures 11/04/2038 (USD)
	A2	11/16/2017	35.884	12/26/2003	5.5% Matures 12/15/2023 (USD)
	A2	11/16/2017	460.259	11/02/2000	6.44% Euro Matures 11/15/2022 (GBP)
	A2	11/16/2017	48.981	06/25/2008	6.67% Euro Matures 06/25/2018 (NOK)
	A2	11/16/2017	16.992	06/01/2004	6.00% Matures 12/15/2023 (USD)
	A2	11/16/2017	14.798	01/03/2005	5.5% Matures 01/15/2022 (USD)
	A2	11/16/2017	4000	01/09/2009	6.88% Global Matures 01/10/2039 (USD)
	A2	11/16/2017	15.9	10/01/2008	0.10% Step Down Euro Matures 12/30/2027 (USD)
	A2	11/16/2017	39.5	10/01/2008	0.26% Step Down Euro Matures 12/30/2026 (USD)
	A2	11/16/2017	24.982	09/17/2009	5.75% Matures 09/15/2020 (USD)
	A2	11/16/2017	27.426	10/08/2009	5.35% Matures 10/15/2020 (USD)
	A2	11/16/2017	31.975	09/24/2009	5.50% Matures 09/15/2020 (USD)
	A2	11/16/2017	34.785	10/01/2009	5.55% Matures 10/15/2020 (USD)
	A2	11/16/2017	30.182	10/14/2009	5.35% Matures 10/15/2020 (USD)
	A2	11/16/2017	17.434	09/11/2009	5.70% Matures 09/15/2020 (USD)
	A2	11/16/2017	1	11/13/2009	5.10% Matures 11/15/2020 (USD)
	A2	11/16/2017	22.315	11/05/2009	5.00% Matures 11/15/2018 (USD)
	A2	11/16/2017	1	10/26/2009	5.45% Matures 10/15/2020 (USD)
	A2	11/16/2017	1	11/27/2009	5.00% Matures 11/15/2020 (USD)
	A2	11/16/2017	1	07/09/2009	6.00% Matures 07/15/2018 (USD)
	A2	11/16/2017	1	09/03/2009	Matures 09/15/2020 (USD)
	A2	11/16/2017	2000	08/04/2009	6.00% Global Matures 08/07/2019 (USD)
	A2	11/16/2017	14.312	08/20/2009	5.85% Matures 08/15/2020 (USD)
	A2	11/16/2017	43.651	07/16/2009	6.00% Matures 07/15/2018 (USD)
	A2	11/16/2017	10.054	08/27/2009	5.75% Matures 08/15/2021 (USD)
	A2	11/16/2017	1	08/06/2009	Matures 08/15/2020 (USD)
	A2	11/16/2017	106.534	05/14/2009	6.75% Matures 05/15/2018 (USD)
	A2	11/16/2017	68.732	05/21/2009	6.30% Matures 05/15/2018 (USD)
	A2	11/16/2017	1	05/07/2009	6.75% Matures 05/15/2018 (USD)
	A2	11/16/2017	1	07/02/2009	6.00% Matures 07/15/2018 (USD)
	A2	11/16/2017	27.231	06/11/2009	6.00% Matures 06/15/2018 (USD)
	A2	11/16/2017	1	04/30/2009	Matures 04/15/2018 (USD)
	A2	11/16/2017	1	05/29/2009	6.30% Matures 05/15/2018 (USD)
	A2	11/16/2017	36.336	06/04/2009	6.15% Matures 06/15/2018 (USD)
	A2	11/16/2017	20.195	12/10/2009	4.65% Matures 12/15/2018 (USD)
	A2	11/16/2017	42.061	08/19/2010	4.00% Matures 08/15/2019 (USD)
	A2	11/16/2017	24.523	08/26/2010	4.00% Matures 02/15/2020 (USD)
	A2	11/16/2017	27.915	08/26/2010	4.25% Matures 08/15/2022 (USD)
	A2	11/16/2017	1	02/04/2010	4.75% Matures 02/15/2018 (USD)
	A2	11/16/2017	1	02/04/2010	5.50% Matures 02/15/2022 (USD)
	A2	11/16/2017	29.397	02/19/2010	5.60% Matures 02/15/2022 (USD)
	A2	11/16/2017	12.593	02/11/2010	4.80% Matures 02/15/2018 (USD)
	A2	11/16/2017	27.191	02/11/2010	5.55% Matures 02/15/2022 (USD)
	A2	11/16/2017	17.834	04/08/2010	5.45% Matures 04/15/2023 (USD)
	A2	11/16/2017	13.825	09/16/2010	4.25% Matures 09/15/2022 (USD)
	A2	11/16/2017	15.212	09/16/2010	4.00% Matures 03/15/2020 (USD)
	A2	11/16/2017	1	04/29/2010	5.00% Matures 04/15/2022 (USD)
	A2	11/16/2017	17.173	04/14/2010	5.35% Matures 04/15/2022 (USD)
	A2	11/16/2017	23.332	01/21/2010	5.45% Matures 01/15/2022 (USD)
	A2	11/16/2017	6.564	04/08/2010	4.75% Matures 04/15/2019 (USD)
	A2	11/16/2017	34.823	08/05/2010	4.00% Matures 08/15/2018 (USD)
	A2	11/16/2017	15.952	05/20/2010	4.50% Matures 05/15/2018 (USD)
	A2	11/16/2017	34.564	05/20/2010	5.40% Matures 05/15/2022 (USD)
	A2	11/16/2017	21.63	05/27/2010	5.10% Matures 05/15/2023 (USD)
	A2	11/16/2017	10.36	06/04/2010	4.25% Matures 06/15/2018 (USD)
	A2	11/16/2017	1	08/09/2010	4.00% Matures 02/15/2019 (USD)
	A2	11/16/2017	26.192	05/14/2010	5.00% Matures 05/15/2022 (USD)
	A2	11/16/2017	13.08	05/27/2010	4.65% Matures 05/15/2019 (USD)
	A2	11/16/2017	21.457	06/10/2010	5.10% Matures 06/15/2023 (USD)
	A2	11/16/2017	25.47	03/04/2010	5.00% Matures 03/15/2019 (USD)
	A2	11/16/2017	15.768	02/25/2010	4.75% Matures 02/15/2018 (USD)
	A2	11/16/2017	30.264	02/25/2010	5.75% Matures 02/15/2023 (USD)
	A2	11/16/2017	1	03/11/2010	5.55% Matures 03/15/2023 (USD)
	A2	11/16/2017	1	03/11/2010	4.55% Matures 03/15/2018 (USD)
	A2	11/16/2017	1	03/18/2010	5.50% Matures 03/15/2023 (USD)
	A2	11/16/2017	88.217	10/06/2009	6.31% Euro Matures 10/07/2021 (NOK)
	A2	11/16/2017	1	03/18/2010	4.80% Matures 03/15/2019 (USD)
	A2	11/16/2017	1	04/01/2010	4.50% Matures 04/15/2018 (USD)
	A2	11/16/2017	1	04/01/2010	5.40% Matures 04/15/2023 (USD)
	A2	11/16/2017	1	03/25/2010	4.80% Matures 03/15/2019 (USD)
	A2	11/16/2017	1	03/25/2010	5.50% Matures 03/15/2023 (USD)
	A2	11/16/2017	25.47	03/04/2010	5.65% Matures 03/15/2022 (USD)
	A2	11/16/2017	2000	09/16/2010	4.38% Matures 09/16/2020 (USD)
	A2	11/16/2017	20.996	12/24/2009	4.80% Matures 12/15/2018 (USD)
	A2	11/16/2017	12.31	12/03/2009	5.15% Matures 12/15/2021 (USD)
	A2	11/16/2017	27.822	12/17/2009	4.85% Matures 12/15/2018 (USD)
	A2	11/16/2017	28.112	06/04/2010	5.15% Matures 06/15/2022 (USD)
	A2	11/16/2017	24.398	06/17/2010	5.00% Matures 06/15/2022 (USD)
	A2	11/16/2017	28.225	06/24/2010	5.15% Matures 06/15/2023 (USD)
	A2	11/16/2017	2000	01/05/2010	5.50% Global Matures 01/08/2020 (USD)
	A2	11/16/2017	7.177	11/04/2010	4.10% Matures 11/15/2021 (USD)
	A2	11/16/2017	15.004	11/04/2010	4.50% Matures 11/15/2025 (USD)
	A2	11/16/2017	0.001	11/26/2010	4.60% Matures 11/15/2023 (USD)
	A2	11/16/2017	31.459	10/28/2010	4.50% Matures 10/15/2025 (USD)
	A2	11/16/2017	11.328	11/18/2010	4.00% Matures 11/15/2021 (USD)
	A2	11/16/2017	9.98	11/18/2010	4.50% Matures 11/15/2025 (USD)
	A2	11/16/2017	5.996	12/02/2010	3.75% Matures 12/15/2018 (USD)
	A2	11/16/2017	0.001	12/09/2010	4.50% Matures 12/15/2022 (USD)
	A2	11/16/2017	8.733	12/16/2010	4.50% Matures 12/15/2021 (USD)
	A2	11/16/2017	1	12/23/2010	5.00% Matures 12/15/2025 (USD)
	A2	11/16/2017	2000	01/07/2011	4.63% Global Matures 01/07/2021 (USD)
	A2	11/16/2017	9.626	01/20/2011	4.75% Matures 01/15/2024 (USD)
	A2	11/16/2017	22.548	01/20/2011	5.00% Matures 01/15/2029 (USD)
	A2	11/16/2017	12.72	05/06/2010	4.40% Matures 05/15/2018 (USD)
	A2	11/16/2017	16.708	11/12/2010	4.50% Matures 11/15/2025 (USD)
	A2	11/16/2017	11.528	12/16/2010	5.00% Matures 12/15/2027 (USD)
	A2	11/16/2017	18.858	09/10/2010	4.00% Matures 03/15/2020 (USD)

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ISSUER	MOODY'S® RATING	RATING DATE	ORIGINAL AMOUNT (Mill.)	ISSUE DATE	INTEREST RATES/MATURITY/LOCAL	CURRENCY
	A2	11/16/2017	18,558	10/07/2010	3.50% Matures 10/15/2018	(USD)
	A2	11/16/2017	28,933	09/02/2010	4.25% Matures 09/15/2022	(USD)
	A2	11/16/2017	28,433	09/30/2010	4.50% Matures 09/15/2025	(USD)
	A2	11/16/2017	18,774	09/23/2010	4.38% Matures 09/15/2024	(USD)
	A2	11/16/2017	25,245	10/14/2010	4.30% Matures 10/15/2025	(USD)
	A2	11/16/2017	20,975	09/10/2010	4.25% Matures 09/15/2022	(USD)
	A2	11/16/2017	22,485	10/07/2010	4.25% Matures 10/15/2024	(USD)
	A2	11/16/2017	1	07/29/2010	4.00% Matures 07/15/2018	(USD)
	A2	11/16/2017	14,275	10/28/2010	4.10% Matures 10/15/2021	(USD)
	A2	11/16/2017	29,444	07/08/2010	5.00% Matures 07/15/2024	(USD)
	A2	11/16/2017	37,298	07/01/2010	5.00% Matures 07/15/2023	(USD)
	A2	11/16/2017	20,994	11/05/2009	5.50% Matures 11/15/2021	(USD)
	A2	11/16/2017	19,989	05/06/2010	5.05% Matures 05/15/2022	(USD)
	A2	11/16/2017	1	11/19/2009	5.25% Matures 11/15/2021	(USD)
	A2	11/16/2017	20,846	01/14/2010	5.40% Matures 01/15/2022	(USD)
	A2	11/16/2017	1	04/14/2011	5.00% Matures 04/15/2027	(USD)
	A2	11/16/2017	1	04/14/2011	5.20% Matures 04/15/2029	(USD)
	A2	11/16/2017	1	04/14/2011	5.45% Matures 04/15/2036	(USD)
	A2	11/16/2017	29,242	11/03/2011	3.50% Matures 11/15/2018	(USD)
	A2	11/16/2017	16,024	11/03/2011	4.30% Matures 11/15/2025	(USD)
	A2	11/16/2017	1	07/08/2011	Matures 07/15/2024	(USD)
	A2	11/16/2017	1	07/08/2011	Matures 07/15/2034	(USD)
	A2	11/16/2017	1	06/03/2011	4.65% Matures 06/15/2024	(USD)
	A2	11/16/2017	1	06/03/2011	5.25% Matures 06/15/2034	(USD)
	A2	11/16/2017	17,707	04/18/2011	5.50% Matures 04/15/2036	(USD)
	A2	11/16/2017	1	09/01/2011	4.45% Matures 09/15/2026	(USD)
	A2	11/16/2017	10,915	06/09/2011	4.35% Matures 06/15/2022	(USD)
	A2	11/16/2017	18,581	06/09/2011	5.10% Matures 06/15/2032	(USD)
	A2	11/16/2017	13,163	06/30/2011	4.50% Matures 06/15/2024	(USD)
	A2	11/16/2017	35,108	06/30/2011	5.25% Matures 06/15/2034	(USD)
	A2	11/16/2017	18,778	08/25/2011	4.40% Matures 08/15/2026	(USD)
	A2	11/16/2017	1	05/26/2011	4.65% Matures 05/15/2024	(USD)
	A2	11/16/2017	1	05/26/2011	5.25% Matures 05/15/2034	(USD)
	A2	11/16/2017	11,286	08/04/2011	4.65% Matures 08/15/2026	(USD)
	A2	11/16/2017	19,551	07/14/2011	4.05% Matures 07/15/2020	(USD)
	A2	11/16/2017	8,469	07/14/2011	4.60% Matures 07/15/2024	(USD)
	A2	11/16/2017	29,03	07/14/2011	5.25% Matures 07/15/2034	(USD)
	A2	11/16/2017	1	07/19/2011	3.90% Matures 07/15/2020	(USD)
	A2	11/16/2017	1	07/19/2011	5.20% Matures 07/15/2034	(USD)
	A2	11/16/2017	1	09/09/2011	Matures 09/15/2026	(USD)
	A2	11/16/2017	9,639	08/18/2011	4.40% Matures 08/15/2026	(USD)
	A2	11/16/2017	1	05/19/2011	5.00% Matures 05/15/2030	(USD)
	A2	11/16/2017	7,979	08/11/2011	4.40% Matures 08/15/2026	(USD)
	A2	11/16/2017	21.7	06/23/2011	5.30% Matures 06/15/2036	(USD)
	A2	11/16/2017	20,705	02/22/2011	5.00% Matures 02/15/2025	(USD)
	A2	11/16/2017	9,523	03/10/2011	4.10% Matures 03/15/2020	(USD)
	A2	11/16/2017	9,859	03/10/2011	5.00% Matures 03/15/2029	(USD)
	A2	11/16/2017	12,352	03/03/2011	5.25% Global Matures 03/15/2032	(USD)
	A2	11/16/2017	1	03/31/2011	4.65% Matures 03/15/2023	(USD)
	A2	11/16/2017	1	03/31/2011	5.25% Matures 03/15/2032	(USD)
	A2	11/16/2017	13,839	06/16/2011	5.10% Matures 06/15/2031	(USD)
	A2	11/16/2017	23,409	06/16/2011	5.25% Matures 06/15/2036	(USD)
	A2	11/16/2017	1	03/31/2011	5.00% Matures 03/15/2027	(USD)
	A2	11/16/2017	10,242	10/14/2011	3.50% Matures 10/15/2019	(USD)
	A2	11/16/2017	28,675	10/14/2011	4.00% Matures 10/15/2022	(USD)
	A2	11/16/2017	12,933	10/14/2011	4.35% Matures 10/15/2025	(USD)
	A2	11/16/2017	20,726	03/24/2011	5.00% Matures 03/15/2029	(USD)
	A2	11/16/2017	1	04/07/2011	4.80% Matures 04/15/2024	(USD)
	A2	11/16/2017	1	04/07/2011	5.05% Matures 04/15/2027	(USD)
	A2	11/16/2017	1	04/07/2011	5.25% Matures 04/15/2034	(USD)
	A2	11/16/2017	15,612	03/17/2011	5.10% Matures 03/15/2029	(USD)
	A2	11/16/2017	24,194	09/15/2011	4.35% Matures 09/15/2026	(USD)
	A2	11/16/2017	1	10/06/2011	Matures 10/15/2019	(USD)
	A2	11/16/2017	1	10/06/2011	Matures 10/15/2022	(USD)
	A2	11/16/2017	1	10/06/2011	Matures 10/15/2027	(USD)
	A2	11/16/2017	12,641	02/16/2012	3.20% Matures 02/15/2021	(USD)
	A2	11/16/2017	7,762	02/16/2012	4.00% Matures 02/15/2027	(USD)
	A2	11/16/2017	13,299	02/16/2012	4.30% Matures 02/15/2032	(USD)
	A2	11/16/2017	1	04/17/2012	3.50% Matures 04/15/2022	(USD)
	A2	11/16/2017	1	09/29/2011	Matures 09/15/2023	(USD)
	A2	11/16/2017	1	09/29/2011	Matures 09/15/2027	(USD)
	A2	11/16/2017	12,384	11/25/2011	3.75% Matures 11/15/2020	(USD)
	A2	11/16/2017	13,437	11/25/2011	4.20% Matures 11/15/2024	(USD)
	A2	11/16/2017	1	11/17/2011	3.65% Matures 11/15/2020	(USD)
	A2	11/16/2017	1	11/17/2011	4.00% Matures 11/15/2023	(USD)
	A2	11/16/2017	1	11/10/2011	3.65% Matures 11/15/2020	(USD)
	A2	11/16/2017	1	11/10/2011	4.05% Matures 11/15/2023	(USD)
	A2	11/16/2017	100	02/24/2012	4.00% Step Up Matures 02/24/2032	(USD)
	A2	11/16/2017	12,283	03/01/2012	3.00% Matures 03/15/2020	(USD)
	A2	11/16/2017	11,576	03/01/2012	4.05% Matures 03/15/2027	(USD)
	A2	11/16/2017	15,459	03/01/2012	4.35% Matures 03/15/2032	(USD)
	A2	11/16/2017	8,763	01/12/2012	4.00% Matures 01/15/2027	(USD)
	A2	11/16/2017	14,109	01/12/2012	4.30% Matures 01/15/2031	(USD)
	A2	11/16/2017	1	02/02/2012	4.00% Matures 02/15/2023	(USD)
	A2	11/16/2017	1	02/02/2012	4.65% Matures 02/15/2033	(USD)
	A2	11/16/2017	1750	10/17/2011	4.65% Global Matures 10/17/2021	(USD)
	A2	11/16/2017	100	02/03/2012	4.25% Step Up Matures 02/03/2032	(USD)
	A2	11/16/2017	1	02/24/2012	3.25% Matures 02/15/2021	(USD)
	A2	11/16/2017	1	02/24/2012	4.05% Matures 02/15/2027	(USD)
	A2	11/16/2017	1	02/24/2012	4.35% Matures 02/15/2032	(USD)
	A2	11/16/2017	12,598	02/09/2012	3.00% Matures 02/15/2020	(USD)
	A2	11/16/2017	9.01	02/09/2012	4.00% Matures 02/15/2027	(USD)
	A2	11/16/2017	16,219	02/09/2012	4.35% Matures 02/15/2032	(USD)
	A2	11/16/2017	100	01/13/2012	4.00% Step Up Matures 01/13/2027	(USD)
	A2	11/16/2017	12,519	02/17/2011	5.20% Matures 02/15/2029	(USD)
	A2	11/16/2017	7,069	02/10/2011	4.50% Matures 02/15/2022	(USD)
	A2	11/16/2017	12,367	02/10/2011	5.05% Matures 02/15/2029	(USD)
	A2	11/16/2017	10,949	02/03/2011	4.60% Matures 02/15/2022	(USD)
	A2	11/16/2017	22,977	02/03/2011	5.00% Matures 02/15/2027	(USD)
	A2	11/16/2017	1	04/16/2012	3.50% Step Up Matures 04/16/2027	(USD)
	A2	11/16/2017	9,919	12/15/2011	4.00% Matures 12/15/2023	(USD)
	A2	11/16/2017	27,665	09/22/2011	4.50% Matures 09/15/2027	(USD)
	A2	11/16/2017	12,062	12/15/2011	4.65% Matures 12/15/2032	(USD)
	A2	11/16/2017	1	12/30/2011	4.00% Matures 12/15/2023	(USD)

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ISSUER	MOODY'S® RATING	RATING DATE	ORIGINAL AMOUNT (Mill.)	ISSUE DATE	INTEREST RATES/MATURITY/LOCAL CURRENCY
	A2	11/16/2017	1	12/30/2011	4.50% Matures 12/15/2031 (USD)
	A2	11/16/2017	1	04/05/2012	Matures 04/15/2022 (USD)
	A2	11/16/2017	1	04/05/2012	Matures 04/15/2026 (USD)
	A2	11/16/2017	1	04/05/2012	Matures 04/15/2032 (USD)
	A2	11/16/2017	100	12/30/2011	4.00% Step Up Matures 12/30/2026 (USD)
	A2	11/16/2017	50	12/28/2011	4.00% Step Up Matures 12/28/2026 (USD)
	A2	11/16/2017	1	12/22/2011	4.15% Matures 12/15/2024 (USD)
	A2	11/16/2017	1	12/22/2011	4.65% Matures 12/15/2033 (USD)
	A2	11/16/2017	170.461	07/23/2013	Flt Rt Euro Matures 07/30/2019 (SEK)
	A2	11/16/2017	77.482	07/23/2013	3.25% Euro Matures 07/30/2019 (SEK)
	A2	11/16/2017	1	08/22/2013	4.00% Matures 08/15/2029 (USD)
	A2	11/16/2017	1	08/16/2012	3.00% Matures 08/15/2025 (USD)
	A2	11/16/2017	1	08/16/2012	3.60% Matures 08/15/2032 (USD)
	A2	11/16/2017	1	06/28/2012	3.00% Matures 06/15/2021 (USD)
	A2	11/16/2017	1	06/28/2012	3.35% Matures 06/15/2024 (USD)
	A2	11/16/2017	1	06/28/2012	4.00% Matures 06/15/2032 (USD)
	A2	11/16/2017	1	08/07/2013	3.65% Matures 08/15/2025 (USD)
	A2	11/16/2017	1	08/07/2013	4.20% Matures 08/15/2031 (USD)
	A2	11/16/2017	250	08/17/2012	4.00% Matures 08/17/2032 (USD)
	A2	11/16/2017	1	08/23/2012	3.00% Matures 08/15/2024 (USD)
	A2	11/16/2017	1	08/23/2012	3.60% Matures 08/15/2031 (USD)
	A2	11/16/2017	1	08/30/2012	3.05% Matures 08/15/2023 (USD)
	A2	11/16/2017	1	08/30/2012	3.75% Matures 08/15/2031 (USD)
	A2	11/16/2017	100	08/15/2012	4.58% Global Matures 08/24/2037 (USD)
	A2	11/16/2017	1	06/21/2012	3.15% Matures 06/15/2022 (USD)
	A2	11/16/2017	1	06/21/2012	4.05% Matures 06/15/2032 (USD)
	A2	11/16/2017	1	10/31/2013	3.50% Matures 10/15/2025 (USD)
	A2	11/16/2017	1	10/31/2013	4.05% Matures 10/15/2030 (USD)
	A2	11/16/2017	1	09/07/2012	3.05% Matures 09/15/2025 (USD)
	A2	11/16/2017	1	09/07/2012	3.63% Matures 09/15/2032 (USD)
	A2	11/16/2017	1	06/15/2012	Matures 06/15/2022 (USD)
	A2	11/16/2017	1	06/15/2012	Matures 06/15/2032 (USD)
	A2	11/16/2017	1	07/06/2012	Matures 07/15/2022 (USD)
	A2	11/16/2017	1	07/06/2012	Matures 07/15/2027 (USD)
	A2	11/16/2017	1	07/06/2012	Matures 07/15/2032 (USD)
	A2	11/16/2017	2000	01/03/2013	3.10% Global Matures 01/09/2023 (USD)
	A2	11/16/2017	5.865	01/15/2013	3.05% Matures 01/15/2026 (USD)
	A2	11/16/2017	25.6	01/15/2013	3.70% Matures 01/15/2033 (USD)
	A2	11/16/2017	1	02/07/2013	3.75% Matures 02/15/2033 (USD)
	A2	11/16/2017	250	02/07/2013	4.00% Matures 02/14/2033 (USD)
	A2	11/16/2017	1	02/14/2013	3.80% Matures 02/15/2033 (USD)
	A2	11/16/2017	8.008	02/22/2013	3.50% Matures 02/15/2029 (USD)
	A2	11/16/2017	700	01/22/2013	4.63% Euro Matures 01/30/2043 (USD)
	A2	11/16/2017	10.079	02/22/2013	3.00% Matures 02/15/2024 (USD)
	A2	11/16/2017	50	04/03/2013	3.75% Euro Matures 04/03/2028 (USD)
	A2	11/16/2017	1	06/21/2013	4.00% Matures 06/15/2032 (USD)
	A2	11/16/2017	1	11/01/2012	3.00% Matures 11/15/2025 (USD)
	A2	11/16/2017	1	11/01/2012	3.50% Matures 11/15/2031 (USD)
	A2	11/16/2017	415.011	01/16/2013	2.63% Euro Matures 01/16/2018 (SEK)
	A2	11/16/2017	353.528	01/16/2013	Flt Rt Euro Matures 01/16/2018 (SEK)
	A2	11/16/2017	251.64	01/10/2013	4.25% Global Matures 01/17/2018 (NZD)
	A2	11/16/2017	1	02/14/2013	3.13% Matures 02/15/2026 (USD)
	A2	11/16/2017	1	06/01/2012	Matures 06/15/2022 (USD)
	A2	11/16/2017	1	06/01/2012	Matures 06/15/2032 (USD)
	A2	11/16/2017	1	05/02/2013	3.10% Matures 05/15/2026 (USD)
	A2	11/16/2017	10.861	05/24/2012	3.25% Matures 05/15/2022 (USD)
	A2	11/16/2017	18.291	05/24/2012	4.15% Matures 05/15/2032 (USD)
	A2	11/16/2017	3.8	05/17/2012	2.95% Matures 05/15/2021 (USD)
	A2	11/16/2017	20.932	05/17/2012	4.05% Matures 05/15/2032 (USD)
	A2	11/16/2017	261	04/16/2013	Flt Rt Matures 04/15/2023 (USD)
	A2	11/16/2017	6.087	08/09/2012	3.00% Matures 08/15/2025 (USD)
	A2	11/16/2017	1	04/08/2013	3.70% Matures 04/15/2030 (USD)
	A2	11/16/2017	1	06/07/2012	Matures 06/15/2022 (USD)
	A2	11/16/2017	1	06/07/2012	Matures 06/15/2032 (USD)
	A2	11/16/2017	1	08/26/2013	3.55% Matures 09/15/2022 (USD)
	A2	11/16/2017	1	08/26/2013	4.25% Matures 09/15/2028 (USD)
	A2	11/16/2017	12.683	08/09/2012	3.60% Matures 08/15/2032 (USD)
	A2	11/16/2017	1	05/30/2013	3.80% Matures 06/15/2031 (USD)
	A2	11/16/2017	100	12/07/2012	Flt Rt Global Matures 12/07/2017 (USD)
	A2	11/16/2017	1	09/12/2013	4.25% Matures 09/15/2027 (USD)
	A2	11/16/2017	1	09/27/2012	3.00% Matures 09/15/2023 (USD)
	A2	11/16/2017	1	09/27/2012	3.50% Matures 09/15/2029 (USD)
	A2	11/16/2017	1	12/06/2012	3.00% Matures 12/15/2026 (USD)
	A2	11/16/2017	1	12/06/2012	3.55% Matures 12/15/2032 (USD)
	A2	11/16/2017	1	10/04/2012	Matures 10/15/2024 (USD)
	A2	11/16/2017	1	10/04/2012	Matures 10/15/2030 (USD)
	A2	11/16/2017	1	12/13/2012	3.55% Matures 12/15/2032 (USD)
	A2	11/16/2017	1	09/26/2013	4.25% Matures 09/15/2028 (USD)
	A2	11/16/2017	1	10/03/2013	4.00% Matures 10/15/2027 (USD)
	A2	11/16/2017	17.005	03/11/2013	3.88% Matures 03/15/2033 (USD)
	A2	11/16/2017	400	04/02/2013	Flt Rt Matures 04/02/2018 (USD)
	A2	11/16/2017	1000	04/02/2013	1.63% Matures 04/02/2018 (USD)
	A2	11/16/2017	615	03/11/2013	Flt Rt Matures 03/15/2023 (USD)
	A2	11/16/2017	1	04/04/2013	Flt Rt Matures 04/15/2020 (USD)
	A2	11/16/2017	250	07/26/2012	4.63% Global Matures 01/07/2021 (USD)
	A2	11/16/2017	1	12/20/2012	3.55% Matures 12/15/2032 (USD)
	A2	11/16/2017	230.068	11/28/2012	3.00% Euro Matures 02/28/2018 (NOK)
	A2	11/16/2017	825	10/02/2012	4.88% Matures 10/15/2052 (USD)
	A2	11/16/2017	1	08/02/2012	Matures 08/15/2025 (USD)
	A2	11/16/2017	1	08/02/2012	Matures 08/15/2032 (USD)
	A2	11/16/2017	1	04/17/2012	4.20% Matures 04/15/2032 (USD)
	A2	11/16/2017	1	12/27/2012	3.60% Matures 12/15/2032 (USD)
	A2	11/16/2017	1	04/01/2013	3.65% Matures 04/15/2029 (USD)
	A2	11/16/2017	1	05/31/2013	3.30% Matures 05/15/2027 (USD)
	A2	11/16/2017	1	05/06/2013	3.50% Matures 05/15/2032 (USD)
	A2	11/16/2017	1	01/03/2013	3.55% Matures 01/15/2033 (USD)
	A2	11/16/2017	52.812	02/05/2013	Flt Rt Euro Matures 02/05/2018 (CZK)
	A2	11/16/2017	1	03/28/2013	3.55% Matures 03/15/2028 (USD)
	A2	11/16/2017	250	08/01/2013	3.25% Matures 08/01/2020 (USD)
	A2	11/16/2017	150	05/13/2013	4.65% Global Matures 10/17/2021 (USD)
	A2	11/16/2017	1	03/21/2013	3.15% Matures 03/15/2024 (USD)
	A2	11/16/2017	550	01/22/2013	4.88% Matures 01/29/2053 (USD)
	A2	11/16/2017	1	07/11/2013	4.00% Matures 07/15/2029 (USD)
	A2	11/16/2017	1	08/01/2013	3.50% Matures 08/15/2024 (USD)

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	A2	11/16/2017	1	08/01/2013	4.25% Matures 08/15/2033 (USD)
	A2	11/16/2017	750	05/09/2013	4.70% Matures 05/16/2053 (USD)
	A2	11/16/2017	1	11/16/2012	3.00% Matures 11/16/2026 (USD)
	A2	11/16/2017	1	11/16/2012	3.50% Matures 11/16/2031 (USD)
	A2	11/16/2017	2000	09/04/2012	3.15% Global Matures 09/07/2022 (USD)
	A2	11/16/2017	250	09/17/2012	4.00% Matures 09/17/2032 (USD)
	A2	11/16/2017	1	11/23/2012	3.00% Matures 11/15/2027 (USD)
	A2	11/16/2017	1	11/23/2012	3.50% Matures 11/15/2032 (USD)
	A2	11/16/2017	1	09/19/2013	4.25% Matures 09/15/2027 (USD)
	A2	11/16/2017	1	09/20/2012	3.00% Matures 09/15/2024 (USD)
	A2	11/16/2017	1	09/20/2012	3.70% Matures 09/15/2032 (USD)
	A2	11/16/2017	250	11/14/2012	3.00% Step Up Matures 11/14/2027 (USD)
	A2	11/16/2017	1	12/19/2013	4.25% Matures 12/15/2029 (USD)
	A2	11/16/2017	245	03/28/2014	Flt Rt Euro Matures 03/28/2020 (USD)
	A2	11/16/2017	505	03/28/2014	2.50% Euro Matures 03/28/2020 (USD)
	A2	11/16/2017	28,633	03/20/2014	4.25% Matures 03/15/2030 (USD)
	A2	11/16/2017	60,292	12/12/2012	1.21% Euro Matures 12/12/2022 (JPY)
	A2	11/16/2017	500	01/06/2015	Flt Rt Matures 01/09/2020 (USD)
	A2	11/16/2017	2000	01/09/2015	2.20% Matures 01/09/2020 (USD)
	A2	11/16/2017	1	01/12/2015	2.40% Matures 01/15/2022 (USD)
	A2	11/16/2017	1	04/03/2014	4.00% Matures 04/15/2029 (USD)
	A2	11/16/2017	1	10/27/2014	2.15% Matures 10/15/2020 (USD)
	A2	11/16/2017	78,493	12/08/2014	Flt Rt Matures 12/15/2054 (USD)
	A2	11/16/2017	1	03/27/2014	4.25% Matures 03/15/2034 (USD)
	A2	11/16/2017	1	12/08/2014	2.13% Matures 12/15/2020 (USD)
	A2	11/16/2017	1	04/10/2014	4.13% Matures 04/15/2030 (USD)
	A2	11/16/2017	1	04/15/2014	4.15% Matures 04/15/2031 (USD)
	A2	11/16/2017	21.47	06/19/2014	4.13% Matures 06/15/2035 (USD)
	A2	11/16/2017	150	05/30/2014	4.38% Matures 09/16/2020 (USD)
	A2	11/16/2017	1	01/30/2014	4.15% Matures 01/15/2034 (USD)
	A2	11/16/2017	1	05/30/2014	4.05% Matures 05/15/2034 (USD)
	A2	11/16/2017	27,293	07/03/2014	4.00% Matures 07/15/2032 (USD)
	A2	11/16/2017	1	06/25/2014	4.00% Matures 06/15/2033 (USD)
	A2	11/16/2017	1	05/15/2014	4.05% Matures 05/15/2034 (USD)
	A2	11/16/2017	1000	05/15/2014	3.45% Matures 05/15/2024 (USD)
	A2	11/16/2017	25	02/09/2015	Flt Rt Matures 02/15/2025 (USD)
	A2	11/16/2017	2.08	02/12/2015	2.05% Matures 02/15/2022 (USD)
	A2	11/16/2017	1	05/22/2014	4.13% Matures 05/15/2034 (USD)
	A2	11/16/2017	1	05/08/2014	4.15% Matures 05/15/2034 (USD)
	A2	11/16/2017	1	07/30/2014	4.00% Matures 08/15/2035 (USD)
	A2	11/16/2017	14,481	11/20/2013	4.15% Matures 11/15/2030 (USD)
	A2	11/16/2017	1	07/31/2014	4.00% Matures 07/15/2035 (USD)
	A2	11/16/2017	1	11/25/2013	4.00% Matures 11/15/2028 (USD)
	A2	11/16/2017	15,359	02/05/2015	2.00% Matures 02/15/2021 (USD)
	A2	11/16/2017	1	09/29/2014	2.75% Matures 10/15/2021 (USD)
	A2	11/16/2017	4,024	03/09/2015	2.25% Matures 03/15/2022 (USD)
	A2	11/16/2017	1	09/15/2014	2.65% Matures 09/15/2021 (USD)
	A2	11/16/2017	1	09/22/2014	2.75% Matures 09/15/2021 (USD)
	A2	11/16/2017	1	02/06/2014	4.25% Matures 02/15/2034 (USD)
	A2	11/16/2017	500	01/14/2014	Flt Rt Matures 01/14/2019 (USD)
	A2	11/16/2017	1000	01/14/2014	2.30% Matures 01/14/2019 (USD)
	A2	11/16/2017	1	06/05/2014	4.15% Matures 06/15/2037 (USD)
	A2	11/16/2017	67,536	12/17/2013	Flt Rt Matures 12/15/2053 (USD)
	A2	11/16/2017	1	06/12/2014	4.00% Matures 06/15/2032 (USD)
	A2	11/16/2017	20	06/03/2014	Flt Rt Euro Matures 06/11/2019 (USD)
GPT Re Ltd	A2	11/29/2017	51,917	08/16/2012	6.25% Gtd Australian Matures 08/16/2022 (AUD)
	A2	11/29/2017	156,968	01/24/2012	6.75% Gtd Australian Matures 01/24/2019 (AUD)
HDFC Bank Ltd Bahrain Branch	Baa2	11/17/2017	500	02/27/2013	3.00% Euro Matures 03/06/2018 (USD)
Nigeria Gov't of	B2	11/07/2017	1000	02/16/2017	7.875% Global Matures 02/16/2032 (USD)
Raiffeisen Bank Int'l AG	A3	11/03/2017	19,51	04/16/2015	0.74% Euro Matures 04/28/2020 (CZK)
	A3	11/03/2017	54,733	02/04/2016	Flt Rt Euro Matures 02/18/2018 (EUR)
	A3	11/03/2017	50	09/04/2015	3.00% Fixed/Flt Rt Euro Matures 10/01/2020 (USD)
	A3	11/03/2017	250	10/01/2015	2.15% Euro Matures 10/01/2020 (NOK)
	A3	11/03/2017	50	01/22/2016	4.00% Euro Matures 02/12/2022 (AUD)
	A3	11/03/2017	300	06/06/2016	0.85% Euro Matures 06/15/2021 (CZK)
	A3	11/03/2017	44	07/26/2016	3.10% Euro Matures 07/29/2021 (HRK)
	A3	11/03/2017	50	10/21/2016	0.70% Euro Matures 11/03/2021 (EUR)
	A3	11/03/2017	50	10/17/2016	Flt Rt Euro Matures 10/25/2019 (EUR)
	Baa3	11/03/2017	714,796	05/11/2011	6.63% Sub Euro Matures 05/18/2021 (EUR)
	Baa3	11/03/2017	674,573	10/16/2013	6.00% Sub Euro Matures 10/16/2023 (EUR)
	Baa3	11/03/2017	266,312	10/09/2012	4.75% Sub Euro Matures 10/24/2022 (CHF)
	Baa3	11/03/2017	193,576	10/29/2012	5.875% Sub Fixed/Flt Rt Euro Matures 04/27/2023 (EUR)
	Baa3	11/03/2017	107,084	05/02/2013	4.00% Sub Euro Matures 05/24/2023 (CHF)
	A3	11/03/2017	688,553	10/30/2013	1.88% Euro Matures 11/08/2018 (EUR)
	A3	11/03/2017	65,41	09/17/2013	Flt Rt Austrian Matures 09/26/2018 (EUR)
	A3	11/03/2017	66,74	01/15/2013	1.75% Euro Matures 01/23/2018 (EUR)
	A3	11/03/2017	65,405	09/18/2013	Flt Rt Austrian Matures 03/26/2018 (EUR)
	A3	11/03/2017	19,9	03/06/2015	1.16% Euro Matures 03/13/2020 (CZK)
	Baa3	11/03/2017	320,904	12/11/2013	5.16% Sub Fixed/Flt Rt Euro Matures 06/18/2024 (EUR)
	Baa3	11/03/2017	679,422	02/12/2014	4.50% Sub Fixed/Flt Rt Euro Matures 02/21/2025 (EUR)
	A3	11/03/2017	51,044	10/29/2014	Flt Rt Austrian Matures 11/06/2019 (EUR)
	A3	11/03/2017	75	11/06/2014	Zero Cpn Euro Matures 11/19/2044 (USD)
	A3	11/03/2017	5	12/10/2015	Flt Rt Euro Matures 12/22/2020 (USD)
	A3	11/03/2017	5,06	09/15/2015	2.49% Euro Matures 09/15/2018 (HUF)
	A3	11/03/2017	15	07/20/2016	0.62% Euro Matures 11/29/2019 (EUR)
Raiffeisenlandesbank Niederoesterreich - Wien	Baa1	11/03/2017	112,63	11/05/2015	1.00% Austrian Matures 11/05/2018 (EUR)
	Baa1	11/03/2017	225,261	10/15/2015	1.50% Austrian Matures 10/15/2020 (EUR)
	Baa1	11/03/2017	28,808	10/15/2015	Flt Rt Austrian Matures 10/19/2020 (EUR)
	Baa1	11/03/2017	56,933	10/15/2015	1.40% Austrian Matures 10/21/2019 (EUR)
	Baa1	11/03/2017	50	06/09/2016	Zero Cpn Austrian Matures 07/22/2024 (EUR)
	Baa1	11/03/2017	50	08/01/2016	Zero Cpn Austrian Matures 09/16/2024 (EUR)
	Baa1	11/03/2017	100	12/20/2016	0.50% Austrian Matures 01/20/2020 (EUR)
	Baa1	11/03/2017	68,477	10/18/2013	1.75% Step Up Austrian Matures 10/18/2021 (EUR)
	Baa1	11/03/2017	64,92	03/01/2013	3.00% Fixed/Flt Rt Austrian Matures 03/01/2028 (EUR)
	Baa1	11/03/2017	68,48	02/01/2013	1.75% Austrian Matures 02/01/2018 (EUR)
	Baa1	11/03/2017	65,367	03/01/2013	Flt Rt Austrian Matures 03/07/2018 (EUR)
	Baa1	11/03/2017	68,48	02/01/2013	1.50% Step Up Austrian Matures 02/01/2021 (EUR)
	Baa1	11/03/2017	66,065	12/18/2012	1.76% Euro Matures 06/18/2018 (EUR)
	Baa1	11/03/2017	68,48	02/01/2013	Flt Rt Austrian Matures 02/01/2023 (EUR)
	Ba1	11/03/2017	66,297	09/13/2013	5.00% Sub Euro Matures 10/18/2023 (EUR)
	Baa1	11/03/2017	64,793	11/23/2012	2.38% Euro Matures 12/06/2019 (EUR)
	Baa1	11/03/2017	67,547	09/23/2013	2.00% Austrian Matures 10/18/2018 (EUR)
	Baa1	11/03/2017	68,912	10/23/2013	2.25% Austrian Matures 10/22/2020 (EUR)
	Baa1	11/03/2017	67,547	09/23/2013	Flt Rt Austrian Matures 10/18/2023 (EUR)

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ISSUER	MOODY'S® RATING	RATING DATE	ORIGINAL AMOUNT (Mill.)	ISSUE DATE	INTEREST RATES/MATURITY/LOCAL CURRENCY
	Baa1	11/03/2017	3.865	11/22/2012	2.19% Austrian Matures 11/22/2018 (EUR)
	Baa1	11/03/2017	60.153	01/02/2015	0.75% Austrian Matures 02/03/2020 (EUR)
	Baa1	11/03/2017	60.153	01/02/2015	1.00% Step Up Austrian Matures 02/03/2025 (EUR)
	Baa1	11/03/2017	60.153	01/02/2015	1.00% Austrian Matures 02/03/2022 (EUR)
	Baa1	11/03/2017	60.153	01/02/2015	Flt Rt Austrian Matures 02/03/2027 (EUR)
	Ba1	11/03/2017	69.058	02/28/2014	5.00% Sub Austrian Matures 02/28/2024 (EUR)
	Baa1	11/03/2017	66.748	11/08/2013	1.50% Step Up Austrian Matures 12/06/2021 (EUR)
	Ba1	11/03/2017	405.312	11/04/2013	5.88% Sub Euro Matures 11/27/2023 (EUR)
	Baa1	11/03/2017	68.383	02/11/2014	1.42% Austrian Matures 02/11/2019 (EUR)
	Ba1	11/03/2017	55.342	04/17/2014	4.40% Sub Euro Matures 04/17/2024 (EUR)
	Baa1	11/03/2017	66.748	11/08/2013	Flt Rt Austrian Matures 12/06/2023 (EUR)
	Ba1	11/03/2017	67.757	06/12/2014	5.00% Sub Austrian Matures 07/01/2026 (EUR)
	Baa1	11/03/2017	2.689	01/29/2014	Flt Rt Austrian Matures 12/31/2019 (EUR)
	Baa1	11/03/2017	3.759	01/29/2014	Flt Rt Austrian Matures 12/31/2018 (EUR)
	Baa1	11/03/2017	63.157	01/29/2014	Flt Rt Austrian Matures 12/30/2023 (EUR)
	Baa1	11/03/2017	4.991	01/29/2014	Flt Rt Austrian Matures 12/30/2022 (EUR)
	Baa1	11/03/2017	2.965	01/29/2014	Flt Rt Austrian Matures 12/31/2021 (EUR)
	Baa1	11/03/2017	2.979	01/29/2014	Flt Rt Austrian Matures 12/31/2020 (EUR)
	Baa1	11/03/2017	3.681	01/29/2014	Flt Rt Austrian Matures 12/29/2017 (EUR)
	Baa1	11/03/2017	10.573	12/02/2015	1.00% Austrian Matures 12/21/2020 (EUR)
	Baa1	11/03/2017	108.635	11/05/2015	1.00% Step Up Austrian Matures 11/05/2020 (EUR)
	Baa1	11/03/2017	10.972	12/28/2015	Austrian Matures 12/28/2022 (EUR)
	Baa1	11/03/2017	10.972	12/28/2015	Austrian Matures 12/30/2019 (EUR)
	Baa1	11/03/2017	268.025	01/05/2016	1.00% Step Up Austrian Matures 02/01/2021 (EUR)
	Baa1	11/03/2017	268.025	01/05/2016	1.00% Austrian Matures 02/01/2019 (EUR)
	Baa1	11/03/2017	268.025	01/05/2016	1.25% Austrian Matures 02/01/2018 (EUR)
	Baa1	11/03/2017	38.152	02/02/2016	Zero Cpn Euro Matures 01/29/2024 (EUR)
	Baa1	11/03/2017	279.248	02/04/2016	1.25% Austrian Matures 03/01/2018 (EUR)
	Baa1	11/03/2017	278.688	02/08/2016	1.25% Austrian Matures 02/08/2018 (EUR)
	Baa1	11/03/2017	55.51	07/01/2015	1.13% Austrian Matures 07/01/2020 (EUR)
	Baa1	11/03/2017	55.51	07/01/2015	1.00% Step Up Austrian Matures 07/01/2025 (EUR)
	Baa1	11/03/2017	55.51	07/01/2015	Flt Rt Austrian Matures 07/01/2027 (EUR)
	Baa1	11/03/2017	105.541	11/13/2012	Flt Rt Euro Matures 11/13/2018 (CHF)
Raiffeisenlandesbank Oberoesterreich Aktiengesellschaft	Baa2	11/23/2017	320	11/02/2015	3.45% Euro Matures 02/02/2021 (USD)
Rizal Commercial Banking Corp	Baa2	11/23/2017	200	01/12/2015	4.25% Euro Matures 01/22/2020 (USD)
State Bank of India London Branch	Baa2	11/17/2017	100	12/04/2014	3.95% Euro Matures 12/24/2024 (USD)
	Baa2	11/17/2017	0	03/29/2017	Flt Rt Euro Matures 04/06/2020 (USD)
	Baa2	11/17/2017	500	01/24/2017	3.25% Euro Matures 01/24/2022 (USD)
	Baa2	11/17/2017	100	03/24/2015	2.83% Euro Matures 03/27/2020 (USD)
Zenith Bank PLC	B2	11/10/2017	500	05/30/2017	7.375% Global Matures 05/30/2022 (USD)

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**Medium Term Note Programs (Revised)**  
**(Not Registered under Securities Act of 1933)**  
**(Not for Public Offer or Sale)**

Notes issued under these programs are offered and sold from time to time in privately negotiated transactions without registration under the Securities Act of 1933 (the "Act") under circumstances reasonably designed to preclude a distribution thereof in violation of the Act. Notes so issued may be offered and sold only to or for the account of persons that qualify as "accredited investors", as defined in regulation D under the Act.

ISSUER	GUARANTOR/SUPPORT	MOODY'S® RATING	RATING DATE	ORIGINAL AMOUNT *(Mill.)	DESCRIPTION LOCAL CURRENCY
Bharat Petroleum Corp Ltd	----	Baa2	11/17/2017	2000	Euro (USD)
Commonwealth Bank of Australia	----	Baa1/Nr	11/22/2017	15000	Gtd Global (USD)
Credito Valtellinese S.p.A.	----	B2/NP	11/17/2017	4662.149	Gtd Sr Unsec Euro (EUR)
	----	Caa2	11/17/2017	4662.149	Gtd Sub Euro (EUR)
Export-Import Bank of India	----	Baa2	11/17/2017	1000	Sr Unsec Euro (USD)
GE Capital Australia Funding Pty Ltd	----	A2/P-1	11/16/2017	1	Sr Unsec (USD)
GE Capital Canada Funding Co	----	A2	11/16/2017	4126.305	Sr Unsec (CAD)
	----	A2	11/16/2017	9976.057	Sr Unsec (CAD)
GE Capital European Funding	----	A2/P-1	11/16/2017	1	Sr. Unsec. Gtd. Euro (USD)
GE Capital UK Funding	----	A2/P-1	11/16/2017	1	Sr. Unsec. Gtd. Euro (USD)
General Electric Capital Canada Inc	----	A2/P-1	11/16/2017	1	Sr Unsec (USD)
	----				Sr Unsec Australian (AUD)
GPT Mgmt Ltd	----	A2/P-1	11/29/2017	1241.86	
GPT Re Ltd	----	A2/P-1	11/29/2017	1671.905	Sr Unsec Euro (AUD)
HDFC Bank Ltd	----	Baa2	11/17/2017	1000	Sr Unsec (USD)
	----	Ba1	11/17/2017	1000	Jr Sub (USD)
	----	Baa3	11/17/2017	1000	Sub (USD)
Rizal Commercial Banking Corp	----	Baa2/P-2	11/23/2017	----	----
SAS Denmark-Norway-Sweden	----	B2/NP	11/13/2017	1075.409	Euro Sr Unsec (EUR)
State Bank of India	----	Baa2	11/17/2017	5000	Sr Unsec Euro (USD)
State Bank of India London Branch	----	Baa2/P-2	11/17/2017	5000	Sr Unsec (USD)
State Bank of India Nassau Branch	----	Baa2	11/17/2017	5000	Sr Unsec (USD)

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## Issuer Ratings (New)

OBLIGORS	ISSUER RATING	OBLIGORS	ISSUER RATING
AgFirstFarm Credit Bank (USD)	Aa3	Nest Investments (Holdings) Ltd (FGN)	Ba2
China Jianyin Investment Ltd (FGN)	A2		Ba2
	A2	Rio Negro Province of (FGN)	B3
Credit Mutuel Arkea (FGN)	Aa3/P-1	The Unite Group Plc (FGN)	Baa2
	Aa3/P-1	Tianqi Lithium Corp. (FGN)	Baa3
Cuba Gov't of (FGN)	Caa2		Baa3
Jasa Marga (Persero) Tbk (PT) (FGN)	Baa3	TLG IMMOBILIEN AG (FGN)	Baa2
MB Financial Bank, N.A. (USD)	Ba1		

## Issuer Ratings (Revised)

OBLIGORS	ISSUER RATING	OBLIGORS	ISSUER RATING
AL Hilal Bank Pjsc	A2/P-1	Jardine Strategic Hldgs Ltd (FGN)	A1
AL Hilal Bank Pjsc (AED)	A2/P-1		A1
Argentina, Gov't of (ARS)	B2	Neuberger Berman Group LLC (USD)	Baa2
Argentina, Gov't of (FGN)	B2	Nigeria Gov't of (FGN)	B2
Bharat Petroleum Corp Ltd (FGN)	Baa2	Nigeria Gov't of (NAN)	B2
Chihuahua, State of (MXN)	Ba3	NTPC Ltd (FGN)	Baa2
CK Hutchison Hldgs Ltd	A2	Oil and Natural Gas Corp Ltd (FGN)	Baa1
Export-Import Bank of India (FGN)	Baa2	Oman TeleCommunications Co SAOG (Omantel) (OMR)	Baa3
Gail (India) Ltd (FGN)	Baa2	Petroleos de Venezuela, S.A. (VEB)	Ca
Gail (India) Ltd (INR)	Baa2	Petronet LNG Ltd (FGN)	Baa2
GE Capital EFS Financing Inc (USD)	A2	Promsvyaz Capital B.V. (FGN)	Caa1/NP
GE Capital Global Hldgs LLC (USD)	A2/P-1		Caa1/NP
GPT Group (The) (AUD)	A2/P-1	Raiffeisenlandesbank Niederoesterreich - Wien (EUR)	Baa1/P-2
Hindustan Petroleum Corp Ltd	Baa2	Select Income REIT (USD)	Baa3
Indian Oil Corp Ltd (FGN)	Baa2	UPM-Kymmene (FGN)	Baa2
Indian Railway Fin Corp Ltd (FGN)	Baa2	Zenith Bank Plc (FGN)	B2/NP
Itochu Corp (FGN)	A3		B2/NP

**Note:** Moody's® ratings are subject to change. Because of the possible time lapse between Moody's® assignment or change of a rating and your use of this publication, we suggest you verify the current rating of any security issuer in which you are interested, by calling the Corporate Rating Desk.

## Moody's Preferred Stock Ratings (New)

### Moody's® Public Utility Preferred Stock Yield Averages

	— Aa —											
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2000	6.56	6.62	6.67	6.75	6.81	6.95	6.90	6.81	6.89	6.75	6.67	6.53
2001	6.72	6.63	6.64	6.75	6.76	6.72	6.61	6.48	6.51	6.49	6.48	6.64
2002	6.60	6.54	6.84	6.74	6.73	6.59	6.59	6.68	6.80	6.82	6.81	6.62
2003	6.70	6.68	6.64	6.72	---	---	---	---	---	---	---	---
2004	---	---	---	---	---	---	---	---	---	---	---	---
	— A —											
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2000	6.84	6.80	6.82	6.93	6.94	7.05	7.05	6.96	7.05	7.02	7.14	7.38
2001	7.42	7.38	7.35	7.47	7.48	7.36	7.25	7.07	7.17	7.06	7.17	7.30
2002	7.30	7.22	7.36	7.27	7.29	7.40	7.33	7.20	7.18	7.37	7.38	7.06
2003	7.13	7.01	7.05	6.97	6.83	6.81	6.84	6.77	6.73	6.87	6.84	6.70
2004	6.65	6.71	6.70	7.10	7.42	7.00	6.64	6.38	6.24	6.26	6.19	6.16
2005	6.15	6.29	6.41	6.17	6.24	6.20	6.22	6.21	6.27	6.41	6.31	6.19
2006	6.14	6.10	6.22	6.31	6.32	6.38	6.25	6.19	6.22	6.02	6.01	5.90
2007	5.90	5.85	5.76	5.81	5.88	6.13	6.29	6.09	6.12	6.18	6.17	6.20
2008	5.97	5.84	5.95	5.98	6.02	5.99	5.95	6.03	6.24	6.70	6.85	6.58
2009	6.38	6.48	6.32	6.21	6.20	6.19	6.19	6.12	6.05	5.99	5.98	5.93
2010	5.90	6.01	5.66	5.75	5.72	5.71	6.21	6.22	6.14	5.78	5.57	5.83
2011	5.85	5.65	5.66	5.63	5.63	5.63	---	---	---	---	---	---
	— Baa —											
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2000	8.26	8.30	8.23	8.27	8.25	8.06	8.09	8.00	8.05	7.81	7.69	7.54
2001	7.53	7.48	7.48	7.59	7.57	7.60	7.42	7.40	7.41	7.40	7.53	7.66
2002	7.62	7.51	7.83	7.62	7.62	7.74	7.64	7.42	7.48	7.59	7.56	7.57
2003	7.61	7.62	7.66	7.51	7.42	7.41	7.24	7.29	7.28	7.26	7.29	7.28
2004	7.20	7.20	7.20	7.27	7.64	7.17	6.89	6.74	6.61	6.53	6.23	6.42
2005	6.35	6.36	6.42	6.41	6.39	6.37	6.35	6.36	6.38	6.40	6.45	6.42
2006	6.41	6.38	6.56	6.64	6.57	6.63	6.42	6.37	6.36	6.23	6.23	6.17
2007	6.08	6.04	6.03	6.12	6.16	6.23	6.51	6.24	6.24	6.27	6.37	6.51
2008	6.37	6.32	6.52	6.62	6.52	6.64	6.68	6.71	6.86	7.20	7.76	7.55
2009	7.14	7.25	7.42	7.40	7.23	7.02	6.88	6.81	6.73	6.72	6.71	6.56
2010	6.78	6.54	6.71	6.77	6.77	6.85	6.76	6.64	6.59	6.64	6.64	6.68
2011	6.67	6.73	6.66	6.64	6.60	6.59	---	---	---	---	---	---

NOTE: The Aaa and Aa averages have been discontinued because of the lack of 'high-grade' preferred stock issues. Yields are based on prices for the last Friday of each month.

NOTE: All Moody's Public Utility Preferred Stock Yield Averages have been discontinued as of July 2011.

MOODY'S® PREFERRED STOCK RATINGS (NEW)

CUSIP	ISSUE	MOODY'S® RATING	DIVIDEND DATES	LIQUIDATION, STATED OR PAR VALUE	AMOUNT OUTSTANDING	CURRENT CALL PRICE	SINKING FUND	NEW MONEY PREFERRED
00845WAD	<b>Agfirst Farm Cr Bk</b> 2.45% perp non cumulative sub pfd stk fixed/fltg rt.....	<b>Baa1</b>	J&D 15	1000	250.000	100.00 no change	No	Yes
23311PAA	<b>DCP Midstream LP</b> 7.375% perp cumulative redeemable pfd units fixed/fltg rt ser a.....	<b>B1</b>	J&D 15	1000	500.000	100.00 no change	No	Yes
23333185	<b>DTE Energy Co</b> 5.25% jr sub deb 2017 ser e .....	<b>Baa2</b>	M,J,S&D 01	25	16000.000	100.00 no change	No	Yes
269246BR	<b>E Trade Finl Corp</b> 5.3% perp dep shs rep 1/100 int sh noncum pfd stk fixed fltg rt.....	<b>Ba3</b>	M&S 15	1000	300.000	100.00 no change	No	Yes
29278NAA	<b>Energy Transfer Partners L P</b> 6.25% perp cumulative redeemable pfd units fixed/fltg rt ser a .....	<b>Ba2</b>	F&A 15	1000	950.000	---- ----	No	Yes
26884U50	<b>EPR Pptys</b> 5.75% perp cumulative redeemable pfd shs ser g .....	<b>Baa3</b>	J,A,J&O 15	25	6000.000	100.00 no change	No	Yes
55264U40	<b>MB Finl Inc</b> 6% perp dep shs rep 1/40th int sh noncum pfd stk ser c ..	<b>Ba3</b>	F,M,A&N 25	25	8000.000	100.00 no change	No	Yes
84258740	<b>Southern Co</b> 5.25% jr sub nt ser 2017b.....	<b>Baa3</b>	M,J,S&D 01	25	18000.000	100.00 no change	No	Yes
866142AA	<b>Summit Midstream Partners LP</b> 9.5% perp cumulative redeemable pfd units fixed/fltg rt ser a .....	<b>B3</b>	J&D 15	1000	300.000	104.00 fr 12/15/22	No	Yes
867914BP	<b>SunTrust Bks Inc</b> 5.125% perp dep shs rep 1/100th int sh pfd stk fixed/fltg ser h.....	<b>Baa3</b>	J&D 15	1000	500.000	100.00 no change	No	Yes

**Notes:** All preferred stocks allow corporate holders a 70% dividend exclusion from taxable income, except for certain utility issues which are identified by a "No" in the new money column.  
 § Involuntary liquidation price. † Stated value.

▣ Gtd. by Nustar Logistics L P

CUSIP	ISSUE	MOODY'S® RATING	DIVIDEND DATES	LIQUIDATION, STATED OR PAR VALUE	AMOUNT OUTSTANDING	CURRENT CALL PRICE	SINKING FUND	NEW MONEY PREFERRED
<b>Moody's Preferred Stock Ratings (Revised)</b>								
29462850	<b>Commonwealth Reit</b> 5.75% sr nt.....	<b>Baa2</b>	F,M,A&N 01	25	7000.000	100.00 no change	No	Yes
36962242	<b>General Elec Cap Corp</b> 4.875% global medium term nt ser a.....	<b>A2</b>	J,A,J&O 15	25	33000.000	100.00 no change	No	Yes
36962241	4.875% global nt .....	<b>A2</b>	J,A,J&O 29	25	22000.000	100.00 no change	No	Yes
36962239	4.7% global nt .....	<b>A2</b>	F,M,A&N 16	25	30000.000	100.00 no change	No	Yes
369604BM	<b>General Elec Co</b> 4% perp global non cumulative pfd stk fixed/fltg rt ser a.....	<b>Baa1</b>	M,J,S&D 15	100000	22.500	100.00 no change	No	Yes
369604BQ	5% perp non cumulative pfd stk fixed/fltg rt ser d.....	<b>Baa1</b>	J&D 15	1000	5694.493	100.00 no change	No	Yes
29462820	<b>HRPT Pptys Tr</b> 6.5% perp cumulative pfd shs conv ser d.....	<b>Baa3</b>	F,M,A&N 15	25	13200.000	N.C. ----	----	Yes
74043488	<b>PreferredPlus Tr Ctf</b> 8.375% tr pfd secs ser czn-1.....	<b>B3</b>	A&O 01	25	1380.000	100.00 fr 10/01/18	No	Yes
---	<b>RZB Fin (Jersey) III Ltd</b> pfd stk .....	<b>Ba3</b>	----	1000	200.000	N.C. ----	----	Yes
80411A20	<b>Saturns Tr Ser 2003-1</b> 7.25% tr pfd secs (saturns) .....	<b>Ca</b>	J&D 01	25	2407.680	---- ----	No	Yes
81240440	<b>Sears Roebuck Accep Corp</b> 7% nt .....	<b>Ca</b>	J,A,J&O 15	25	10000.000	100.00 fr 07/15/18	No	Yes
81240450	<b>Sears Roebuck Accep Corp</b> 7.4% nt .....	<b>Ca</b>	F,M,A&N 01	25	10000.000	100.00 fr 02/01/18	No	Yes

**Notes:** All preferred stocks allow corporate holders a 70% dividend exclusion from taxable income, except for certain utility issues which are identified by a "No" in the new money column.  
 § Involuntary liquidation price. † Stated value.

☐ Gtd. by Bank Of Ireland ☒ Gtd. by Sovereign Bancorp Incorporated

Industrial Development Revenue Bonds (New)

SALE DATE	AMOUNT ISSUED (000)	STATE±MUNICIPALITY	INT. RATE	MATURITY	MOODY'S® RATING	LESSEE(S) GUARANTOR(S)	UNDERWRITER
<b>Kentucky</b>							
11/14/2017	250,000	KY Econ Dev Fin Auth .....	-----	12/30/1899	Baa3	Louisville Arena Auth Inc	----
11/14/2017	150,000	KY Econ Dev Fin Auth .....	-----	12/30/1899	Baa3	Louisville Arena Auth Inc	----
12/20/2017	1,875	Pub Energy Auth of KY Inc .....	[20] 4	4/1/2023	A3	2017 Ser A (2023)	----
12/20/2017	3,880	Pub Energy Auth of KY Inc .....	[20] 4	4/1/2024	A3	2017 Ser A (2024)	----
12/20/2017	436,585	Pub Energy Auth of KY Inc .....	[20] 4	4/1/2048	A3	2017 Ser A (2048)	----
12/20/2017	1,805	Pub Energy Auth of KY Inc .....	[20] 4	4/1/2022	A3	2017 Ser A (2022)	----
12/20/2017	1,760	Pub Energy Auth of KY Inc .....	[20] 4	4/1/2020	A3	2017 Ser A (2020)	----
12/20/2017	1,765	Pub Energy Auth of KY Inc .....	[20] 4	4/1/2021	A3	2017 Ser A (2021)	----
12/20/2017	1,190	Pub Energy Auth of KY Inc .....	[20] 4	4/1/2019	A3	2017 Ser A	----
<b>Louisiana</b>							
11/21/2017	250,000	LA Local Gov't Env Facs Communi .....	-----	11/1/2032	Baa3	Westlake Chemical Corp	----

[5] Fltg. rate issue. [6] Adjustable rate. [11] Var. Rt. [20] Fixed rate issue.

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## Industrial Development Revenue Bonds (Revised)

SALE DATE	AMOUNT ISSUED (000)	STATE±MUNICIPALITY	INT. RATE	MATURITY	MOODY'S® RATING	LESSEE(S) GUARANTOR(S)	UNDERWRITER
<b>Illinois</b>							
1/1/1999	2,535	Chicago (City of) IL Ser. 1999-A .....	5.6	1/1/2041	Aaa	Hearts United Apartments-proj.	John Nuveen & Co.
1/1/1999	2,330	Chicago (City of) IL Ser. 1999-A .....	5.6	1/1/2024	Aaa	Hearts United Apartments-proj.	John Nuveen & Co.
4/1/1998	3,600	Upper IL River Valley Dev Auth Ser. 1998 .....	5.45	2/1/2023	A2	General Electric Co.-proj.	Citicorp Securities, Inc.
<b>Indiana</b>							
8/1/1999	10,000	East Chicago (City of) .....	6.375	8/1/2029	Ba2	USG Corp. proj.	-----
<b>Massachusetts</b>							
1/18/1995	28,600	Massachusetts Hlth & Edl Fac Auth Ser. N .....	-----	10/24/2034	Aa1	MBIA Insurance Corp.	-----
<b>New York</b>							
12/16/1997	30,000	NY State Env Facs Corp Ser. 1997-A .....	[11]	12/1/2027	A2/P-1	General Electric Co.	Goldman Sachs & Co.
<b>Ohio</b>							
7/1/1999	9,000	Ohio (State of) .....	6.05	8/1/2034	Ba2	USG Corp.	-----
2/18/1998	44,400	Ohio (State of) Ser. 1998 .....	5.65	3/1/2033	Ba2	USG Corp.-proj.	J.P. Morgan & Co.
<b>Oregon</b>							
12/1/1999	11,000	Oregon (State of) .....	6.4	12/1/2029	Ba2	USG Corp.	-----
<b>Pennsylvania</b>							
7/7/1999	110	Pennsylvania Econ Dev Fin Auth .....	6	6/1/2031	Ba2	USG Corp.	-----
<b>Texas</b>							
4/29/1998	25,000	Gulf Coast I.D.A. Ser. 1998 .....	-----	4/1/2028	Caa1/Nr	CITGO Petroleum Corp.-proj./	Goldman Sachs & Co.
10/1/2012	50,000	Gulf Coast I.D.A. TX .....	[20] 4.875	5/1/2025	Caa1	Citgo Petroleum Corp	-----
5/17/2000	6,500	Southeast TX Hsg Fin Corp .....	[5]	6/1/2032	A2/VMIG1	General Electric Capital Corp	-----

[5] Fltg. rate issue. [6] Adjustable rate. [11] Var. Rt. [20] Fixed rate issue.

Pollution and Environmental Control Revenue Bonds (New)

SALE DATE	AMOUNT ISSUED (000)	STATE±MUNICIPALITY	INT. RATE	MATURITY	MOODY'S® RATING	LESSEE(S) GUARANTOR(S)	UNDERWRITER
<b>Florida</b>							
11/22/2017	65,000	Escambia (Cnty of) FL .....	-----	4/1/2039	A2	Gulf Power Co	-----
<b>Indiana</b>							
11/17/2017	50,000	Rockport (City of) IN .....	-----	6/1/2025	Baa1	IN MI Power Co	-----

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## Pollution and Environmental Control Revenue Bonds (Revised)

SALE DATE	AMOUNT ISSUED (000)	STATE±MUNICIPALITY	INT. RATE	MATURITY	MOODY'S® RATING	LESSEE(S) GUARANTOR(S)	UNDERWRITER
<b>Alabama</b>							
5/31/2005	70,000	Montgomery (City of) AL Indl Dev Bd .....	-----	5/1/2021	A2	General Electric Co.	-----
9/13/2006	8,000	Montgomery (City of) AL Indl Dev Bd .....	-----	5/1/2021	A2/VMIG1	General Electric Co.	-----
<b>Illinois</b>							
6/25/2002	30,000	Illinois Dev Fin Corp .....	.8	6/1/2032	Caa1	Citgo Petroleum Corp. Proj.	-----
<b>Indiana</b>							
9/1/1998	10,000	East Chicago (City of) .....	.5,5	9/1/2028	Ba2	USG Corp.	-----
<b>New York</b>							
7/15/1987	30,000	NY State Env Facs Corp Ser. 1987 A .....	5	7/1/2019	A2/P-1	General Electric Co.	Goldman Sachs & Co.
<b>Ohio</b>							
8/3/1998	45,000	Ohio Air Quality Dev Auth Ser. 1997 .....	-----	8/1/2032	Ba2	USG Corp.-proj.	Citicorp Securities, Inc.
<b>Texas</b>							
6/25/2002	50,000	Gulf Coast I.D.A .....	-----	5/1/2025	Caa1	Citgo Petroleum Corp.	-----

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Moody's Bond Ratings

Moody's Municipal Bond Yield Averages

	Aver. Mu- nic.	Municipal by Ratings					Aver. Mu- nic.	Municipal by Ratings					Aver. Mu- nic.	Municipal by Ratings				
		Aaa	Aa	A	Baa			Aaa	Aa	A	Baa			Aaa	Aa	A	Baa	
<b>1998</b>						<b>1999</b>						<b>2000</b>						
Jan.	4.94	4.85	4.90	4.97	5.02	Jan.	5.01	4.85	4.94	5.06	5.21	Jan.	6.13	5.91	6.02	6.21	6.38	
Feb.	5.01	4.92	4.96	5.06	5.09	Feb.	5.01	4.83	4.90	5.06	5.24	Feb.	6.08	5.86	5.95	6.17	6.35	
Mar.	5.15	5.03	5.10	5.22	5.25	Mar.	5.11	4.96	5.03	5.12	5.32	Mar.	5.88	5.65	5.76	5.94	6.16	
Apr.	5.11	4.99	5.10	5.16	5.20	Apr.	5.06	4.87	5.00	5.10	5.26	Apr.	5.80	5.60	5.64	5.78	6.18	
May	5.17	5.04	5.17	5.21	5.25	May	5.23	5.05	5.15	5.29	5.43	May	6.09	5.86	5.93	6.08	6.50	
Jun.	5.03	4.96	5.03	5.05	5.11	Jun.	5.39	5.23	5.30	5.42	5.60	Jun.	5.87	5.66	5.70	5.90	6.21	
Jul.	5.07	5.02	5.05	5.09	5.13	Jul.	5.40	5.23	5.30	5.42	5.60	Jul.	5.74	5.53	5.59	5.74	6.09	
Aug.	5.07	5.00	5.05	5.10	5.17	Aug.	5.67	5.48	5.57	5.70	5.94	Aug.	5.63	5.43	5.47	5.61	6.01	
Sept.	4.94	4.79	4.88	4.99	5.09	Sept.	5.79	5.57	5.70	5.83	6.08	Sept.	5.67	5.40	5.51	5.66	6.12	
Oct.	4.93	4.78	4.82	4.99	5.12	Oct.	5.98	5.78	5.87	6.02	6.23	Oct.	5.73	5.44	5.54	5.73	6.21	
Nov.	5.00	4.87	4.93	5.05	5.15	Nov.	5.98	5.77	5.90	6.03	6.23	Nov.	5.68	5.39	5.48	5.69	6.17	
Dec.	4.98	4.82	4.90	5.04	5.17	Dec.	6.02	5.83	5.92	6.08	6.25	Dec.	5.36	5.11	5.18	5.27	5.85	
<b>2001</b>						<b>2002</b>						<b>2003</b>						
Jan.	5.26	5.00	5.08	5.20	5.77	Jan.	5.28	5.05	5.09	5.26	5.73	Jan.	5.06	4.74	4.83	5.05	5.63	
Feb.	5.34	5.09	5.15	5.28	5.87	Feb.	5.20	4.93	4.99	5.18	5.71	Feb.	4.90	4.57	4.67	4.88	5.48	
Mar.	5.26	4.99	5.07	5.22	5.79	Mar.	5.38	5.09	5.14	5.37	5.92	Mar.	4.80	4.51	4.60	4.77	5.33	
Apr.	5.43	5.14	5.24	5.37	5.96	Apr.	5.33	5.07	5.10	5.29	5.84	Apr.	4.86	4.60	4.70	4.79	5.33	
May	5.43	5.15	5.25	5.38	5.94	May	5.29	5.04	5.11	5.20	5.80	May	4.51	4.16	4.42	4.56	4.91	
June	5.32	5.03	5.17	5.28	5.82	June	5.18	4.92	5.02	5.11	5.70	June	4.37	4.07	4.27	4.46	4.67	
July	5.29	5.02	5.13	5.24	5.78	July	5.03	4.80	4.84	4.92	5.54	July	4.86	4.59	4.76	4.94	5.17	
Aug.	5.11	4.87	4.98	5.08	5.51	Aug.	5.02	4.79	4.83	4.91	5.53	Aug.	5.12	4.82	5.02	5.22	5.42	
Sept.	5.19	4.93	5.05	5.17	5.62	Sept.	4.81	4.58	4.64	4.72	5.31	Sept.	4.92	4.63	4.82	5.02	5.23	
Oct.	5.13	4.87	4.98	5.14	5.53	Oct.	4.93	4.66	4.76	4.85	5.47	Oct.	4.92	4.64	4.79	5.02	5.24	
Nov.	5.13	4.86	4.97	5.14	5.55	Nov.	5.07	4.76	4.87	5.02	5.62	Nov.	4.78	4.50	4.68	4.84	5.10	
Dec.	5.40	5.18	5.22	5.39	5.81	Dec.	5.00	4.70	4.76	4.96	5.57	Dec.	4.65	4.41	4.54	4.67	4.97	
<b>2004</b>						<b>2005</b>						<b>2006</b>						
Jan.	4.67	4.42	4.56	4.69	5.01	Jan.	4.48	4.24	4.36	4.50	4.80	Jan.	4.49	4.29	4.41	4.51	4.75	
Feb.	4.55	4.26	4.42	4.57	4.92	Feb.	4.38	4.17	4.25	4.42	4.71	Feb.	4.50	4.30	4.42	4.53	4.77	
Mar.	4.46	4.19	4.33	4.49	4.84	Mar.	4.53	4.31	4.40	4.55	4.88	Mar.	4.50	4.29	4.40	4.53	4.78	
Apr.	4.96	4.68	4.82	4.98	5.34	Apr.	4.42	4.17	4.26	4.46	4.80	Apr.	4.69	4.36	4.59	4.84	4.97	
May	5.19	4.92	5.07	5.22	5.56	May	4.47	4.19	4.31	4.52	4.85	May	4.72	4.37	4.61	4.91	5.00	
June	5.09	4.83	4.97	5.12	5.44	June	4.38	4.08	4.22	4.43	4.76	June	4.70	4.36	4.57	4.88	4.98	
July	4.96	4.71	4.85	5.01	5.28	July	4.47	4.18	4.32	4.53	4.86	July	4.73	4.39	4.59	4.92	5.02	
Aug.	4.74	4.52	4.62	4.78	5.05	Aug.	4.57	4.33	4.40	4.61	4.93	Aug.	4.44	4.10	4.31	4.62	4.72	
Sept.	4.61	4.40	4.48	4.63	4.93	Sept.	4.52	4.34	4.38	4.46	4.87	Sept.	4.22	3.87	4.18	4.38	4.47	
Oct.	4.60	4.38	4.47	4.61	4.92	Oct.	4.66	4.49	4.56	4.63	4.99	Oct.	4.24	3.91	4.18	4.39	4.48	
Nov.	4.68	4.46	4.56	4.70	5.00	Nov.	4.64	4.42	4.55	4.65	4.96	Nov.	4.10	3.81	4.06	4.21	4.34	
Dec.	4.58	4.35	4.47	4.61	4.91	Dec.	4.66	4.46	4.58	4.68	4.92	Dec.	4.04	3.76	3.99	4.14	4.26	
<b>2007</b>						<b>2008</b>						<b>2009</b>						
Jan.	4.14	3.89	4.08	4.23	4.34	Jan.	4.42	4.12	4.22	4.49	4.86	Jan.	5.43	4.64	4.85	5.59	6.63	
Feb.	4.14	3.93	4.06	4.24	4.35	Feb.	4.79	4.44	4.59	4.88	5.26	Feb.	5.33	4.56	4.74	5.46	6.56	
Mar.	4.07	3.88	3.96	4.16	4.27	Mar.	4.96	4.63	4.77	5.02	5.43	Mar.	5.53	4.74	4.92	5.67	6.78	
Apr.	4.20	3.99	4.10	4.30	4.41	Apr.	4.84	4.49	4.64	4.91	5.34	Apr.	5.32	4.48	4.66	5.47	6.66	
May	4.24	4.04	4.15	4.33	4.44	May	4.72	4.36	4.50	4.78	5.26	May	5.10	4.26	4.46	5.25	6.45	
June	4.30	4.34	4.46	4.65	4.74	June	4.84	4.50	4.55	4.92	5.42	June	5.41	4.56	4.84	5.51	6.72	
July	4.47	4.26	4.36	4.58	4.66	July	4.83	4.44	4.53	4.92	5.42	July	5.21	4.36	4.65	5.33	6.51	
Aug.	4.50	4.30	4.39	4.57	4.75	Aug.	4.84	4.44	4.54	4.96	5.45	Aug.	5.01	4.17	4.44	5.12	6.29	
Sept.	4.46	4.26	4.33	4.48	4.76	Sept.	5.06	4.61	4.75	5.19	5.70	Sept.	4.60	3.81	4.05	4.71	5.83	
Oct.	4.40	4.20	4.29	4.41	4.68	Oct.	5.70	5.15	5.33	5.89	6.43	Oct.	4.63	3.85	4.10	4.71	5.85	
Nov.	4.51	4.26	4.38	4.56	4.84	Nov.	5.45	4.83	4.99	5.68	6.31	Nov.	4.76	3.99	4.23	4.84	5.99	
Dec.	4.52	4.23	4.35	4.58	4.91	Dec.	5.93	5.17	5.36	6.15	7.06	Dec.	4.64	3.89	4.10	4.72	5.86	
<b>2010</b>						<b>2011</b>						<b>2012</b>						
Jan.	4.70	3.96	4.14	4.79	5.90	Jan.	5.50	4.86	5.11	5.71	6.32	Jan.	4.32	3.60	3.83	4.53	5.34	
Feb.	4.62	3.91	4.07	4.71	5.81	Feb.	5.47	4.79	5.05	5.67	6.36	Feb.	3.80	3.09	3.31	3.99	4.84	
Mar.	4.59	3.91	4.06	4.66	5.74	Mar.	5.20	4.47	4.74	5.40	6.17	Mar.	4.08	3.37	3.62	4.21	5.11	
Apr.	4.61	3.95	4.09	4.67	5.74	Apr.	5.57	4.93	5.20	5.52	6.65	Apr.	4.12	3.43	3.70	4.23	5.12	
May	4.39	3.75	3.87	4.44	5.49	May	5.05	4.32	4.55	5.26	6.05	May	3.88	3.19	3.46	3.98	4.87	
June	4.44	3.78	3.92	4.49	5.58	June	4.97	4.23	4.46	5.20	5.99	June	4.02	3.31	3.60	4.14	5.05	
July	4.34	3.69	3.84	4.39	5.46	July	5.03	4.31	4.58	5.23	6.01	July	3.90	3.18	3.46	4.03	4.93	
Aug.	4.08	3.44	3.59	4.14	5.15	Aug.	4.63	3.89	4.15	4.84	5.64	Aug.	3.69	3.00	3.25	3.81	4.71	
Sept.	4.21	3.63	3.84	4.23	5.15	Sept.	4.63	3.84	4.11	4.83	5.72	Sept.	3.58	2.96	3.19	3.68	4.49	
Oct.	4.44	3.83	4.03	4.57	5.34	Oct.	4.55	3.91	4.20	4.73	5.37	Oct.	3.53	2.92	3.15	3.64	4.43	
Nov.	4.67	4.00	4.24	4.86	5.58	Nov.	4.57	3.79	4.10	4.80	5.58	Nov.	3.39	2.78	3.01	3.50	4.28	
Dec.	5.35	4.67	4.92	5.57	6.25	Dec.	4.47	3.72	3.98	4.71	5.49	Dec.	3.41	2.82	3.05	3.49	4.28	
<b>2013</b>						<b>2014</b>						<b>2015</b>						
Jan.	3.40	2.81	3.05	3.50	4.25	Jan.	4.55	3.94	4.18	4.74	5.34	Jan.	3.34	2.90	3.14	3.47	3.86	
Feb.	3.67	3.08	3.33	3.78	4.48	Feb.	4.36	3.76	4.00	4.54	5.14	Feb.	3.49	3.05	3.29	3.62	4.01	
Mar.	3.65	3.07	3.32	3.76	4.46	Mar.	4.31	3.72	3.96	4.51	5.07	Mar.	3.59	3.15	3.39	3.72	4.11	
Apr.	3.70	3.11	3.36	3.84	4.48	Apr.	4.13	3.57	3.80	4.30	4.86	Apr.	3.44	3.20	3.41	3.79	4.17	
May	3.65	3.09	3.33	3.80	4.37	May	3.96	3.43	3.64	4.11	4.65	May	3.85	3.38	3.63	3.98	4.39	
June	4.14	3.53	3.83	4.33	4.88	June	3.93	3.42	3.64	4.08	4.58	June	3.84	3.42	3.64	3.94	4.35	
July	4.40	3.73	4.42	4.52	4.95	July	3.89	3.38	3.60	4.05	4.53	July	3.80	3.33	3.62	3.93	4.32	
Aug.	4.61	3.93	4.62	4.72	5.17	Aug.	3.77	3.28	3.50	3.92	4.39	Aug.	3.77	3.31	3.54	3.92	4.31	
Sept.	4.65	3.94	4.68	4.75	5.24	Sept.	3.64	3.18	3.39	3.78	4.23	Sept.	3.89	3.42	3.67	4.05	4.43	
Oct.	4.34	3.60	4.33	4.40	5.01	Oct.	3.72	3.11	3.54	3.90	4.35	Oct.	3.70	3.22	3.52	3.84	4.22	
Nov.	4.30	3.56	4.28	4.36	4.99	Nov.	3.58	3.12	3.36	3.73	4.14	Nov.	3.67	3.21	3.44	3.82	4.20	
Dec.	4.77	4.15	4.29	4.97	5.59	Dec.	3.47	3.02	3.26	3.60	4.00	Dec.	3.54					

## Corporate Bond Yield Averages

	AV. CORP.	CORPORATE BY RATINGS				CORPORATE BY GROUPS			PUBLIC UTILITY BONDS				INDUSTRIAL BONDS				RAILROAD BONDS						
		Aaa	Aa	A	Baa	P.U.	IND.	R.R.	Aaa	Aa	A	Baa	Aaa	Aa	A	Baa	Aaa	Aa	A	Baa			
2010																							
Jan.	5.76	5.26	5.50	5.76	6.25	5.83	5.69	---	Jan.	---	5.55	5.77	6.16	Jan.	5.26	5.44	5.73	6.33	Jan.	---	---	---	---
Feb.	5.86	5.35	5.62	5.84	6.34	5.94	5.79	---	Feb.	---	5.69	5.87	6.25	Feb.	5.35	5.55	5.80	6.43	Feb.	---	---	---	---
Mar.	5.81	5.27	5.57	5.80	6.27	5.90	5.71	---	Mar.	---	5.64	5.84	6.22	Mar.	5.27	5.49	5.75	6.32	Mar.	---	---	---	---
Apr.	5.80	5.29	5.57	5.78	6.25	5.87	5.71	---	Apr.	---	5.62	5.81	6.19	Apr.	5.29	5.50	5.74	6.32	Apr.	---	---	---	---
May	5.52	4.96	5.25	5.49	6.05	5.59	5.44	---	May	---	5.29	5.50	5.97	May	4.96	5.19	5.47	6.13	May	---	---	---	---
June	5.52	4.88	5.16	5.44	6.23	5.62	5.42	---	June	---	5.22	5.46	6.18	June	4.88	5.11	5.42	6.28	June	---	---	---	---
July	5.32	4.72	4.96	5.25	6.01	5.41	5.23	---	July	---	4.99	5.26	5.98	July	4.72	4.92	5.23	6.04	July	---	---	---	---
Aug.	5.05	4.49	4.72	5.00	5.66	5.10	4.98	---	Aug.	---	4.75	5.01	5.55	Aug.	4.49	4.68	4.98	5.77	Aug.	---	---	---	---
Sept.	5.05	4.53	4.72	5.01	5.66	5.10	5.00	---	Sept.	---	4.74	5.01	5.53	Sept.	4.53	4.70	5.00	5.78	Sept.	---	---	---	---
Oct.	5.15	4.68	4.83	5.09	5.72	5.20	5.08	---	Oct.	---	4.89	5.10	5.62	Oct.	4.68	4.77	5.07	5.81	Oct.	---	---	---	---
Nov.	5.37	4.87	5.07	5.33	5.92	5.45	5.29	---	Nov.	---	5.12	5.37	5.85	Nov.	4.87	5.02	5.29	5.99	Nov.	---	---	---	---
Dec.	5.55	5.02	5.26	5.52	6.10	5.64	5.46	---	Dec.	---	5.32	5.56	6.04	Dec.	5.02	5.19	5.47	6.15	Dec.	---	---	---	---
2011																							
Jan.	5.56	5.04	5.26	5.53	6.09	5.64	5.46	---	Jan.	---	5.29	5.57	6.06	Jan.	5.04	5.22	5.48	6.11	Jan.	---	---	---	---
Feb.	5.66	5.22	5.37	5.64	6.15	5.73	5.58	---	Feb.	---	5.42	5.68	6.10	Feb.	5.22	5.31	5.59	6.19	Feb.	---	---	---	---
Mar.	5.55	5.13	5.28	5.52	6.03	5.62	5.48	---	Mar.	---	5.33	5.56	5.97	Mar.	5.13	5.22	5.48	6.09	Mar.	---	---	---	---
Apr.	5.56	5.16	5.29	5.52	6.02	5.62	5.49	---	Apr.	---	5.32	5.55	5.98	Apr.	5.16	5.25	5.48	6.06	Apr.	---	---	---	---
May	5.33	4.96	5.06	5.29	5.78	5.38	5.27	---	May	---	5.08	5.32	5.74	May	4.96	5.04	5.26	5.81	May	---	---	---	---
June	5.30	4.99	5.04	5.26	5.75	5.33	5.27	---	June	---	5.04	5.26	5.67	June	4.99	5.02	5.25	5.82	June	---	---	---	---
July	5.30	4.93	5.03	5.26	5.76	5.34	5.25	---	July	---	5.05	5.27	5.70	July	4.93	4.99	5.25	5.81	July	---	---	---	---
Aug.	4.79	4.37	4.47	4.74	5.36	4.78	4.79	---	Aug.	---	4.44	4.69	5.22	Aug.	4.37	4.50	4.79	5.49	Aug.	---	---	---	---
Sept.	4.60	4.09	4.23	4.54	5.27	4.61	4.58	---	Sept.	---	4.24	4.48	5.11	Sept.	4.09	4.21	4.59	5.42	Sept.	---	---	---	---
Oct.	4.60	3.98	4.16	4.54	5.37	4.66	4.54	---	Oct.	---	4.21	4.52	5.24	Oct.	3.98	4.11	4.56	5.50	Oct.	---	---	---	---
Nov.	4.39	3.87	3.97	4.34	5.14	4.37	4.41	---	Nov.	---	3.92	4.25	4.93	Nov.	3.87	4.01	4.43	5.34	Nov.	---	---	---	---
Dec.	4.47	3.93	4.03	4.40	5.25	4.47	4.47	---	Dec.	---	4.00	4.33	5.07	Dec.	3.93	4.06	4.46	5.43	Dec.	---	---	---	---
2012																							
Jan.	4.45	3.85	4.01	4.39	5.23	4.48	4.41	---	Jan.	---	4.03	4.34	5.06	Jan.	3.85	3.98	4.43	5.39	Jan.	---	---	---	---
Feb.	4.42	3.85	3.99	4.39	5.14	4.47	4.37	---	Feb.	---	4.02	4.36	5.02	Feb.	3.85	3.96	4.41	5.26	Feb.	---	---	---	---
Mar.	4.54	3.99	4.14	4.51	5.23	4.59	4.50	---	Mar.	---	4.16	4.48	5.13	Mar.	3.99	4.12	4.53	5.33	Mar.	---	---	---	---
Apr.	4.49	3.96	4.08	4.44	5.19	4.53	4.44	---	Apr.	---	4.10	4.40	5.11	Apr.	3.96	4.06	4.48	5.27	Apr.	---	---	---	---
May	4.33	3.80	3.91	4.26	5.07	4.36	4.30	---	May	---	3.92	4.20	4.97	May	3.80	3.90	4.32	5.17	May	---	---	---	---
June	4.22	3.64	3.78	4.14	5.02	4.26	4.18	---	June	---	3.79	4.08	4.91	June	3.64	3.79	4.18	5.13	June	---	---	---	---
July	4.03	3.40	3.54	3.93	4.87	4.12	3.93	---	July	---	3.58	3.93	4.85	July	3.40	3.49	3.93	4.89	July	---	---	---	---
Aug.	4.09	3.48	3.61	3.99	4.91	4.18	3.99	---	Aug.	---	3.65	4.00	4.88	Aug.	3.48	3.57	3.98	4.93	Aug.	---	---	---	---
Sept.	4.09	3.49	3.68	4.01	4.84	4.17	4.00	---	Sept.	---	3.69	4.02	4.81	Sept.	3.49	3.66	4.00	4.87	Sept.	---	---	---	---
Oct.	3.97	3.47	3.63	3.90	4.58	4.05	3.89	---	Oct.	---	3.68	3.91	4.54	Oct.	3.47	3.58	3.89	4.62	Oct.	---	---	---	---
Nov.	3.92	3.50	3.57	3.87	4.51	3.95	3.88	---	Nov.	---	3.60	3.84	4.42	Nov.	3.50	3.54	3.89	4.60	Nov.	---	---	---	---
Dec.	4.05	3.65	3.70	3.98	4.63	4.10	3.99	---	Dec.	---	3.75	4.00	4.56	Dec.	3.65	3.65	3.96	4.70	Dec.	---	---	---	---
2013																							
Jan.	4.19	3.80	3.87	4.14	4.73	4.24	4.14	---	Jan.	---	3.90	4.15	4.66	Jan.	3.80	3.84	4.13	4.81	Jan.	---	---	---	---
Feb.	4.27	3.90	3.95	4.19	4.85	4.29	4.25	---	Feb.	---	3.95	4.18	4.74	Feb.	3.90	3.95	4.20	4.95	Feb.	---	---	---	---
Mar.	4.29	3.93	3.97	4.23	4.85	4.29	4.29	---	Mar.	---	3.95	4.20	4.72	Mar.	3.93	3.98	4.25	4.99	Mar.	---	---	---	---
Apr.	4.07	3.73	3.77	4.03	4.59	4.08	4.07	---	Apr.	---	3.74	4.00	4.49	Apr.	3.73	3.79	4.05	4.69	Apr.	---	---	---	---
May	4.23	3.89	3.94	4.19	4.73	4.24	4.22	---	May	---	3.91	4.17	4.65	May	3.89	3.97	4.20	4.80	May	---	---	---	---
June	4.63	4.27	4.32	4.56	5.19	4.63	4.63	---	June	---	4.27	4.53	5.08	June	4.27	4.36	4.58	5.29	June	---	---	---	---
July	4.76	4.34	4.46	4.69	5.32	4.78	4.74	---	July	---	4.44	4.68	5.21	July	4.34	4.47	4.69	5.43	July	---	---	---	---
Aug.	4.88	4.54	4.63	4.78	5.42	4.85	4.92	---	Aug.	---	4.53	4.73	5.28	Aug.	4.54	4.72	4.83	5.57	Aug.	---	---	---	---
Sept.	4.95	4.64	4.69	4.85	5.47	4.90	4.99	---	Sept.	---	4.58	4.80	5.31	Sept.	4.64	4.80	4.90	5.62	Sept.	---	---	---	---
Oct.	4.82	4.53	4.59	4.73	5.31	4.78	4.86	---	Oct.	---	4.48	4.70	5.17	Oct.	4.53	4.69	4.76	5.44	Oct.	---	---	---	---
Nov.	4.91	4.63	4.67	4.82	5.38	4.86	4.95	---	Nov.	---	4.56	4.77	5.24	Nov.	4.63	4.79	4.85	5.52	Nov.	---	---	---	---
Dec.	4.92	4.62	4.68	4.85	5.38	4.89	4.95	---	Dec.	---	4.59	4.81	5.25	Dec.	4.62	4.76	4.89	5.51	Dec.	---	---	---	---
2014																							
Jan.	4.76	4.49	4.53	4.69	5.19	4.72	4.78	---	Jan.	---	4.44	4.63	5.09	Jan.	4.49	4.62	4.74	5.29	Jan.	---	---	---	---
Feb.	4.68	4.45	4.46	4.60	5.10	4.64	4.71	---	Feb.	---	4.38	4.53	5.01	Feb.	4.45	4.54	4.66	5.19	Feb.	---	---	---	---
Mar.	4.65	4.38	4.44	4.56	5.06	4.63	4.65	---	Mar.	---	4.40	4.51	5.00	Mar.	4.38	4.49	4.60	5.13	Mar.	---	---	---	---
Apr.	4.52	4.24	4.33	4.45	4.90	4.52	4.51	---	Apr.	---	4.30	4.41	4.85	Apr.	4.24	4.36	4.48	4.96	Apr.	---	---	---	---
May	4.38	4.16	4.20	4.31	4.76	4.37	4.40	---	May	---	4.16	4.26	4.69	May	4.16	4.24	4.35	4.83	May	---	---	---	---
June	4.44	4.25	4.26	4.35	4.80	4.42	4.45	---	June	---	4.23	4.29	4.73	June	4.25	4.29	4.41	4.86	June	---	---		

**Exhibit 7.8:** Size-Decile Portfolios of the NYSE/NYSE MKT/NASDAQ Long-Term Returns in Excess of CAPM  
1926–2016

<b>Size Grouping</b>	<b>OLS Beta</b>	<b>Arithmetic Mean</b>	<b>Return in Excess of Risk-free Rate (actual)</b>	<b>Return in Excess of Risk-free Rate (as predicted by CAPM)</b>	<b>Size Premium</b>
Mid-Cap (3–5)	1.12	13.82%	8.80%	7.79%	1.02%
Low-Cap (6–8)	1.22	15.26%	10.24%	8.49%	1.75%
Micro-Cap (9–10)	1.35	18.04%	13.02%	9.35%	3.67%
<b>Breakdown of Deciles 1–10</b>					
1-Largest	0.92	11.05%	6.04%	6.38%	-0.35%
2	1.04	12.82%	7.81%	7.19%	0.61%
3	1.11	13.57%	8.55%	7.66%	0.89%
4	1.13	13.80%	8.78%	7.80%	0.98%
5	1.17	14.62%	9.60%	8.09%	1.51%
6	1.17	14.81%	9.79%	8.14%	1.66%
7	1.25	15.41%	10.39%	8.67%	1.72%
8	1.30	16.14%	11.12%	9.04%	2.08%
9	1.34	16.97%	11.96%	9.28%	2.68%
10-Smallest	1.39	20.27%	15.25%	9.66%	5.59%

Betas are estimated from monthly returns in excess of the 30-day U.S. Treasury bill total return, January 1926–December 2016. Historical riskless rate measured by the 91-year arithmetic mean income return component of 20-year government bonds (5.02%). Calculated in the context of the CAPM by multiplying the equity risk premium by beta. The equity risk premium is estimated by the arithmetic mean total return of the S&P 500 (11.95%) minus the arithmetic mean income return component of 20-year government bonds (5.02%) from 1926–2016. Source: Morningstar *Direct* and CRSP. Calculated based on data from CRSP US Stock Database and CRSP US Indices Database ©2017 Center for Research. Used with permission. All calculations performed by Duff & Phelps, LLC.

## Selected Interest Rates (Daily) - H.15

### H.15 Selected Interest Rates

The release is posted daily Monday through Friday at 4:15pm. The release is not posted on holidays or in the event that the Board is closed.

**Release date: December 14, 2017**

### Selected Interest Rates

Yields in percent per annum

Instruments	2017 Dec 7	2017 Dec 8	2017 Dec 11	2017 Dec 12	2017 Dec 13
Federal funds (effective) <a href="#">1</a> <a href="#">2</a> <a href="#">3</a>	1.16	1.16	1.16	1.17	1.17
Commercial Paper <a href="#">3</a> <a href="#">4</a> <a href="#">5</a> <a href="#">6</a>					
Nonfinancial					
1-month	1.27	1.30	1.28	1.36	1.33
2-month	1.30	1.31	1.33	1.42	1.36
3-month	1.33	1.39	1.38	1.48	1.45
Financial					
1-month	1.24	1.32	n.a.	1.37	1.33
2-month	1.39	1.38	1.43	1.48	1.47
3-month	1.44	1.43	1.47	1.52	1.52
Bank prime loan <a href="#">2</a> <a href="#">3</a> <a href="#">7</a>	4.25	4.25	4.25	4.25	4.25
Discount window primary credit <a href="#">2</a> <a href="#">8</a>	1.75	1.75	1.75	1.75	1.75
U.S. government securities					
Treasury bills (secondary market) <a href="#">3</a> <a href="#">4</a>					
4-week	1.14	1.11	1.14	1.24	1.20
3-month	1.27	1.26	1.31	1.32	1.28
6-month	1.44	1.42	1.44	1.46	1.44
1-year	1.63	1.61	1.64	1.65	1.63
Treasury constant maturities					
Nominal <a href="#">9</a>					
1-month	1.16	1.14	1.18	1.26	1.22
3-month	1.29	1.28	1.33	1.34	1.30
6-month	1.47	1.45	1.47	1.49	1.47
1-year	1.67	1.65	1.69	1.70	1.68
2-year	1.80	1.80	1.82	1.83	1.79
3-year	1.92	1.92	1.95	1.95	1.90
5-year	2.14	2.14	2.16	2.18	2.12
7-year	2.29	2.29	2.30	2.32	2.26
10-year	2.37	2.38	2.39	2.40	2.36
20-year	2.58	2.59	2.59	2.60	2.56
30-year	2.76	2.77	2.77	2.79	2.74
Inflation indexed <a href="#">10</a>					
5-year	0.40	0.43	0.40	0.40	0.38
7-year	0.49	0.48	0.49	0.49	0.46
10-year	0.50	0.50	0.51	0.51	0.48
20-year	0.69	0.68	0.70	0.69	0.67
30-year	0.81	0.81	0.82	0.81	0.79
Inflation-indexed long-term average <a href="#">11</a>	0.72	0.72	0.73	0.72	0.70

n.a. Not available.

### Footnotes

1. As of March 1, 2016, the daily effective federal funds rate (EFFR) is a volume-weighted median of transaction-level data collected from depository institutions in the Report of Selected Money Market Rates (FR 2420). Prior to March 1, 2016, the EFFR was a volume-weighted mean of rates on brokered trades.

2. Weekly figures are averages of 7 calendar days ending on Wednesday of the current week; monthly figures include each calendar day in the month.
3. Annualized using a 360-day year or bank interest.
4. On a discount basis.
5. Interest rates interpolated from data on certain commercial paper trades settled by The Depository Trust Company. The trades represent sales of commercial paper by dealers or direct issuers to investors (that is, the offer side). The 1-, 2-, and 3-month rates are equivalent to the 30-, 60-, and 90-day dates reported on the Board's Commercial Paper Web page ([www.federalreserve.gov/releases/cp/](http://www.federalreserve.gov/releases/cp/)).
6. Financial paper that is insured by the FDIC's Temporary Liquidity Guarantee Program is not excluded from relevant indexes, nor is any financial or nonfinancial commercial paper that may be directly or indirectly affected by one or more of the Federal Reserve's liquidity facilities. Thus the rates published after September 19, 2008, likely reflect the direct or indirect effects of the new temporary programs and, accordingly, likely are not comparable for some purposes to rates published prior to that period.
7. Rate posted by a majority of top 25 (by assets in domestic offices) insured U.S.-chartered commercial banks. Prime is one of several base rates used by banks to price short-term business loans.
8. The rate charged for discounts made and advances extended under the Federal Reserve's primary credit discount window program, which became effective January 9, 2003. This rate replaces that for adjustment credit, which was discontinued after January 8, 2003. For further information, see [www.federalreserve.gov/boarddocs/press/bcreg/2002/200210312/default.htm](http://www.federalreserve.gov/boarddocs/press/bcreg/2002/200210312/default.htm). The rate reported is that for the Federal Reserve Bank of New York. Historical series for the rate on adjustment credit as well as the rate on primary credit are available at [www.federalreserve.gov/releases/h15/data.htm](http://www.federalreserve.gov/releases/h15/data.htm).
9. Yields on actively traded non-inflation-indexed issues adjusted to constant maturities. The 30-year Treasury constant maturity series was discontinued on February 18, 2002, and reintroduced on February 9, 2006. From February 18, 2002, to February 9, 2006, the U.S. Treasury published a factor for adjusting the daily nominal 20-year constant maturity in order to estimate a 30-year nominal rate. The historical adjustment factor can be found at [www.treasury.gov/resource-center/data-chart-center/interest-rates/](http://www.treasury.gov/resource-center/data-chart-center/interest-rates/). Source: U.S. Treasury.
10. Yields on Treasury inflation protected securities (TIPS) adjusted to constant maturities. Source: U.S. Treasury. Additional information on both nominal and inflation-indexed yields may be found at [www.treasury.gov/resource-center/data-chart-center/interest-rates/](http://www.treasury.gov/resource-center/data-chart-center/interest-rates/).
11. Based on the unweighted average bid yields for all TIPS with remaining terms to maturity of more than 10 years.

Note: Current and historical H.15 data, along with weekly, monthly, and annual averages, are available on the Board's Data Download Program (DDP) at [www.federalreserve.gov/datadownload/Choose.aspx?rel=H15](http://www.federalreserve.gov/datadownload/Choose.aspx?rel=H15). Weekly, monthly and annual rates are averages of business days unless otherwise noted.

#### Description of the Treasury Nominal and Inflation-Indexed Constant Maturity Series

Yields on Treasury nominal securities at "constant maturity" are interpolated by the U.S. Treasury from the daily yield curve for non-inflation-indexed Treasury securities. This curve, which relates the yield on a security to its time to maturity, is based on the closing market bid yields on actively traded Treasury securities in the over-the-counter market. These market yields are calculated from composites of quotations obtained by the Federal Reserve Bank of New York. The constant maturity yield values are read from the yield curve at fixed maturities, currently 1, 3, and 6 months and 1, 2, 3, 5, 7, 10, 20, and 30 years. This method provides a yield for a 10-year maturity, for example, even if no outstanding security has exactly 10 years remaining to maturity. Similarly, yields on inflation-indexed securities at "constant maturity" are interpolated from the daily yield curve for Treasury inflation protected securities in the over-the-counter market. The inflation-indexed constant maturity yields are read from this yield curve at fixed maturities, currently 5, 7, 10, 20, and 30 years.

Last Update: December 14, 2017

## Selected Interest Rates (Daily) - H.15

### H.15 Selected Interest Rates

The release is posted daily Monday through Friday at 4:15pm. The release is not posted on holidays or in the event that the Board is closed.

**Release date: December 20, 2017**

#### Selected Interest Rates

Yields in percent per annum

Federal funds (effective) <a href="#">1</a> <a href="#">2</a> <a href="#">3</a>		1.17	1.41	1.41	1.42	1.42
Commercial Paper <a href="#">3</a> <a href="#">4</a> <a href="#">5</a> <a href="#">6</a>						
Nonfinancial						
1-month		1.33	1.39	1.40	1.46	1.50
2-month		1.36	1.42	n.a.	1.49	1.49
3-month		1.45	1.47	1.49	n.a.	1.53
Financial						
1-month		1.33	1.35	1.45	1.46	1.43
2-month		1.47	1.47	1.51	1.51	1.50
3-month		1.52	1.54	1.58	1.55	1.57
Bank prime loan <a href="#">2</a> <a href="#">3</a> <a href="#">7</a>		4.25	4.50	4.50	4.50	4.50
Discount window primary credit <a href="#">2</a> <a href="#">8</a>		1.75	2.00	2.00	2.00	2.00
U.S. government securities						
Treasury bills (secondary market) <a href="#">3</a> <a href="#">4</a>						
4-week		1.20	1.19	1.22	1.23	1.23
3-month	<b>Instruments</b>	<b>2017</b>	<b>2017</b>	<b>2017</b>	<b>2017</b>	<b>2017</b>
6-month		<b>Dec</b>	<b>Dec</b>	<b>Dec</b>	<b>Dec</b>	<b>Dec</b>
1-year		<b>13</b>	<b>14</b>	<b>15</b>	<b>18</b>	<b>19</b>
		1.28	1.30	1.29	1.36	1.35
		1.44	1.45	1.45	1.48	1.48
		1.63	1.65	1.66	1.65	1.66
Treasury constant maturities						
Nominal <a href="#">9</a>						
1-month		1.22	1.21	1.24	1.26	1.25
3-month		1.30	1.32	1.31	1.38	1.37
6-month		1.47	1.48	1.48	1.51	1.51
1-year		1.68	1.70	1.71	1.70	1.71
2-year		1.79	1.82	1.84	1.84	1.87
3-year		1.90	1.92	1.95	1.94	1.97
5-year		2.12	2.14	2.16	2.17	2.23
7-year		2.26	2.27	2.28	2.30	2.37
10-year		2.36	2.35	2.35	2.39	2.46
20-year		2.56	2.53	2.52	2.57	2.66
30-year		2.74	2.71	2.68	2.74	2.82
Inflation indexed <a href="#">10</a>						
5-year		0.38	0.38	0.39	0.46	0.49
7-year		0.46	0.45	0.44	0.48	0.53
10-year		0.48	0.48	0.47	0.50	0.55
20-year		0.67	0.65	0.63	0.66	0.71
30-year		0.79	0.77	0.75	0.79	0.84
Inflation-indexed long-term average <a href="#">11</a>		0.70	0.68	0.67	0.70	0.75

n.a. Not available.

#### Footnotes

1. As of March 1, 2016, the daily effective federal funds rate (EFFR) is a volume-weighted median of transaction-level data collected from depository institutions in the Report of Selected Money

Market Rates (FR 2420). Prior to March 1, 2016, the EFFR was a volume-weighted mean of rates on brokered trades.

2. Weekly figures are averages of 7 calendar days ending on Wednesday of the current week; monthly figures include each calendar day in the month.
3. Annualized using a 360-day year or bank interest.
4. On a discount basis.
5. Interest rates interpolated from data on certain commercial paper trades settled by The Depository Trust Company. The trades represent sales of commercial paper by dealers or direct issuers to investors (that is, the offer side). The 1-, 2-, and 3-month rates are equivalent to the 30-, 60-, and 90-day dates reported on the Board's Commercial Paper Web page ([www.federalreserve.gov/releases/cp/](http://www.federalreserve.gov/releases/cp/)).
6. Financial paper that is insured by the FDIC's Temporary Liquidity Guarantee Program is not excluded from relevant indexes, nor is any financial or nonfinancial commercial paper that may be directly or indirectly affected by one or more of the Federal Reserve's liquidity facilities. Thus the rates published after September 19, 2008, likely reflect the direct or indirect effects of the new temporary programs and, accordingly, likely are not comparable for some purposes to rates published prior to that period.
7. Rate posted by a majority of top 25 (by assets in domestic offices) insured U.S.-chartered commercial banks. Prime is one of several base rates used by banks to price short-term business loans.
8. The rate charged for discounts made and advances extended under the Federal Reserve's primary credit discount window program, which became effective January 9, 2003. This rate replaces that for adjustment credit, which was discontinued after January 8, 2003. For further information, see [www.federalreserve.gov/boarddocs/press/bcreg/2002/200210312/default.htm](http://www.federalreserve.gov/boarddocs/press/bcreg/2002/200210312/default.htm). The rate reported is that for the Federal Reserve Bank of New York. Historical series for the rate on adjustment credit as well as the rate on primary credit are available at [www.federalreserve.gov/releases/h15/data.htm](http://www.federalreserve.gov/releases/h15/data.htm).
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11. Based on the unweighted average bid yields for all TIPS with remaining terms to maturity of more than 10 years.

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Last Update: December 20, 2017



**UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549  
FORM 10-K**

(Mark One)

**ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal period ended December 31, 2016 or

**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number	Registrant, State of Incorporation or Organization, Address of Principal Executive Offices and Telephone Number	IRS Employer Identification No.
1-32853	 <b>DUKE ENERGY CORPORATION</b> (a Delaware corporation) 550 South Tryon Street Charlotte, NC 28202-1803 704-382-3853	20-2777218

Commission file number	Registrant, State of Incorporation or Organization, Address of Principal Offices, Telephone Number and IRS Employer Identification Number	Commission file number	Registrant, State of Incorporation or Organization, Address of Principal Executive Offices, Telephone Number and IRS Employer Identification Number
1-4928	<b>DUKE ENERGY CAROLINAS, LLC</b> (a North Carolina limited liability company) 526 South Church Street Charlotte, North Carolina 28202-1803 704-382-3853 56-0205520	1-3274	<b>DUKE ENERGY FLORIDA, LLC</b> (a Florida limited liability company) 299 First Avenue North St. Petersburg, Florida 33701 704-382-3853 59-0247770
1-15929	<b>PROGRESS ENERGY, INC.</b> (a North Carolina corporation) 410 South Wilmington Street Raleigh, North Carolina 27601-1748 704-382-3853 56-2155481	1-1232	<b>DUKE ENERGY OHIO, INC.</b> (an Ohio corporation) 139 East Fourth Street Cincinnati, Ohio 45202 704-382-3853 31-0240030
1-3382	<b>DUKE ENERGY PROGRESS, LLC</b> (a North Carolina limited liability company) 410 South Wilmington Street Raleigh, North Carolina 27601-1748 704-382-3853 56-0165465	1-3543	<b>DUKE ENERGY INDIANA, LLC</b> (an Indiana limited liability company) 1000 East Main Street Plainfield, Indiana 46168 704-382-3853 35-0594457

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:

<u>Registrant</u>	<u>Title of each class</u>	<u>Name of each exchange on which registered</u>
Duke Energy Corporation (Duke Energy)	Common Stock, \$0.001 par value	New York Stock Exchange, Inc.
Duke Energy	5.125% Junior Subordinated Debentures due January 15, 2073	New York Stock Exchange, Inc.

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act

Duke Energy	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Duke Energy Florida, LLC (Duke Energy Florida)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Duke Energy Carolinas, LLC (Duke Energy Carolinas)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Duke Energy Ohio, Inc. (Duke Energy Ohio)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Progress Energy, Inc. (Progress Energy)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Duke Energy Indiana, LLC (Duke Energy Indiana)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Duke Energy Progress, LLC (Duke Energy Progress)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act.

Yes  No  (Response applicable to all registrants.)

Indicate by check mark whether the registrants (1) have filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark whether the registrants have submitted electronically and posted on their corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.  (Only applicable to Duke Energy)

Indicate by check mark whether Duke Energy is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one): Large accelerated filer  Accelerated filer  Non-accelerated filer  Smaller reporting company

Indicate by check mark whether Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Florida, Duke Energy Ohio and Duke Energy Indiana are large accelerated filers, accelerated filers, non-accelerated filers, or smaller reporting companies. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one): Large accelerated filer  Accelerated filer  Non-accelerated filer  Smaller reporting company

Indicate by check mark whether the registrants are a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes  No

Estimated aggregate market value of the common equity held by nonaffiliates of Duke Energy at June 30, 2016. \$ 59,060,642,963

Number of shares of Common Stock, \$0.001 par value, outstanding at January 31, 2017. 699,607,929

#### DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Duke Energy definitive proxy statement for the 2017 Annual Meeting of the Shareholders or an amendment to this Annual Report are incorporated by reference into PART III, Items 10, 11, and 13 hereof.

This combined Form 10-K is filed separately by seven registrants: Duke Energy, Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Florida, Duke Energy Ohio and Duke Energy Indiana (collectively the Duke Energy Registrants). Information contained herein relating to any individual registrant is filed by such registrant solely on its own behalf. Each registrant makes no representation as to information relating exclusively to the other registrants.

Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Florida, Duke Energy Ohio and Duke Energy Indiana meet the conditions set forth in General Instructions I(1)(a) and (b) of Form 10-K and are, therefore, filing this Form 10-K with the reduced disclosure format specified in General Instructions I(2) of Form 10-K.

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## CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

This document includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements are based on management's beliefs and assumptions and can often be identified by terms and phrases that include "anticipate," "believe," "intend," "estimate," "expect," "continue," "should," "could," "may," "plan," "project," "predict," "will," "potential," "forecast," "target," "guidance," "outlook" or other similar terminology. Various factors may cause actual results to be materially different than the suggested outcomes within forward-looking statements; accordingly, there is no assurance that such results will be realized. These factors include, but are not limited to:

- State, federal and foreign legislative and regulatory initiatives, including costs of compliance with existing and future environmental requirements or climate change, as well as rulings that affect cost and investment recovery or have an impact on rate structures or market prices;
- The extent and timing of costs and liabilities to comply with federal and state laws, regulations and legal requirements related to coal ash remediation, including amounts for required closure of certain ash impoundments, are uncertain and difficult to estimate;
- The ability to recover eligible costs, including amounts associated with coal ash impoundment retirement obligations and costs related to significant weather events, and to earn an adequate return on investment through the regulatory process;
- The costs of decommissioning Crystal River Unit 3 and other nuclear facilities could prove to be more extensive than amounts estimated and all costs may not be fully recoverable through the regulatory process;
- Costs and effects of legal and administrative proceedings, settlements, investigations and claims;
- Industrial, commercial and residential growth or decline in service territories or customer bases resulting from variations in customer usage patterns, including energy efficiency efforts and use of alternative energy sources, including self-generation and distributed generation technologies;
- Federal and state regulations, laws and other efforts designed to promote and expand the use of energy efficiency measures and distributed generation technologies, such as private solar and battery storage, in Duke Energy service territories could result in customers leaving the electric distribution system, excess generation resources as well as stranded costs;
- Advancements in technology;
- Additional competition in electric and natural gas markets and continued industry consolidation;
- The influence of weather and other natural phenomena on operations, including the economic, operational and other effects of severe storms, hurricanes, droughts, earthquakes and tornadoes, including extreme weather associated with climate change;
- The ability to successfully operate electric generating facilities and deliver electricity to customers including direct or indirect effects to the company resulting from an incident that affects the U.S. electric grid or generating resources;
- The ability to complete necessary or desirable pipeline expansion or infrastructure projects in our natural gas business;
- Operational interruptions to our natural gas distribution and transmission activities;
- The availability of adequate interstate pipeline transportation capacity and natural gas supply.
- The impact on facilities and business from a terrorist attack, cybersecurity threats, data security breaches and other catastrophic events, such as fires, explosions, pandemic health events or other similar occurrences;
- The inherent risks associated with the operation and potential construction of nuclear facilities, including environmental, health, safety, regulatory and financial risks;
- The timing and extent of changes in commodity prices, interest rates and foreign currency exchange rates and the ability to recover such costs through the regulatory process, where appropriate, and their impact on liquidity positions and the value of underlying assets;
- The results of financing efforts, including the ability to obtain financing on favorable terms, which can be affected by various factors, including credit ratings, interest rate fluctuations and general economic conditions;
- Credit ratings of the Duke Energy Registrants may be different from what is expected;
- Declines in the market prices of equity and fixed-income securities and resultant cash funding requirements for defined benefit pension plans, other post-retirement benefit plans and nuclear decommissioning trust funds;
- Construction and development risks associated with the completion of the Duke Energy Registrants' capital investment projects, including risks related to financing, obtaining and complying with terms of permits, meeting construction budgets and schedules and satisfying operating and environmental performance standards, as well as the ability to recover costs from customers in a timely manner, or at all;
- Changes in rules for regional transmission organizations, including changes in rate designs and new and evolving capacity markets, and risks related to obligations created by the default of other participants;
- The ability to control operation and maintenance costs;
- The level of creditworthiness of counterparties to transactions;
- Employee workforce factors, including the potential inability to attract and retain key personnel;

- The ability of subsidiaries to pay dividends or distributions to Duke Energy Corporation holding company (the Parent);
- The performance of projects undertaken by our nonregulated businesses and the success of efforts to invest in and develop new opportunities;
- The effect of accounting pronouncements issued periodically by accounting standard-setting bodies;
- Substantial revision to the U.S. tax code, such as changes to the corporate tax rate or a material change in the deductibility of interest;
- The impact of potential goodwill impairments;
- The ability to successfully complete future merger, acquisition or divestiture plans; and
- The ability to successfully integrate the natural gas businesses following the acquisition of Piedmont Natural Gas Company, Inc. and realize anticipated benefits.

Additional risks and uncertainties are identified and discussed in the Duke Energy Registrants' reports filed with the SEC and available at the SEC's website at [www.sec.gov](http://www.sec.gov). In light of these risks, uncertainties and assumptions, the events described in the forward-looking statements might not occur or might occur to a different extent or at a different time than described. Forward-looking statements speak only as of the date they are made and the Duke Energy Registrants expressly disclaim an obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

## Glossary of Terms

The following terms or acronyms used in this Form 10-K are defined below:

<b>Term or Acronym</b>	<b>Definition</b>
the 2012 Settlement	Settlement agreement in 2012 among Duke Energy Florida, the Florida OPC and other customer advocates
the 2013 Settlement	Settlement agreement in 2013 among Duke Energy Florida, the Florida OPC and other customer advocates
2013 Agreement	2013 revised and restated stipulation and settlement agreement
the 2015 Plan	Duke Energy Corporation 2015 Long-Term Incentive Plan
ACP	Atlantic Coast Pipeline, LLC, a limited liability company owned by Dominion, Duke Energy and Southern Company Gas
ACP Pipeline	The approximately 600-mile proposed interstate natural gas pipeline
AFUDC	Allowance for funds used during construction
AHFS	Assets held for sale
ALJ	Administrative Law Judge
Amended Complaint	Amended Verified Consolidated Shareholder Derivative Complaint
AMI	Advanced Metering Infrastructure
AOCI	Accumulated Other Comprehensive Income (Loss)
ARO	Asset Retirement Obligation
ARP	Alternative Revenue Programs
the ASR	Accelerated Stock Repurchase Program
ASRP	Accelerated natural gas service line replacement program
Barclays	Barclays Capital Inc.
BCWF	Benton County Wind Farm, LLC
Beckjord	Beckjord Generating Station
Bison	Bison Insurance Company Limited
Board of Directors	Duke Energy Board of Directors
Bresalier Complaint	Shareholder derivative lawsuit filed by Saul Bresalier related to ash basin management practices
Bresalier Defendants	Several current and former Duke Energy officers and directors named in the Bresalier Complaint
Bridge Facility	\$4.9 billion senior secured financing facility with Barclays Capital Inc.
Brunswick	Brunswick Nuclear Plant
CAA	Clean Air Act
Calpine	Calpine Corporation
Cardinal	Cardinal Pipeline Company, LLC
Catawba	Catawba Nuclear Station
CC	Combined Cycle
CCR	Coal Combustion Residuals
CCS	Carbon Capture and Storage
CEPCPN	Certificate of Environmental Compatibility and Public Convenience and Necessity
CEO	Chief Executive Officer
Cinergy	Cinergy Corp. (collectively with its subsidiaries)
CO <sub>2</sub>	Carbon Dioxide

Coal Ash Act	North Carolina Coal Ash Management Act of 2014
Coal Ash Commission	Coal Ash Management Commission
COL	Combined Operating License
the Company	Duke Energy Corporation and its subsidiaries
Consolidated Complaint	Corrected Verified Consolidated Shareholder Derivative Complaint
Constitution	Constitution Pipeline Company, LLC
CPCN	Certificate of Public Convenience and Necessity
CPP	Clean Power Plan
CRC	Cinergy Receivables Company LLC
Crystal River Unit 3	Crystal River Unit 3 Nuclear Plant
CSA	Comprehensive Site Assessment
CSAPR	Cross-State Air Pollution Rule
CT	Combustion Turbine
CTG	China Three Gorges Energy S.à.r.l.
CWA	Clean Water Act
DATC	Duke-American Transmission Co.
D.C. Circuit Court	U.S. Court of Appeals for the District of Columbia
the Dealers	Goldman, Sachs & Co. and JP Morgan Chase Bank
DEBS	Duke Energy Business Services, LLC
DECAM	Duke Energy Commercial Asset Management, LLC
DEFPPF	Duke Energy Florida Project Finance, LLC
DEFRR	Duke Energy Florida Receivables, LLC
Deloitte	Deloitte & Touche LLP, and the member firms of Deloitte Touche Tohmatsu and their respective affiliates
DEPR	Duke Energy Progress Receivables, LLC
DERF	Duke Energy Receivables Finance Company, LLC
DETM	Duke Energy Trading and Marketing, LLC
DHHS	North Carolina Department of Health and Human Services
DOE	U.S. Department of Energy
DOJ	Department of Justice
Dominion	Dominion Resources
DSM	Demand Side Management
Dth	Dekatherm
Duke Energy	Duke Energy Corporation (collectively with its subsidiaries)
Duke Energy Carolinas	Duke Energy Carolinas, LLC
Duke Energy Defendants	Several current and former Duke Energy officers and directors named as defendants in the Consolidated Complaint
Duke Energy Florida	Duke Energy Florida, LLC
Duke Energy Indiana	Duke Energy Indiana, LLC
Duke Energy Kentucky	Duke Energy Kentucky, Inc.
Duke Energy Ohio	Duke Energy Ohio, Inc.
Duke Energy Progress	Duke Energy Progress, LLC

Duke Energy Registrants	Duke Energy, Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Florida, Duke Energy Ohio, Duke Energy Indiana and Piedmont
Dynegy	Dynegy Inc.
East Bend	East Bend Generating Station
EE	Energy efficiency
EGU	Electric Generating Units
EIS	Environmental Impact Statement
ELG	Effluent Limitations Guidelines
EPA	U.S. Environmental Protection Agency
EPC	Engineering, Procurement and Construction agreement
EPS	Earnings Per Share
ESP	Electric Security Plan
ETR	Effective tax rate
Exchange Act	Exchange Act of 1934
FASB	Financial Accounting Standards Board
FERC	Federal Energy Regulatory Commission
Fitch	Fitch Ratings, Inc.
FirstEnergy	FirstEnergy Corp.
Florida OPC	Florida Office of Public Counsel
Form S-3	Registration statement
FP&L	Florida Power & Light Company
FPSC	Florida Public Service Commission
FTR	Financial transmission rights
GAAP	Generally Accepted Accounting Principles in the United States
GHG	Greenhouse Gas
GPC	Georgia Power Company
GWh	Gigawatt-hours
Harris	Shearon Harris Nuclear Plant
HB 998	North Carolina House Bill 998, or the North Carolina Tax Simplification and Rate Reduction Act
Hines	Hines Energy Complex
I Squared	ISQ Enerlam Aggregator, L.P. and Enerlam Holding Ltd.
IBNR	Incurred but not yet reported
ICPA	Inter-company Power Agreement
IGCC	Integrated Gasification Combined Cycle
IGCC Rider	Tracking mechanism used to recover costs related to the Edwardsport IGCC plant from retail electric customers
IGCC Settlement	2015 Settlement to resolve disputes with intervenors related to 5 IGCC riders
IMR	Integrity Management Rider
Interim FERC Mitigation	Interim firm power sale agreements mitigation plans related to the Progress Energy merger
International Disposal Group	Duke Energy's international business, excluding National Methanol Company
IRP	Integrated Resource Plans



IRS	Internal Revenue Service
ISFSI	Independent Spent Fuel Storage Installation
ISO	Independent System Operator
ITC	Investment Tax Credit
IURC	Indiana Utility Regulatory Commission
Investment Trusts	Grantor trusts of Duke Energy Progress, Duke Energy Florida and Duke Energy Indiana
JDA	Joint Dispatch Agreement
KO Transmission	KO Transmission Company
KPSC	Kentucky Public Service Commission
kV	Kilovolt
kWh	Kilowatt-hour
LDC	Local Distribution Company
Legacy Duke Energy Directors	Members of the pre-merger Duke Energy Board of Directors
Levy	Duke Energy Florida's proposed nuclear plant in Levy County, Florida
LIBOR	London Interbank Offered Rate
Long-Term FERC Mitigation	The revised market power mitigation plan related to the Progress Energy merger
MATS	Mercury and Air Toxics Standards
Mcf	Thousand cubic feet
McGuire	McGuire Nuclear Station
Merger Chancery Litigation	Four shareholder derivative lawsuits filed in the Delaware Chancery Court related to the Progress Energy merger
Mesirov Complaint	Shareholder derivative complaint file by Judy Mesirov
MGP	Manufactured gas plant
Midwest Generation Disposal Group	Duke Energy Ohio's nonregulated Midwest generation business and Duke Energy Retail Sales, LLC
MISO	Midcontinent Independent System Operator, Inc.
MMBtu	Million British Thermal Unit
MPP	Money Purchase Pension
Moody's	Moody's Investors Service, Inc.
MTBE	Methyl tertiary butyl ether
MTEP	MISO Transmission Expansion Planning
MW	Megawatt
MVP	Multi Value Projects
MWh	Megawatt-hour
NCDEQ	North Carolina Department of Environmental Quality (formerly the North Carolina Department of Environment and Natural Resources)
NCEMC	North Carolina Electric Membership Corporation
NCEMPA	North Carolina Eastern Municipal Power Agency
NCRC	Florida's Nuclear Cost Recovery Clause
NCRS	Nuclear Power Plant Cost Recovery Statutes
NCUC	North Carolina Utilities Commission
NC WARN	N.C. Waste Awareness and Reduction Network

NDTF	Nuclear decommissioning trust funds
NEIL	Nuclear Electric Insurance Limited
NYSDEC	New York State Department of Environmental Conservation
NMC	National Methanol Company
NOL	Net operating loss
NOV	Notice of violation
NO <sub>x</sub>	Nitrogen oxide
NPNS	Normal purchase/normal sale
NRC	U.S. Nuclear Regulatory Commission
NWPA	Nuclear Waste Policy Act of 1982
NYAG	New York Attorney General
NYSE	New York Stock Exchange
Oconee	Oconee Nuclear Station
OPEB	Other Post-Retirement Benefit Obligations
OPEB Assets	Other post-retirement plan assets are comprised of the Retirement Plan of Piedmont 401(h) Medical Plan, and the following Voluntary Employees' Beneficiary Association Trusts: Duke Energy Corporation Employee Benefits Trust, Piedmont Natural Gas Company 501(c)(9) Trust for Retired Bargaining Unit Employees and the Piedmont Natural Gas Company 501(c)(9) Trust for Retired Non-Bargaining Unit Employees.
ORS	Office of Regulatory Staff
Osprey Plant acquisition	Duke Energy Florida's purchase of a Calpine Corporation's 599 MW combined-cycle natural gas plant in Auburndale, Florida
OTTI	Other-than-temporary impairment
OVEC	Ohio Valley Electric Corporation
the Parent	Duke Energy Corporation Holding Company
the Payments	Fines and restitution related to the North Carolina Ash Basin Grand Jury Investigation
PGA	Purchased Gas Adjustments
Phase I CCR Compliance Projects	Duke Energy Indiana's federally mandated compliance projects to comply with the EPA's CCR rule
Piedmont	Piedmont Natural Gas Company, Inc.
Piedmont Pension Assets	Qualified pension plan assets associated with the Retirement Plan of Piedmont
Pioneer	Pioneer Transmission, LLC
PJM	PJM Interconnection, LLC
PPA	Purchase Power Agreement
Progress Energy	Progress Energy, Inc.
PSCSC	Public Service Commission of South Carolina
PTC	Production Tax Credits
PUCO	Public Utilities Commission of Ohio
PUCO Order	Order issued by PUCO approving a settlement of Duke Energy Ohio's natural gas base rate case and authorizing the recovery of certain MGP costs
PURPA	Public Utility Regulatory Policies Act of 1978
QF	Qualifying Facility
RCA	Revolving Credit Agreement
RCRA	Resource Conservation and Recovery Act

RFP	Requests for Proposal
Relative TSR	TSR of Duke Energy stock relative to a pre-defined peer group
Robinson	Robinson Nuclear Plant
RTO	Regional Transmission Organization
Sabal Trail	Sabal Trail Transmission, LLC
Sabal Trail Pipeline	Sabal Trail Natural Gas Pipeline
SACE	Southern Alliance of Clean Energy
SAFSTOR	A method of decommissioning in which a nuclear facility is placed and maintained in a condition that allows the facility to be safely stored and subsequently decontaminated to levels that permit release for unrestricted use.
S.C. Court of Appeals	Court of Appeals of South Carolina
SCCL	South Carolina Coastal Conservation League
SCDHEC	South Carolina Department of Health and Environmental Control
SEC	Securities and Exchange Commission
SELC	Southern Environmental Law Center
Segment Income	Income from continuing operations net of income attributable to noncontrolling interests
SO <sub>2</sub>	Sulfur dioxide
Spectra Capital	Spectra Energy Capital, LLC
S&P	Standard & Poor's Rating Services
SSO	Standard Service Offer
State Utility Commissions	NCUC, PSCSC, FPSC, PUCO, IURC, KPSC and TRA (Collectively)
State Electric Utility Commissions	NCUC, PSCSC, FPSC, PCO, IURC and KPSC (Collectively)
State Gas Utility Commissions	NCUC, PSCSC, PUCO, TRA and KPSC (Collectively)
Subsidiary Registrants	Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Florida, Duke Energy Ohio, Duke Energy Indiana and Piedmont
Sutton	L.V. Sutton combined cycle facility
T&D Rider	Tracking mechanism to recover grid infrastructure improvement costs in Indiana
Term Loan	Duke Energy (Parent) \$1.5 billion term loan facility, as amended maturing on July 31, 2017
TRA	Tennessee Regulatory Authority
TSR	Total shareholder return
Uprate Project	Hines Chiller Uprate Project
U.S.	United States
U.S. Court of Appeals	U.S. Court of Appeals for the Second Circuit
USDOJ	United States Department of Justice Environmental Crimes Section and the United States Attorneys for the Eastern District of North Carolina, the Middle District of North Carolina and the Western District of North Carolina, collectively
VIE	Variable Interest Entity
WACC	Weighted Average Cost of Capital
WVPA	Wabash Valley Power Association, Inc.

## ITEM 1. BUSINESS

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### DUKE ENERGY

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#### General

Duke Energy Corporation (collectively with its subsidiaries, Duke Energy) is an energy company headquartered in Charlotte, North Carolina, subject to regulation by the Federal Energy Regulatory Commission (FERC). Duke Energy operates in the United States (U.S.) primarily through its direct and indirect subsidiaries. Certain Duke Energy subsidiaries are also subsidiary registrants, including Duke Energy Carolinas, LLC (Duke Energy Carolinas); Progress Energy, Inc. (Progress Energy); Duke Energy Progress, LLC (Duke Energy Progress); Duke Energy Florida, LLC (Duke Energy Florida); Duke Energy Ohio, Inc. (Duke Energy Ohio); and Duke Energy Indiana, LLC (Duke Energy Indiana). On October 3, 2016, Duke Energy acquired Piedmont Natural Gas Company, Inc. (Piedmont) which also became a wholly owned subsidiary and subsidiary registrant of Duke Energy. Duke Energy's consolidated financial statements include Piedmont's results of operations and cash flow activity subsequent to the acquisition. See Note 2 for additional information regarding the acquisition. When discussing Duke Energy's consolidated financial information, it necessarily includes the results of its seven separate subsidiary registrants (collectively referred to as the Subsidiary Registrants), which along with Duke Energy, are collectively referred to as the Duke Energy Registrants (Duke Energy Registrants).

Piedmont, a North Carolina corporation, is an energy services company whose principal business is the distribution of natural gas to over one million residential, commercial, industrial and power generation customers in portions of North Carolina, South Carolina and Tennessee, including customers served by municipalities who are Piedmont's sales for resale customers. In October 2016, Duke Energy completed the acquisition of Piedmont for a total cash purchase price of \$5.0 billion and assumed Piedmont's existing long-term debt, which had an estimated fair value of approximately \$2.0 billion at the time of the acquisition. The acquisition provides a foundation for Duke Energy to establish a broader, long-term strategic natural gas infrastructure platform to supplement and complement its existing natural gas pipeline investments and regulated natural gas business in the Midwest. For additional information on the details of this transaction, including preliminary purchase price allocation and acquisition financing, see Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) and Note 2 to the Consolidated Financial Statements, "Acquisitions and Dispositions."

In December 2016, Duke Energy completed the sale of its Latin American businesses to focus on its domestic regulated electric and gas businesses, which was further bolstered by the acquisition of Piedmont. The sale of the International Energy businesses, excluding an equity method investment in National Methanol Company (NMC), was completed through two transactions including the sale of Duke Energy's Brazilian business to China Three Gorges and Duke Energy's remaining Central and South American businesses to I Squared Capital (collectively, the International Disposal Group). See Note 2 to the Consolidated Financial Statements, "Acquisitions and Dispositions," for additional information.

The Duke Energy Registrants electronically file reports with the Securities and Exchange Commission (SEC), including annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxies and amendments to such reports.

The public may read and copy any materials the Duke Energy Registrants file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an internet site that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC at <http://www.sec.gov>. Additionally, information about the Duke Energy Registrants, including reports filed with the SEC, is available through Duke Energy's website at <http://www.duke-energy.com>. Such reports are accessible at no charge and are made available as soon as reasonably practicable after such material is filed with or furnished to the SEC.

#### Business Segments

The acquisition of Piedmont and sale of the International Disposal Group has resulted in a realigned business with three reportable operating segments (business segments); Electric Utilities and Infrastructure, Gas Utilities and Infrastructure and Commercial Renewables. The remainder of Duke Energy's operations is presented as Other. Duke Energy's chief operating decision maker routinely reviews financial information about each of these business segments in deciding how to allocate resources and evaluate the performance of the business. For additional information on each of these business segments, including financial and geographic information, see Note 3 to the Consolidated Financial Statements, "Business Segments." The following sections describe the business and operations of each of Duke Energy's business segments, as well as Other.

## ELECTRIC UTILITIES AND INFRASTRUCTURE

Electric Utilities and Infrastructure conducts operations primarily through the regulated public utilities of Duke Energy Carolinas, Duke Energy Progress, Duke Energy Florida, Duke Energy Indiana and Duke Energy Ohio. Electric Utilities and Infrastructure provides retail electric service through the generation, transmission, distribution and sale of electricity to approximately 7.5 million customers within the Southeast and Midwest regions of the U.S. The service territory is approximately 95,000 square miles across six states with a total estimated population of 24 million people. The operations include electricity sold wholesale to municipalities, electric cooperative utilities and other load-serving entities. Electric Utilities and Infrastructure is also a joint owner in certain electric transmission projects. Electric Utilities and Infrastructure has a 50 percent ownership interest in Duke-American Transmission Co. (DATC), a partnership with American Transmission Company, formed to design, build and operate transmission infrastructure. DATC owns 72 percent of the transmission service rights to Path 15, an 84-mile transmission line in central California. Electric Utilities and Infrastructure also has a 50 percent ownership interest in Pioneer Transmission, LLC, which builds, owns and operates electric transmission facilities in North America.

The electric operations and investments in projects are subject to the rules and regulations of the FERC, the North Carolina Utilities Commission (NCUC), the Public Service Commission of South Carolina (PSCSC), the Florida Public Service Commission (FPSC), the Indiana Utility Regulatory Commission (IURC), the Public Utilities Commission of Ohio (PUCO) and the Kentucky Public Service Commission (KPSC).

The following table represents the distribution of billed sales by customer class for the year ended December 31, 2016.

	Duke Energy Carolinas <sup>(a)</sup>	Duke Energy Progress <sup>(a)</sup>	Duke Energy Florida <sup>(b)</sup>	Duke Energy Ohio <sup>(c)</sup>	Duke Energy Indiana <sup>(d)</sup>
Residential	32%	26%	50%	35%	26%
General service	33%	23%	38%	38%	24%
Industrial	25%	15%	8%	24%	31%
Total retail sales	90%	64%	96%	97%	81%
Wholesale and other sales	10%	36%	4%	3%	19%
Total sales	100%	100%	100%	100%	100%

- (a) Primary general service sectors include health care, education, financial services, information technology and military buildings. Primary industrial sectors include textiles, chemicals, rubber and plastics, paper, food and beverage and auto manufacturing.
- (b) Primary general service sectors include tourism, health care and government facilities and schools. Primary industrial sectors include phosphate rock mining and processing and citrus and other food processing.
- (c) Primary general service sectors include health care, education, real estate and rental leasing, financial and insurance services, water/wastewater services and wholesale trade services. Primary industrial sectors include primary metals, chemicals, food and beverage and transportation.
- (d) Primary general service sectors include retail, financial, health care and education services. Primary industrial sectors include metals, transportation, building materials, food and beverage and chemicals.

The number of residential and general service customers within the Electric Utilities and Infrastructure service territory is expected to increase over time. While economic conditions within the service territory continue to improve, sales growth has been hampered by continued adoption of energy efficiencies and self-generation. The continued adoption of more efficient housing and appliances is expected to have a negative impact on average usage per residential customer over time. While residential sales increased in 2016 compared to 2015, the growth rate was modest when compared to historical periods.

### Seasonality and the Impact of Weather

Revenues and costs are influenced by seasonal weather patterns. Peak sales of electricity occur during the summer and winter months which results in higher revenue and cash flows during these periods. By contrast, lower sales of electricity occur during the spring and fall, allowing for scheduled plant maintenance. Residential and general service customers are more impacted by weather than industrial customers. Estimated weather impacts are based on actual current period weather compared to normal weather conditions. Normal weather conditions are defined as the long-term average of actual historical weather conditions.

The estimated impact of weather on earnings is based on the temperature variances from a normal condition and customers' historic usage patterns. The methodology used to estimate the impact of weather does not consider all variables that may impact customer response to weather conditions such as humidity in the summer or wind chill in the winter. The precision of this estimate may also be impacted by applying long-term weather trends to shorter-term periods.

Heating-degree days measure the variation in weather based on the extent the average daily temperature falls below a base temperature. Cooling-degree days measure the variation in weather based on the extent the average daily temperature rises above the base temperature. Each degree of temperature below the base temperature counts as one heating-degree day and each degree of temperature above the base temperature counts as one cooling-degree day.

## Competition

### *Retail*

Electric Utilities and Infrastructure's businesses operate as the sole supplier of electricity within their service territories, with the exception of Ohio, which has a competitive electricity supply market for generation service. Electric Utilities and Infrastructure owns and operates facilities necessary to transmit and distribute electricity and, except in Ohio, to generate electricity. Services are priced by state commission approved rates designed to include the costs of providing these services and a reasonable return on invested capital. This regulatory policy is intended to provide safe and reliable electricity at fair prices.

Competition in the regulated electric distribution business is primarily from the development and deployment of alternative energy sources including on-site generation from industrial customers and distributed generation, such as private solar, at residential, general service and/or industrial customer sites.

Duke Energy is not aware of any proposed legislation within any of its jurisdictions that would provide retail customers the right to choose their electricity provider or otherwise restructure or deregulate the electric industry, including broadly subsidizing distributed generation such as private solar.

Although there is no pending legislation at this time, if the retail jurisdictions served by Electric Utilities and Infrastructure become subject to deregulation, the recovery of stranded costs could become a significant consideration. Stranded costs primarily include the generation assets of Electric Utilities and Infrastructure whose value in a competitive marketplace may be less than their current book value, as well as above-market purchased power commitments from qualifying facilities (QFs). The Public Utility Regulatory Policies Act of 1978 (PURPA) established a new class of generating facilities as QFs, typically small power production facilities that generate power within a utility company's service territory for which the utility companies are legally obligated to purchase the energy at an avoided cost rate. Thus far, all states that have passed restructuring legislation have provided for the opportunity to recover a substantial portion of stranded costs.

Electric Utilities and Infrastructure's largest stranded cost exposure is primarily related to Duke Energy Florida's purchased power commitments with QFs, under which it has future minimum expected capacity payments through 2043 of \$2.8 billion. Duke Energy Florida was obligated to enter into these contracts under provisions of PURPA. Duke Energy Florida continues to seek ways to address the impact of escalating payments under these contracts. However, the FPSC allows full recovery of the retail portion of the cost of power purchased from QFs. For additional information related to these purchased power commitments, see Note 5 to the Consolidated Financial Statements, "Commitments and Contingencies."

In Ohio, Electric Utilities and Infrastructure conducts competitive auctions for electricity supply. The cost of energy purchased through these auctions is recovered from retail customers. Electric Utilities earns retail margin in Ohio on the transmission and distribution of electricity and not on the cost of the underlying energy.

### *Wholesale*

Duke Energy competes with other utilities and merchant generators for bulk power sales, sales to municipalities and cooperatives and wholesale transactions under primarily cost-based contracts approved by FERC. The principal factors in competing for these sales are price, availability of capacity and power and reliability of service. Prices are influenced primarily by market conditions and fuel costs.

Increased competition in the wholesale electric utility industry and the availability of transmission access could affect Electric Utilities and Infrastructure's load forecasts, plans for power supply and wholesale energy sales and related revenues. Wholesale energy sales will be impacted by the extent to which additional generation is available to sell to the wholesale market and the ability of Electric Utilities and Infrastructure to attract new customers and to retain existing customers.

## Energy Capacity and Resources

Electric Utilities and Infrastructure owns approximately 49,300 megawatts (MW) of generation capacity. For additional information on owned generation facilities, see Item 2, "Properties."

Energy and capacity are also supplied through contracts with other generators and purchased on the open market. Factors that could cause Electric Utilities and Infrastructure to purchase power for its customers include generating plant outages, extreme weather conditions, generation reliability, demand growth and price. Electric Utilities and Infrastructure has interconnections and arrangements with its neighboring utilities to facilitate planning, emergency assistance, sale and purchase of capacity and energy and reliability of power supply.

Electric Utilities and Infrastructure's generation portfolio is a balanced mix of energy resources having different operating characteristics and fuel sources designed to provide energy at the lowest possible cost to meet its obligation to serve retail customers. All options, including owned generation resources and purchased power opportunities, are continually evaluated on a real-time basis to select and dispatch the lowest-cost resources available to meet system load requirements.

### *Potential Plant Retirements*

The Subsidiary Registrants periodically file Integrated Resource Plans (IRP) with state regulatory commissions. The IRPs provide a view of forecasted energy needs over a long term (10 to 20 years) and options being considered to meet those needs. Recent IRPs filed by the Subsidiary Registrants included planning assumptions to potentially retire certain coal-fired generating facilities earlier than their current estimated useful lives, primarily because these facilities do not have the requisite emission control equipment to meet United States Environmental Protection Agency (EPA) regulations recently approved or proposed. Duke Energy continues to evaluate the potential need to retire these coal-fired generating facilities earlier than the current estimated useful lives and plans to seek regulatory recovery for amounts that would not be otherwise recovered when any of these assets are retired. For additional information related to potential plant retirements see Note 4 to the Consolidated Financial Statements, "Regulatory Matters."

On October 23, 2015, the EPA published in the Federal Register the final Clean Power Plan (CPP) rule that regulates carbon dioxide (CO<sub>2</sub>) emissions from existing fossil fuel-fired electric generating units (EGUs). The CPP establishes CO<sub>2</sub> emission rates and mass cap goals that apply to existing fossil fuel-fired EGUs. Petitions challenging the rule have been filed by several groups. On February 9, 2016, the Supreme Court issued a stay of the final CPP rule, halting implementation of the CPP until legal challenges are resolved. States in which Duke Energy Registrants operate have suspended work on CPP compliance plans as a result of the stay. Oral arguments before 10 of the 11 judges on D.C. Circuit Court were heard on September 27, 2016. The court is expected to decide the case in early 2017.

Compliance with CPP could cause the industry to replace coal-fired generation with natural gas and renewables. Costs to operate coal-fired generation plants continue to grow due to increasing environmental compliance requirements, including ash management costs unrelated to CPP, which may result in the retirement of coal-fired generation plants earlier than the current end of useful lives. If the CPP is ultimately upheld by the courts and implementation goes forward, the Duke Energy Registrants could incur increased fuel, purchased power, operation and maintenance and other costs for replacement generation as a result of this rule. Due to the uncertainties related to the implementation of the CPP, the Duke Energy Registrants cannot predict the outcome of these matters.

### Sources of Electricity

Electric Utilities and Infrastructure relies principally on coal, nuclear fuel and natural gas for its generation of electricity. The following table lists sources of electricity and fuel costs for the three years ended December 31, 2016.

	Generation by Source			Cost of Delivered Fuel per Net Kilowatt-hour Generated (Cents)		
	2016	2015	2014	2016	2015	2014
Coal <sup>(a)</sup>	27.1%	29.0%	33.5%	3.07	3.24	3.54
Nuclear <sup>(a)</sup>	27.4%	27.0%	26.1%	0.66	0.65	0.65
Natural gas and oil <sup>(a)</sup>	22.9%	23.1%	19.0%	3.07	3.74	4.70
All fuels (cost-based on weighted average) <sup>(a)</sup>	77.4%	79.1%	78.6%	2.22	2.50	2.86
Hydroelectric and solar <sup>(b)</sup>	0.7%	0.8%	0.8%			
Total generation	78.1%	79.9%	79.4%			
Purchased power and net interchange	21.9%	20.1%	20.6%			
Total sources of energy	100.0%	100.0%	100.0%			

(a) Statistics related to all fuels reflect Electric Utilities and Infrastructure's ownership interest in jointly owned generation facilities.

(b) Generating figures are net of output required to replenish pumped storage facilities during off-peak periods.

### Coal

Electric Utilities and Infrastructure meets its coal demand through a portfolio of long-term purchase contracts and short-term spot market purchase agreements. Large amounts of coal are purchased under long-term contracts with mining operators who mine both underground and at the surface. Electric Utilities and Infrastructure uses spot market purchases to meet coal requirements not met by long-term contracts. Expiration dates for its long-term contracts, which have various price adjustment provisions and market re-openers, range from 2017 to 2019 for Duke Energy Carolinas, 2017 to 2019 for Duke Energy Progress, 2017 to 2019 for Duke Energy Florida, 2017 for Duke Energy Ohio and 2017 to 2025 for Duke Energy Indiana. Electric Utilities and Infrastructure expects to renew these contracts or enter into similar contracts with other suppliers as existing contracts expire, though prices will fluctuate over time as coal markets change. Coal purchased for the Carolinas is primarily produced from mines in Central Appalachia, Northern Appalachia and the Illinois Basin. Coal purchased for Florida is primarily produced from mines in Colorado and the Illinois Basin. Coal purchased for Kentucky is delivered by barge and is produced from mines along the Ohio River in Illinois, Ohio, West Virginia and Pennsylvania. Coal purchased for Indiana is primarily produced in Indiana and Illinois. Electric Utilities and Infrastructure has an adequate supply of coal under contract to meet its hedging guidelines regarding projected future consumption. As a result of volatility in natural gas prices and the associated impacts on coal-fired dispatch within the generation fleet, coal inventories will continue to fluctuate. Electric Utilities and Infrastructure continues to actively manage its portfolio and has worked with suppliers to obtain increased flexibility in its coal contracts.

The current average sulfur content of coal purchased by Electric Utilities and Infrastructure is between 1.5 percent and 2 percent for Duke Energy Carolinas, between 1.5 percent and 2 percent for Duke Energy Progress, between 1 percent and 3 percent for Duke Energy Florida, between 3 percent and 3.5 percent for Duke Energy Ohio and between 2.5 percent and 3 percent for Duke Energy Indiana. Electric Utilities and Infrastructure's environmental controls, in combination with the use of sulfur dioxide (SO<sub>2</sub>) emission allowances, enable Electric Utilities and Infrastructure to satisfy current SO<sub>2</sub> emission limitations for its existing facilities.

### Nuclear

The industrial processes for producing nuclear generating fuel generally involve the mining and milling of uranium ore to produce uranium concentrates, and services to convert, enrich and fabricate fuel assemblies.

Electric Utilities and Infrastructure has contracted for uranium materials and services to fuel its nuclear reactors. Uranium concentrates, conversion services and enrichment services are primarily met through a diversified portfolio of long-term supply contracts. The contracts are diversified by supplier, country of origin and pricing. Electric Utilities and Infrastructure staggers its contracting so that its portfolio of long-term contracts covers the majority of its fuel requirements in the near term and decreasing portions of its fuel requirements over time thereafter. Near-term requirements not met by long-term supply contracts have been and are expected to be fulfilled with spot market purchases. Due to the technical complexities of changing suppliers of fuel fabrication services, Electric Utilities and Infrastructure generally sources these services to a single domestic supplier on a plant-by-plant basis using multi-year contracts.

Electric Utilities and Infrastructure has entered into fuel contracts that cover 100 percent of its uranium concentrates, conversion services and enrichment services requirements through at least 2017 and cover fabrication services requirements for these plants through at least 2019. For future requirements not already covered under long-term contracts, Electric Utilities and Infrastructure believes it will be able to renew contracts as they expire, or enter into similar contractual arrangements with other suppliers of nuclear fuel materials and services.

### **Natural Gas and Fuel Oil**

Natural gas and fuel oil supply for Electric Utilities and Infrastructure's generation fleet is purchased under standard industry agreements from various suppliers, including Piedmont. Natural gas supply agreements typically provide for a percentage of forecasted burns being procured over time, with varied expiration dates. Electric Utilities and Infrastructure believes it has access to an adequate supply of natural gas and fuel oil for the reasonably foreseeable future.

Electric Utilities and Infrastructure has certain dual-fuel generating facilities that can operate utilizing both natural gas and fuel oil. The cost of Electric Utilities and Infrastructure's natural gas and fuel oil is fixed price or determined by published market prices as reported in certain industry publications, plus any transportation and freight costs. Duke Energy Carolinas, Duke Energy Progress, Duke Energy Florida and Duke Energy Indiana use derivative instruments to manage a portion of their exposure to price fluctuations for natural gas.

Electric Utilities and Infrastructure has firm interstate and intrastate natural gas transportation agreements and storage agreements in place to support generation needed for load requirements. Electric Utilities and Infrastructure may purchase additional shorter-term gas transportation and utilize natural gas interruptible transportation agreements to support generation needed for load requirements. The Electric Utilities and Infrastructure natural gas plants are served by various supply zones and multiple pipelines.

### **Purchased Power**

Electric Utilities and Infrastructure purchases a portion of its capacity and system requirements through purchase obligations, leases and purchase contracts. Electric Utilities and Infrastructure believes it can obtain adequate purchased power capacity to meet future system load needs. However, during periods of high demand, the price and availability of purchased power may be significantly affected.

The following table summarizes purchased power the previous three years:

	2016	2015	2014
Purchase obligations and leases (in millions of megawatt-hours (MWh)) <sup>(a)</sup>	18	14.9	14.3
Purchase capacity under contract (in MW) <sup>(b)</sup>	4,588	4,573	4,500

(a) Represents approximately 7 percent of total system requirements for 2016 and 6 percent for 2015 and 2014.

(b) These agreements include approximately 451 MW of firm capacity under contract by Duke Energy Florida with QFs.

### **Inventory**

Generation of electricity is capital intensive. Electric Utilities and Infrastructure must maintain an adequate stock of fuel and materials and supplies in order to ensure continuous operation of generating facilities and reliable delivery to customers. As of December 31, 2016, the inventory balance for Electric Utilities and Infrastructure was approximately \$3.4 billion. For additional information on inventory see Note 1 to the Consolidated Financial Statements, "Summary of Significant Accounting Policies."

### **Ash Basin Management**

On September 20, 2014, the North Carolina Coal Ash Management Act of 2014 (Coal Ash Act) became law and was amended on June 24, 2015, and July 14, 2016. The Coal Ash Act, as amended, regulates the handling of coal ash within the state and requires closure of ash impoundments by no later than December 31, 2029, based on risk rankings, among other detailed requirements. The Coal Ash Act leaves the decision on cost recovery determinations related to closure of coal ash surface impoundments (ash basins or impoundments) to the normal ratemaking processes before utility regulatory commissions. Duke Energy has and will periodically submit to applicable authorities required site-specific coal ash impoundment remediation or closure plans. These plans and all associated permits must be approved before any work can begin.

On April 17, 2015, the EPA published in the Federal Register a rule to regulate the disposal of coal combustion residuals (CCR) from electric utilities as solid waste. The rule classifies CCR as nonhazardous under Subtitle D of the Resource Conservation and Recovery Act (RCRA). The RCRA and the Coal Ash Act, as amended, finalized the legal framework related to coal ash management practices and ash basin closure.

Duke Energy has advanced the strategy and implementation for the remediation or closure of coal ash basins. In 2015, Duke Energy began activities at certain North Carolina sites specified as high risk by the Coal Ash Act, including moving coal ash off-site for use in structural fill or to lined landfills. Additional modifications to operating coal plants are underway to comply with RCRA.

For additional information on the ash basins, see Notes 5 and 9 to the Consolidated Financial Statements, "Commitments and Contingencies" and "Asset Retirement Obligations," respectively.



## Nuclear Matters

Duke Energy owns, wholly or partially, 11 operating nuclear reactors located at six stations. The Crystal River Unit 3 Nuclear Plant (Crystal River Unit 3) permanently ceased operation in February 2013. Nuclear insurance includes: nuclear liability coverage; property, decontamination and premature decommissioning coverage; and replacement power expense coverage. Joint owners reimburse Duke Energy for certain expenses associated with nuclear insurance in accordance with joint owner agreements. The Price-Anderson Act requires plant owners to provide for public nuclear liability claims resulting from nuclear incidents to the maximum total financial protection liability, which is approximately \$13.4 billion. For additional information on nuclear insurance see Note 5 to the Consolidated Financial Statements, "Commitments and Contingencies."

Duke Energy has a significant future financial commitment to dispose of spent nuclear fuel and decommission and decontaminate each plant safely. The NCUC, PSCSC and FPSC require Duke Energy to update their cost estimates for decommissioning their nuclear plants every five years.

The following table summarizes the fair value of nuclear decommissioning trust fund (NDTF) balances and cost study results for Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida.

(in millions)	NDTF <sup>(a)</sup>		Decommissioning Costs <sup>(a)(b)</sup>	Year of Cost Study
	December 31, 2016	December 31, 2015		
Duke Energy	\$ 6,205	\$ 5,825	\$ 8,150	2013 and 2014
Duke Energy Carolinas	3,273	3,050	3,420	2013
Duke Energy Progress	2,217	2,035	3,550	2014
Duke Energy Florida <sup>(c)</sup>	715	740	1,180	2013

(a) Amounts for Progress Energy equal the sum of Duke Energy Progress and Duke Energy Florida.

(b) Amounts include the Subsidiary Registrants' ownership interest in jointly owned reactors. Other joint owners are responsible for decommissioning costs related to their interest in the reactors.

(c) Duke Energy Florida received reimbursements from the NDTF for costs related to ongoing decommissioning activity of Crystal River Unit 3 during 2016.

The NCUC, PSCSC, FPSC and FERC have allowed Electric Utilities and Infrastructure to recover estimated decommissioning costs through retail and wholesale rates over the expected remaining service periods of their nuclear stations. Electric Utilities and Infrastructure believes the decommissioning costs being recovered through rates, when coupled with the existing fund balance and expected fund earnings, will be sufficient to provide for the cost of future decommissioning. For additional information, see Note 9 to the Consolidated Financial Statements, "Asset Retirement Obligations."

The Nuclear Waste Policy Act of 1982 (as amended) (NWPAA) provides the framework for development by the federal government of interim storage and permanent disposal facilities for high-level radioactive waste materials. The NWPAA promotes increased usage of interim storage of spent nuclear fuel at existing nuclear plants. Electric Utilities and Infrastructure will continue to maximize the use of spent fuel storage capability within its own facilities for as long as feasible.

Under federal law, the U.S. Department of Energy (DOE) is responsible for the selection and construction of a facility for the permanent disposal of spent nuclear fuel and high-level radioactive waste. Delays have occurred in the DOE's proposed permanent repository to be located at Yucca Mountain, Nevada. At this time, DOE's focus is on developing consolidated storage for commercial spent nuclear fuel at one or more central sites rather than at a permanent repository.

Until the DOE begins to accept the spent nuclear fuel, Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida will continue to safely manage their spent nuclear fuel. Under current regulatory guidelines, Shearon Harris Nuclear Plant (Harris) has sufficient storage capacity in its spent fuel pools through the expiration of its renewed operating license. Crystal River Unit 3 was retired in 2013 and placed in SAFSTOR prior to final decommissioning. The spent fuel is currently stored in the spent fuel pool. An independent spent fuel storage installation will be installed to accommodate storage of all the spent nuclear fuel until the DOE accepts the spent nuclear fuel. With certain modifications and approvals by the U.S. Nuclear Regulatory Commission (NRC) to expand the on-site dry cask storage facilities, spent nuclear fuel dry storage facilities will be sufficient to provide storage space of spent fuel through the expiration of the operating licenses, including any license renewals, for the Brunswick Nuclear Plant (Brunswick), Catawba Nuclear Station (Catawba), McGuire Nuclear Station (McGuire), Oconee Nuclear Station (Oconee) and Robinson Nuclear Plant (Robinson).

The nuclear power industry faces uncertainties with respect to the cost and long-term availability of disposal sites for spent nuclear fuel and other radioactive waste, compliance with changing regulatory requirements, capital outlays for modifications and new plant construction, the technological and financial aspects of decommissioning plants at the end of their licensed lives and requirements relating to nuclear insurance.

Electric Utilities and Infrastructure is subject to the jurisdiction of the NRC for the design, construction and operation of its nuclear generating facilities. The following table includes the current year of expiration of nuclear operating licenses for nuclear stations in operation. Nuclear operating licenses are potentially subject to extension.

Unit	Year of Expiration
<b>Duke Energy Carolinas</b>	
Catawba Unit 1 & 2	2043
McGuire Unit 1	2041
McGuire Unit 2	2043
Oconee Unit 1 & 2	2033
Oconee Unit 3	2034
<b>Duke Energy Progress</b>	
Brunswick Unit 1	2036
Brunswick Unit 2	2034
Harris	2046
Robinson	2030

Duke Energy Florida has requested the NRC to terminate the Crystal River Unit 3 operating license as Crystal River Unit 3 permanently ceased operation in February 2013. For additional information on decommissioning activity, see Note 4 to the Consolidated Financial Statements, "Regulatory Matters."

On October 27, 2016, and December 15, 2016, the NRC issued combined operating licenses for Duke Energy Florida's proposed Levy Nuclear Plant Units 1 and 2 (Levy) and Duke Energy Carolinas' William States Lee III Nuclear Station Units 1 and 2, respectively. For additional information on these proposed nuclear plants, see Note 4 to the Consolidated Financial Statements, "Regulatory Matters."

The NRC issues orders with regard to security at nuclear plants in response to new or emerging threats. The most recent orders include additional restrictions on nuclear plant access, increased security measures at nuclear facilities and closer coordination with intelligence, military, law enforcement and emergency response functions at the federal, state and local levels. As the NRC, other governmental entities and the industry continue to consider security issues, it is possible that more extensive security plans could be required.

## Regulation

### State

The NCUC, PSCSC, FPSC, PUCO, IURC and KPSC (collectively, the state electric utility commissions) approve rates for Duke Energy's retail electric service within their respective states. The state electric utility commissions, to varying degrees, have authority over the construction and operation of Electric Utilities and Infrastructure's generating facilities. Certificates of Public Convenience and Necessity issued by the state electric utility commissions, as applicable, authorize Electric Utilities and Infrastructure to construct and operate its electric facilities and to sell electricity to retail and wholesale customers. Prior approval from the relevant state electric utility commission is required for the entities within Electric Utilities and Infrastructure to issue securities. The underlying concept of utility ratemaking is to set rates at a level that allows the utility to collect revenues equal to its cost of providing service plus earn a reasonable rate of return on its invested capital, including equity.

In addition to rates approved in base rate cases, each of the state electric utility commissions allow recovery of certain costs through various cost-recovery clauses to the extent the respective commission determines in periodic hearings that such costs, including any past over or under-recovered costs, are prudent.

Fuel, fuel-related costs and certain purchased power costs are eligible for recovery by Electric Utilities and Infrastructure. Electric Utilities and Infrastructure uses coal, hydroelectric, natural gas, oil, renewable generation and nuclear fuel to generate electricity, thereby maintaining a diverse fuel mix that helps mitigate the impact of cost increases in any one fuel. Due to the associated regulatory treatment and the method allowed for recovery, changes in fuel costs from year to year have no material impact on operating results of Electric Utilities and Infrastructure, unless a commission finds a portion of such costs to have been imprudent. However, delays between the expenditure for fuel costs and recovery from customers can adversely impact the timing of cash flows of Electric Utilities and Infrastructure.

On December 8, 2016, the PSCSC approved Duke Energy Progress' 2016 South Carolina rate case authorizing an increase of approximately \$56 million in revenues over a two-year period. An increase of approximately \$38 million in revenues was effective January 1, 2017, and an additional increase of approximately \$18.5 million in revenues will be effective January 1, 2018. Duke Energy Progress will amortize approximately \$18.5 million from the cost of removal reserve in 2017. Other terms include a rate of return on equity of 10.1 percent, recovery of coal ash costs incurred from January 1, 2015, through June 30, 2016, over a 15-year period and ongoing deferral of allocated ash basin closure costs from July 1, 2016, until the next base rate case. This represents the only base rate case approved and effective in the past three years.

For more information on rate matters and other regulatory proceedings, see Note 4 to the Consolidated Financial Statements, "Regulatory Matters."

### Federal

The FERC approves Electric Utilities and Infrastructure's cost-based rates for electric sales to certain power and transmission wholesale customers. Regulations of FERC and the state electric utility commissions govern access to regulated electric and other data by nonregulated entities and services provided between regulated and nonregulated energy affiliates. These regulations affect the activities of nonregulated affiliates with Electric Utilities and Infrastructure.

**Regional Transmission Organizations (RTO).** PJM Interconnection, LLC (PJM) and Midcontinent Independent System Operator, Inc. (MISO) are the Independent System Operators (ISO) and FERC-approved RTOs for the regions in which Duke Energy Ohio and Duke Energy Indiana operate. PJM and MISO operate energy, capacity and other markets, and control the day-to-day operations of bulk power systems through central dispatch.

Duke Energy Ohio is a member of PJM and Duke Energy Indiana is a member of MISO. Transmission owners in these RTOs have turned over control of their transmission facilities and their transmission systems are currently under the dispatch control of the RTOs. Transmission service is provided on a region-wide, open-access basis using the transmission facilities of the RTO members at rates based on the costs of transmission service.

**Environmental.** Electric Utilities and Infrastructure is subject to the jurisdiction of the EPA and state and local environmental agencies. For a discussion of environmental regulation, see “Environmental Matters” in this section. See “Other Matters” section of MD&A for a discussion about potential Global Climate Change legislation and other EPA regulations under development and the potential impacts such legislation and regulation could have on Duke Energy’s operations.

## **GAS UTILITIES AND INFRASTRUCTURE**

Gas Utilities and Infrastructure conducts natural gas operations primarily through the regulated public utilities of Piedmont and Duke Energy Ohio. The natural gas operations are subject to the rules and regulations of the NCUC, PSCSC, PUCO, KPSC, Tennessee Regulatory Authority (TRA) and the FERC. Gas Utilities and Infrastructure serves residential, commercial, industrial and power generation natural gas customers. Gas Utilities and Infrastructure has over 1.5 million customers, including more than 1 million customers located in North Carolina, South Carolina and Tennessee, and an additional 529,000 customers located within southwestern Ohio and northern Kentucky. In the Carolinas, Ohio and Kentucky, the service areas are comprised of numerous cities, towns and communities. In Tennessee, the service area is the metropolitan area of Nashville.

The number of residential, commercial and industrial customers within the Gas Utilities and Infrastructure service territory is expected to increase over time. Average usage per residential customer is expected to remain flat or decline for the foreseeable future, however decoupled rates in North Carolina and various rate design mechanisms in other jurisdictions to partially mitigate the impact of the declining usage per customer trend on overall profitability. While total industrial and general service sales increased in 2016 when compared to 2015, the growth rate was modest when compared to historical periods.

Gas Utilities and Infrastructure also owns, operates and has investments in various pipeline transmission and natural gas storage facilities.

### **Natural Gas for Retail Distribution**

Gas Utilities and Infrastructure is responsible for the distribution of natural gas to retail customers in its North Carolina, South Carolina, Tennessee, Ohio and Kentucky service territories. Gas Utilities and Infrastructure’s natural gas procurement strategy is to contract primarily with major and independent producers and marketers for gas supply. It also purchases a diverse portfolio of transportation and storage service from interstate pipelines. This strategy allows Gas Utilities and Infrastructure to assure reliable natural gas supply and transportation for its firm customers during peak winter conditions. When firm pipeline services or contracted gas supplies are temporarily not needed due to market demand fluctuations, Gas Utilities and Infrastructure may release these services and supplies in the secondary market under FERC-approved capacity release provisions or make wholesale secondary market sales. In 2016, firm supply purchase commitment agreements provided approximately 86 percent of the natural gas supply for Piedmont and 53 percent for Duke Energy Ohio.

### **Seasonality and the Impact of Weather**

Gas Utilities and Infrastructure’s costs and revenues are influenced by seasonal patterns due to peak natural gas sales occurring during the winter months. Residential customers are the most impacted by weather. There are certain regulatory mechanisms for the North Carolina, South Carolina and Tennessee service territories that normalize the margins collected from certain customer classes during the winter, providing for an adjustment either up or down. In North Carolina, rate design provides protection from both weather and other usage variations such as conservation, while South Carolina and Tennessee revenues are adjusted solely based on weather. Rate design for the Ohio service territory also mitigates the impacts of weather on customer bills. Estimated weather impacts are based on actual current period weather compared to normal weather conditions. Normal weather conditions are defined as the long-term average of actual historical weather conditions.

Degree-day data are used to estimate energy required to maintain comfortable indoor temperatures based on each day’s average temperature. Heating-degree days measure the variation in weather based on the extent the average daily temperature falls below a base temperature. The methodology used to estimate the applicable impact of weather does not consider all variables that may impact customer response to weather conditions, such as wind chill. The precision of this estimate may also be impacted by applying long-term weather trends to shorter-term periods.

### **Competition**

Gas Utilities and Infrastructure’s businesses operate as the sole supplier of natural gas within their retail service territories, with the exception of Ohio, which has a competitive natural gas supply market for distribution service. Gas Utilities and Infrastructure owns and operates facilities necessary to transport and distribute natural gas. Gas Utilities and Infrastructure earns retail margin on the transmission and distribution of natural gas and not on the cost of the underlying commodity. Services are priced by state commission approved rates designed to include the costs of providing these services and a reasonable return on invested capital. This regulatory policy is intended to provide safe and reliable natural gas at fair prices.

In residential, commercial and industrial customer markets, natural gas distribution operations compete with other companies that supply energy, primarily electric companies, propane and fuel oil dealers, renewable energy providers and coal companies in relation to sources of energy for electric power plants, as well as nuclear energy. A significant competitive factor is price. Gas Utilities and Infrastructure's primary product competition is with electricity for heating, water heating and cooking. Increases in the price of natural gas or decreases in the price of other energy sources could negatively impact competitive position by decreasing the price benefits of natural gas to the consumer. In the case of industrial customers, such as manufacturing plants, adverse economic or market conditions, including higher gas costs, could cause these customers to suspend business operations or to use alternative sources of energy in favor of energy sources with lower per-unit costs.

Higher gas costs or decreases in the price of other energy sources may allow competition from alternative energy sources for applications that have traditionally used natural gas, encouraging some customers to move away from natural gas-fired equipment to equipment fueled by other energy sources. Competition between natural gas and other forms of energy is also based on efficiency, performance, reliability, safety and other non-price factors. Technological improvements in other energy sources and events that impair the public perception of the non-price attributes of natural gas could erode our competitive advantage. These factors in turn could decrease the demand for natural gas, impair our ability to attract new customers and cause existing customers to switch to other forms of energy or to bypass our systems in favor of alternative competitive sources. This could result in slow or no customer growth and could cause customers to reduce or cease using our product, thereby reducing our ability to make capital expenditures and otherwise grow our business and adversely affecting our earnings.

### **Pipeline and Storage Investments**

Duke Energy, through its Gas Utilities and Infrastructure segment, is a 47 percent equity member of Atlantic Coast Pipeline, LLC (ACP) that plans to build and own the proposed Atlantic Coast Pipeline (ACP Pipeline), an approximately 600-mile interstate natural gas pipeline. Prior to the Piedmont acquisition, Duke Energy owned a 40 percent equity ownership in ACP. The pipeline is intended to transport diverse gas supplies into southeastern markets. Duke Energy Carolinas, Duke Energy Progress and Piedmont, among others, will be customers of the pipeline. The estimated in-service date of the pipeline is in the second half of 2019.

Gas Utilities and Infrastructure also has a 7.5 percent equity ownership interest in Sabal Trail Transmission, LLC (Sabal Trail). Sabal Trail is a joint venture that is constructing a 515-mile natural gas pipeline (Sabal Trail pipeline) to transport natural gas to Florida. The Sabal Trail pipeline has received regulatory approvals and initiated construction of the pipeline with an expected in-service date in mid-2017. The Sabal Trail pipeline will traverse Alabama, Georgia and Florida.

As a result of the Piedmont acquisition, Duke Energy, through its Gas Utilities and Infrastructure segment, has a 21.49 percent equity ownership interest in Cardinal Pipeline Company, LLC (Cardinal), an intrastate pipeline located in North Carolina regulated by the NCUC, and a 24 percent equity ownership interest in Constitution Pipeline Company, LLC (Constitution), an interstate pipeline development company formed to develop, construct, own and operate a 124-mile natural gas pipeline and related facilities connecting shale natural gas supplies and gathering systems in Susquehanna County, Pennsylvania, to Iroquois Gas Transmission and Tennessee Gas Pipeline systems in New York, regulated by the FERC.

Duke Energy, as a result of the Piedmont acquisition, also has a 45 percent equity ownership in Pine Needle LNG Company, LLC (Pine Needle), an interstate liquefied natural gas storage facility located in North Carolina and a 50 percent equity ownership interest in Hardy Storage Company, LLC (Hardy Storage), an underground interstate natural gas storage facility located in Hardy and Hampshire counties in West Virginia, both regulated by the FERC.

KO Transmission Company (KO Transmission), a wholly owned subsidiary of Duke Energy Ohio, is an interstate pipeline company engaged in the business of transporting natural gas and is subject to the rules and regulations of FERC. KO Transmission's 90-mile pipeline supplies natural gas to Duke Energy Ohio and interconnects with the Columbia Gulf Transmission pipeline and Tennessee Gas Pipeline. An approximately 70-mile portion of KO Transmission's pipeline facilities is co-owned by Columbia Gas Transmission Corporation.

See Notes 4, 12 and 17 to the Consolidated Financial Statements, "Regulatory Matters," "Investments in Unconsolidated Affiliates" and "Variable Interest Entities," respectively, for further information on Duke Energy's pipeline investments.

### **Inventory**

Gas Utilities and Infrastructure must maintain adequate natural gas inventory in order to provide reliable delivery to customers. As of December 31, 2016, the inventory balance for Gas Utilities and Infrastructure was \$108 million. For more information on inventory, see Note 1 to the Consolidated Financial Statements, "Summary of Significant Accounting Policies."

### **Regulation**

#### **State**

The NCUC, PSCSC, PUCO, TRA and KPSC (collectively, the state gas utility commissions) approve rates for Duke Energy's retail natural gas service within their respective states. The state gas utility commissions, to varying degrees, have authority over the construction and operation of Gas Utilities and Infrastructure's natural gas distribution facilities. Certificates of Public Convenience and Necessity or Certificates of Environmental Compatibility and Public Necessity issued by the state gas utility commissions or other government agencies, as applicable, authorize Gas Utilities and Infrastructure to construct and operate its natural gas distribution facilities and to sell natural gas to retail and wholesale customers. Prior approval from the relevant state gas utility commission is required for Gas Utilities and Infrastructure to issue securities. The underlying concept of utility ratemaking is to set rates at a level that allows the utility to collect revenues equal to its cost of providing service plus a reasonable rate of return on its invested capital, including equity.

In addition to amounts collected from customers through approved base rates, each of the state gas utility commissions allow recovery of certain costs through various cost-recovery clauses to the extent the respective commission determines in periodic hearings that such costs, including any past over- or under-recovered costs, are prudent.

Natural gas costs are eligible for recovery by Gas Utilities and Infrastructure. Due to the associated regulatory treatment and the method allowed for recovery, changes in natural gas costs from year to year have no material impact on operating results of Gas Utilities and Infrastructure, unless a commission finds a portion of such costs to have not been prudent. However, delays between the expenditure for natural gas and recovery from customers can adversely impact the timing of cash flows of Gas Utilities and Infrastructure.

The following table summarizes certain components underlying recently approved and effective base rates during 2016.

	Annual Increase (in millions)	Return on Equity	Equity Component of Capital Structure	Effective Date
Piedmont 2013 North Carolina Rate Case	\$ 31	10.0%	50.7%	January 2014
Piedmont 2016 South Carolina Rate Stabilization Adjustment Filing <sup>(a)</sup>	8	10.2%	53.0%	November 2016

(a) Under the rate stabilization adjustment mechanism, Piedmont resets rates in South Carolina based on updated costs and revenues on an annual basis.

Gas Utilities and Infrastructure has integrity management rider (IMR) mechanisms in North Carolina and Tennessee designed to separately track and recover certain costs associated with capital investments incurred to comply with federal pipeline safety and integrity programs, as well as additional state safety and integrity requirements in Tennessee. The following table summarizes information related to recently approved IMR filings.

(in millions)	Cumulative Investment	Annual Margin Revenues	Effective Date
Piedmont 2016 IMR Filing - North Carolina <sup>(a)</sup>	\$ 513	\$ 56	December 2016
Piedmont 2016 IMR Filing - Tennessee <sup>(b)(c)</sup>	173	21	January 2016

(a) Cumulative investment amounts through September 30, 2016.

(b) Cumulative investment amounts through October 31, 2015.

(c) In November 2016, Piedmont filed a petition with the TRA seeking authority to collect an additional \$1.7 million in annual margin revenue effective January 2017 based on approximately \$20 million of capital investments over the twelve month period ending October 31, 2016. A ruling from the TRA is pending.

For more information on rate matters and other regulatory proceedings, see Note 4 to the Consolidated Financial Statements, "Regulatory Matters."

### Federal

Gas Utilities and Infrastructure is subject to various federal regulations, including regulations that are particular to the natural gas industry. These federal regulations include but are not limited to the following:

- Regulations of the FERC affect the certification and siting of new interstate natural gas pipeline projects, the purchase and sale of, the prices paid for, and the terms and conditions of service for the interstate transportation and storage of natural gas.
- Regulations of the U.S. Department of Transportation affect the design, construction, operation, maintenance, integrity, safety and security of natural gas distribution and transmission systems.
- Regulations of the EPA relate to the environment including proposed air emissions regulations that would expand to include emissions of methane. For a discussion of environmental regulation, see "Environmental Matters" in this section. Refer to "Other Matters" section of Management's Discussion and Analysis of Financial Condition and Results of Operations for a discussion about potential Global Climate Change legislation and other EPA regulations under development and the potential impacts such legislation and regulation could have on Duke Energy's operations.

Regulations of FERC and the state gas utility commissions govern access to regulated natural gas and other data by nonregulated entities and services provided between regulated and nonregulated energy affiliates. These regulations affect the activities of nonregulated affiliates with Gas Utilities and Infrastructure.

### COMMERCIAL RENEWABLES

Commercial Renewables primarily acquires, builds, develops and operates wind and solar renewable generation throughout the continental U.S. The portfolio includes nonregulated renewable energy and energy storage businesses.

Commercial Renewables' renewable energy includes utility-scale wind and solar generation assets which total 2,900 MW across 14 states from 21 wind farms and 63 commercial solar farms. Revenues are primarily generated by selling the power produced from renewable generation through long-term contracts to utilities, electric cooperatives, municipalities and commercial and industrial customers. In most instances, these customers have obligations under state-mandated renewable energy portfolio standards or similar state or local renewable energy goals. Energy and renewable energy credits generated by wind and solar projects are generally sold at contractual prices. In addition, as eligible wind and solar projects are placed in service, Commercial Renewables recognizes either investment tax credits (ITC) when the renewable project achieves commercial availability or production tax credits (PTC) as power is generated by the project over 10 years. Renewable ITC are recognized over the useful life of the asset with the benefit of the tax basis adjustment due to the ITC recognized in income in the year of commercial availability.

As part of its growth strategy, Commercial Renewables has expanded its investment portfolio through the addition of distributed solar companies and projects, energy storage systems and energy management solutions specifically tailored to commercial businesses. These investments include the 2015 acquisition of REC Solar Corp., a California-based provider of solar installations for retail, manufacturing, agriculture, technology, government and nonprofit customers across the U.S. and Phoenix Energy Technologies Inc., a California-based provider of enterprise energy management and information software to commercial businesses.

For additional information on Commercial Renewables' generation facilities, see Item 2, "Properties."

### **Regulation**

Commercial Renewables is subject to regulation at the federal level, primarily from the FERC. Regulations of the FERC govern access to regulated market information by nonregulated entities and services provided between regulated and nonregulated utilities.

### **Market Environment and Competition**

The market price of commodities and services, along with the quality and reliability of services provided, drive competition in the wholesale energy business. Commercial Renewables' main competitors include other nonregulated generators and wholesale power providers.

### **Sources of Electricity**

Commercial Renewables relies on wind and solar resources for its generation of electric energy.

### **OTHER**

The remainder of Duke Energy's operations is presented as Other. While it is not an operating segment, Other primarily includes unallocated corporate interest expense, certain unallocated corporate costs, Bison Insurance Company Limited (Bison), contributions to the Duke Energy Foundation, Duke Energy's 25 percent equity interest in NMC and immaterial investments in businesses Duke Energy has retained from previous divestitures that are no longer part of its current operating segments.

Bison is a wholly owned captive insurance subsidiary of Duke Energy with principal activities that include the indemnification of various business risks and losses, such as property, workers' compensation and general liability of Duke Energy subsidiaries and affiliates.

NMC is a joint venture that operates in Jubail, Saudi Arabia as a large regional producer of methanol and methyl tertiary butyl ether (MTBE), an additive to gasoline. Duke Energy has an effective economic ownership interest in NMC of 25 percent and records activity of the investment using the equity method of accounting. Upon the successful startup of NMC's polyacetal production facility, which is expected to occur in the second quarter of 2017, Duke Energy's economic ownership interest in NMC will decrease to 17.5 percent while Duke Energy will retain 25 percent of the NMC's board representation and voting rights.

### **Regulation**

Certain entities within Other are subject to the jurisdiction of federal, state and local agencies.

### **Employees**

On December 31, 2016, Duke Energy had a total of 28,798 employees on its payroll. The total includes 5,509 employees who are represented by labor unions under various collective bargaining agreements that generally cover wages, benefits, working practices, and other terms and conditions of employment.

### Executive Officers of the Registrants

The following table sets forth the individuals who currently serve as executive officers. Executive officers serve until their successors are duly elected or appointed.

Name	Age <sup>(a)</sup>	Current and Recent Positions Held
Lynn J. Good	57	<b>Chairman, President and Chief Executive Officer.</b> Ms. Good was elected as Chairman of the Board, effective January 1, 2016, and assumed her position as President and Chief Executive Officer in July 2013. Prior to that, she served as Executive Vice President and Chief Financial Officer since 2009.
Steven K. Young	58	<b>Executive Vice President and Chief Financial Officer.</b> Mr. Young assumed his current position in August 2013. Prior to that, he had served as Senior Vice President, Chief Accounting Officer and Controller since April 2006.
Douglas F Esamann	59	<b>Executive Vice President, Energy Solutions and President, Midwest and Florida Regions.</b> Mr. Esamann assumed his current position in September 2016 and was Executive Vice President and President, Midwest and Florida Regions since June 2015. Prior to that, he was President, Duke Energy Indiana since November 2010.
Lloyd M. Yates	56	<b>Executive Vice President, Customer and Delivery Operations and President, Carolinas Region.</b> Mr. Yates assumed his current position in September 2016 and was Executive Vice President, Market Solutions and President, Carolinas Region since August 2014. He held the position of Executive Vice President, Regulated Utilities from December 2012 to August 2014, and prior to that, had served as Executive Vice President, Customer Operations since July 2012, upon the merger of Duke Energy and Progress Energy. Prior to the merger, Mr. Yates was President and Chief Executive Officer of Progress Energy Carolinas, Inc., which is now known as Duke Energy Progress, LLC. since July 2007.
Dhiaa M. Jamil	60	<b>Executive Vice President and Chief Operating Officer.</b> Mr. Jamil assumed the role of Chief Operating Officer in May 2016. Prior to his current position, he had held the title Executive Vice President and President, Regulated Generation and Transmission since June 2015. Prior to that, he had served as Executive Vice President and President, Regulated Generation since August 2014. He served as Executive Vice President and President of Duke Energy Nuclear from March 2013 to August 2014, and Chief Nuclear Officer from February 2008 to February 2013. He also served as Chief Generation Officer for Duke Energy from July 2009 to June 2012.
Franklin H. Yoho	57	<b>Executive Vice President and President, Natural Gas.</b> Mr. Yoho assumed his current position in October 2016 upon the acquisition of Piedmont by Duke Energy. Prior to this appointment, he served as Senior Vice President and Chief Commercial Officer of Piedmont since August 2011. Prior to that, he served as Senior Vice President-Commercial Operations since March 2002.
Julia S. Janson	52	<b>Executive Vice President, Chief Legal Officer and Corporate Secretary.</b> Ms. Janson assumed her current position in December 2012 and, in February 2016, assumed the interim responsibilities for the External Affairs and Strategic Policy organization. Prior to that, she had held the position of President of Duke Energy Ohio and Duke Energy Kentucky since 2008.
Melissa H. Anderson	52	<b>Executive Vice President, Administration and Chief Human Resources Officer.</b> Ms. Anderson assumed her position in May 2016 and had been Executive Vice President and Chief Human Resources Officer since January 2015. Prior to joining Duke Energy, she served as Senior Vice President of Human Resources at Domtar Inc. since 2010.
William E. Currrens Jr.	47	<b>Senior Vice President, Chief Accounting Officer and Controller.</b> Mr. Currrens assumed his current position in May 2016. Prior to that, he had held the position of Vice President, Investor Relations since 2008.

(a) The ages of the officers provided are as of December 31, 2016.

There are no family relationships between any of the executive officers, nor any arrangement or understanding between any executive officer and any other person involved in officer selection.

### Environmental Matters

The Duke Energy Registrants are subject to federal, state and local laws and regulations with regard to air and water quality, hazardous and solid waste disposal and other environmental matters. Environmental laws and regulations affecting the Duke Energy Registrants include, but are not limited to:

- The Clean Air Act (CAA), as well as state laws and regulations impacting air emissions, including State Implementation Plans related to existing and new national ambient air quality standards for ozone and particulate matter. Owners and/or operators of air emission sources are responsible for obtaining permits and for annual compliance and reporting.
- The Clean Water Act (CWA), which requires permits for facilities that discharge wastewaters into navigable waters.
- The Comprehensive Environmental Response, Compensation and Liability Act, which can require any individual or entity that currently owns or in the past owned or operated a disposal site, as well as transporters or generators of hazardous substances sent to a disposal site, to share in remediation costs.
- The National Environmental Policy Act, which requires federal agencies to consider potential environmental impacts in their permitting and licensing decisions, including siting approvals.

- Coal Ash Act, as amended, which establishes requirements regarding the use and closure of existing ash basins, the disposal of ash at active coal plants and the handling of surface and groundwater water impacts from ash basins in North Carolina.
- RCRA, which creates the framework for the proper management of hazardous and nonhazardous solid waste, classifies CCR as nonhazardous waste and establishes requirements regarding landfill design and management and monitoring of CCR, including ash basins.
- The Solid Waste Disposal Act, as amended by the RCRA, which requires certain solid wastes, including hazardous wastes, to be managed pursuant to a comprehensive regulatory oversight program.

For more information on environmental matters, see Notes 5 and 9 to the Consolidated Financial Statements, "Commitments and Contingencies – Environmental" and "Asset Retirement Obligations," respectively, and the "Other Matters" section of MD&A. Except as otherwise described in these sections, costs to comply with current federal, state and local provisions regulating the discharge of materials into the environment or other potential costs related to protecting the environment are incorporated into the routine cost structure of our various business segments and are not expected to have a material adverse effect on the competitive position, consolidated results of operations, cash flows or financial position of the Duke Energy Registrants.

The "Other Matters" section of MD&A includes an estimate of future capital expenditures required to comply with environmental regulations and a discussion of Global Climate Change including the potential impact of current and future legislation related to greenhouse gas (GHG) emissions on the Duke Energy Registrants' operations. Recently passed and potential future environmental statutes and regulations could have a significant impact on the Duke Energy Registrants' results of operations, cash flows or financial position. However, if and when such statutes and regulations become effective, the Duke Energy Registrants will seek appropriate regulatory recovery of costs to comply within its regulated operations.

### **DUKE ENERGY CAROLINAS**

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Duke Energy Carolinas is a regulated public utility primarily engaged in the generation, transmission, distribution and sale of electricity in portions of North Carolina and South Carolina. Duke Energy Carolinas' service area covers approximately 24,000 square miles and supplies electric service to 2.5 million residential, commercial and industrial customers. For information about Duke Energy Carolinas' generating facilities, see Item 2, "Properties." Duke Energy Carolinas is subject to the regulatory provisions of the NCUC, PSCSC, NRC and FERC.

Substantially all of Duke Energy Carolinas' operations are regulated and qualify for regulatory accounting. Duke Energy Carolinas operates one reportable business segment, Electric Utilities and Infrastructure. For additional information regarding this business segment, including financial information, see Note 3 to the Consolidated Financial Statements, "Business Segments."

### **PROGRESS ENERGY**

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Progress Energy is a public utility holding company primarily engaged in the regulated electric utility business and is subject to regulation by the FERC. Progress Energy conducts operations through its wholly owned subsidiaries, Duke Energy Progress and Duke Energy Florida. When discussing Progress Energy's financial information, it necessarily includes the results of Duke Energy Progress and Duke Energy Florida.

Substantially all of Progress Energy's operations are regulated and qualify for regulatory accounting. Progress Energy operates one reportable business segment, Electric Utilities and Infrastructure. For additional information regarding this business segment, including financial information, see Note 3 to the Consolidated Financial Statements, "Business Segments."

### **DUKE ENERGY PROGRESS**

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Duke Energy Progress is a regulated public utility primarily engaged in the generation, transmission, distribution and sale of electricity in portions of North Carolina and South Carolina. Duke Energy Progress' service area covers approximately 32,000 square miles and supplies electric service to approximately 1.5 million residential, commercial and industrial customers. For information about Duke Energy Progress' generating facilities, see Item 2, "Properties." Duke Energy Progress is subject to the regulatory provisions of the NCUC, PSCSC, NRC and FERC.

Substantially all of Duke Energy Progress' operations are regulated and qualify for regulatory accounting. Duke Energy Progress operates one reportable business segment, Electric Utilities and Infrastructure. For additional information regarding this business segment, including financial information, see Note 3 to the Consolidated Financial Statements, "Business Segments."

### **DUKE ENERGY FLORIDA**

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Duke Energy Florida is a regulated public utility primarily engaged in the generation, transmission, distribution and sale of electricity in portions of Florida. Duke Energy Florida's service area covers approximately 13,000 square miles and supplies electric service to approximately 1.8 million residential, commercial and industrial customers. For information about Duke Energy Florida's generating facilities, see Item 2, "Properties." Duke Energy Florida is subject to the regulatory provisions of the FPSC, NRC and FERC.

Substantially all of Duke Energy Florida's operations are regulated and qualify for regulatory accounting. Duke Energy Florida operates one reportable business segment, Electric Utilities and Infrastructure. For additional information regarding this business segment, including financial information, see Note 3 to the Consolidated Financial Statements, "Business Segments."



## DUKE ENERGY OHIO

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Duke Energy Ohio is a regulated public utility primarily engaged in the transmission and distribution of electricity in portions of Ohio and Kentucky, in the generation and sale of electricity in portions of Kentucky and the transportation and sale of natural gas in portions of Ohio and Kentucky. Duke Energy Ohio also conducts competitive auctions for retail electricity supply in Ohio whereby recovery of the energy price is from retail customers. Operations in Kentucky are conducted through its wholly owned subsidiary, Duke Energy Kentucky, Inc. (Duke Energy Kentucky). References herein to Duke Energy Ohio include Duke Energy Ohio and its subsidiaries, unless otherwise noted. Duke Energy Ohio is subject to the regulatory provisions of the PUCO, KPSC and FERC.

Duke Energy Ohio's service area covers approximately 3,000 square miles and supplies electric service to approximately 850,000 residential, commercial and industrial customers and provides transmission and distribution services for natural gas to approximately 529,000 customers. For information about Duke Energy Ohio's generating facilities, see Item 2, "Properties."

KO Transmission, a wholly owned subsidiary of Duke Energy Ohio, is an interstate pipeline company engaged in the business of transporting natural gas and is subject to the rules and regulations of FERC. KO Transmission's 90-mile pipeline supplies natural gas to Duke Energy Ohio and interconnects with the Columbia Gulf Transmission pipeline and Tennessee Gas Pipeline. An approximately 70-mile portion of KO Transmission's pipeline facilities is co-owned by Columbia Gas Transmission Corporation.

On April 2, 2015, Duke Energy completed the sale of its nonregulated Midwest generation business, which sold power into wholesale energy markets, to a subsidiary of Dynegy. For further information about the sale of the Midwest Generation business, refer to Note 2 to the Consolidated Financial Statements, "Acquisitions and Dispositions."

Substantially all of Duke Energy Ohio's operations that remain after the sale qualify for regulatory accounting.

### Business Segments

Duke Energy Ohio has two reportable operating segments, Electric Utilities and Infrastructure and Gas Utilities and Infrastructure. For additional information on these business segments, including financial information, see Note 3 to the Consolidated Financial Statements, "Business Segments."

## DUKE ENERGY INDIANA

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Duke Energy Indiana is a regulated public utility primarily engaged in the generation, transmission, distribution and sale of electricity in portions of Indiana. Duke Energy Indiana's service area covers 23,000 square miles and supplies electric service to 820,000 residential, commercial and industrial customers. See Item 2, "Properties" for further discussion of Duke Energy Indiana's generating facilities, transmission and distribution. Duke Energy Indiana is subject to the regulatory provisions of the IURC and FERC.

Substantially all of Duke Energy Indiana's operations are regulated and qualify for regulatory accounting. Duke Energy Indiana operates one reportable business segment, Electric Utilities and Infrastructure. For additional information regarding this business segment, including financial information, see Note 3 to the Consolidated Financial Statements, "Business Segments."

## ITEM 1A. RISK FACTORS

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In addition to other disclosures within this Form 10-K, including "Management's Discussion and Analysis of Financial Condition and Results of Operations – Matters Impacting Future Results" for each registrant in Item 7, and other documents filed with the SEC from time to time, the following factors should be considered in evaluating Duke Energy and its subsidiaries. Such factors could affect actual results of operations and cause results to differ substantially from those currently expected or sought. Unless otherwise indicated, risk factors discussed below generally relate to risks associated with all of the Duke Energy Registrants. Risks identified at the Subsidiary Registrant level are generally applicable to Duke Energy.

### Business Strategy Risks

#### **Duke Energy's future results could be adversely affected if it is unable to implement its business strategy.**

Duke Energy's future results of operations depend, in significant part, on the extent to which it can implement its business strategy successfully. Duke Energy's strategy, including transforming the customer experience, modernizing the energy grid, generating cleaner energy, expansion of natural gas infrastructure and engaging employees and stakeholders to accomplish these priorities, is subject to business, economic and competitive uncertainties and contingencies, many of which are beyond its control. As a consequence, Duke Energy may not be able to fully implement or realize the anticipated results of its strategy.

## Regulatory, Legislative and Legal Risks

**The Duke Energy Registrants' regulated utility revenues, earnings and results are dependent on state legislation and regulation that affect electric generation, electric and gas transmission, distribution and related activities, which may limit their ability to recover costs.**

The Duke Energy Registrants' regulated electric and natural gas utility businesses are regulated on a cost-of-service/rate-of-return basis subject to statutes and regulatory commission rules and procedures of North Carolina, South Carolina, Florida, Ohio, Tennessee, Indiana and Kentucky. If the Duke Energy Registrants' regulated utility earnings exceed the returns established by the state utility commissions, retail electric and natural gas rates may be subject to review and possible reduction by the commissions, which may decrease the Duke Energy Registrants' future earnings. Additionally, if regulatory bodies do not allow recovery of costs incurred in providing service on a timely basis, the Duke Energy Registrants' future earnings could be negatively impacted.

If legislative and regulatory structures were to evolve in such a way that the Duke Energy Registrants' exclusive rights to serve their regulated customers were eroded, their future earnings could be negatively impacted. Federal and state regulations, laws and other efforts designed to promote and expand the use of energy efficiency measures and distributed generation technologies, such as private solar and battery storage, in Duke Energy service territories could result in customers leaving the electric distribution system and an increase in customer net energy metering, which allows customers with private solar to receive bill credits for surplus power at the full retail amount. Over time, customer adoption of these technologies and increased energy efficiency could result in excess generation resources as well as stranded costs if Duke Energy is not able to fully recover the costs and investment in generation.

State regulators have approved various mechanisms to stabilize natural gas utility margins, including margin decoupling in North Carolina, rate stabilization in South Carolina and uncollectible natural gas cost recovery in all states. State regulators have approved other margin stabilizing mechanisms that, for example, allow for recovery of margin losses associated with negotiated transactions designed to retain large volume customers that could use alternative fuels or that may otherwise directly access natural gas supply through their own connection to an interstate pipeline. If regulators decided to discontinue the Duke Energy Registrants' use of tariff mechanisms, it would negatively impact results of operations, financial condition and cash flows. In addition, regulatory authorities also review whether natural gas costs are prudent and can disallow the recovery of a portion of natural gas costs that the Duke Energy Registrants seek to recover from customers, which would adversely impact earnings.

**The electric rates that the Duke Energy Registrants' regulated utility businesses are allowed to charge are established by state utility commissions in rate case proceedings, which may limit their ability to recover costs and earn an appropriate return on investment.**

The rates that the Duke Energy Registrants' regulated utility business are allowed to charge significantly influences the results of operations, financial position and liquidity of the Duke Energy Registrants. The regulation of the rates that the regulated utility businesses charge customers is determined, in large part, by state utility commissions in rate case proceedings. Negative decisions made by these regulators could have a material adverse effect on the Duke Energy Registrants' results of operations, financial position or liquidity and affect the ability of the Duke Energy Registrants to recover costs and an appropriate return on the significant infrastructure investments being made. Duke Energy cannot predict the outcome of these rate case proceedings.

**Deregulation or restructuring in the electric industry may result in increased competition and unrecovered costs that could adversely affect the Duke Energy Registrants' financial position, results of operations or cash flows and their utility businesses.**

Increased competition resulting from deregulation or restructuring legislation could have a significant adverse impact on the Duke Energy Registrants' results of operations, financial position or cash flows. Retail competition and the unbundling of regulated electric service could have a significant adverse financial impact on the Duke Energy Registrants due to an impairment of assets, a loss of retail customers, lower profit margins or increased costs of capital. The Duke Energy Registrants cannot predict the extent and timing of entry by additional competitors into the electric markets. The Duke Energy Registrants cannot predict if or when they will be subject to changes in legislation or regulation, nor can they predict the impact of these changes on their financial position, results of operations or cash flows.

**The Duke Energy Registrants' businesses are subject to extensive federal regulation and a wide variety of laws and governmental policies, including taxes, that may change over time in ways that affect operations and costs.**

Duke Energy is subject to regulations under a wide variety of U.S. federal and state regulations and policies. There can be no assurance that laws, regulations and policies will not be changed in ways that result in material modifications of business models and objectives or affect returns on investment by restricting activities and products, subjecting them to escalating costs or prohibiting them outright. In particular, a substantial revision to the U.S. tax code, such as changes to the corporate tax rate or a material change in the deductibility of interest could significantly change Duke Energy's effective tax rate, the cost of capital and have an impact on results of operations and cash flows.

The Duke Energy Registrants are subject to regulation by FERC, NRC, EPA and various other federal agencies as well as the North American Electric Reliability Corporation. Regulation affects almost every aspect of the Duke Energy Registrants' businesses, including, among other things, their ability to: take fundamental business management actions; determine the terms and rates of transmission and distribution services; make acquisitions; issue equity or debt securities; engage in transactions with other subsidiaries and affiliates; and pay dividends upstream to the Duke Energy Registrants. Changes to federal regulations are continuous and ongoing. The Duke Energy Registrants cannot predict the future course of regulatory changes or the ultimate effect those changes will have on their businesses. However, changes in regulation can cause delays in or affect business planning and transactions and can substantially increase the Duke Energy Registrants' costs.

**The Duke Energy Registrants are subject to numerous environmental laws and regulations requiring significant capital expenditures that can increase the cost of operations, and which may impact or limit business plans, or cause exposure to environmental liabilities.**

The Duke Energy Registrants are subject to numerous environmental laws and regulations affecting many aspects of their present and future operations, including CCRs, air emissions, water quality, wastewater discharges, solid waste and hazardous waste. These laws and regulations can result in increased capital, operating and other costs. These laws and regulations generally require the Duke Energy Registrants to obtain and comply with a wide variety of environmental licenses, permits, inspections and other approvals. Compliance with environmental laws and regulations can require significant expenditures, including expenditures for cleanup costs and damages arising from contaminated properties. Failure to comply with environmental regulations may result in the imposition of fines, penalties and injunctive measures affecting operating assets. The steps the Duke Energy Registrants could be required to take to ensure their facilities are in compliance could be prohibitively expensive. As a result, the Duke Energy Registrants may be required to shut down or alter the operation of their facilities, which may cause the Duke Energy Registrants to incur losses. Further, the Duke Energy Registrants may not be successful in recovering capital and operating costs incurred to comply with new environmental regulations through existing regulatory rate structures and their contracts with customers. Also, the Duke Energy Registrants may not be able to obtain or maintain from time to time all required environmental regulatory approvals for their operating assets or development projects. Delays in obtaining any required environmental regulatory approvals, failure to obtain and comply with them or changes in environmental laws or regulations to more stringent compliance levels could result in additional costs of operation for existing facilities or development of new facilities being prevented, delayed or subject to additional costs. Although it is not expected that the costs to comply with current environmental regulations will have a material adverse effect on the Duke Energy Registrants' financial position, results of operations or cash flows due to regulatory cost recovery, the Duke Energy Registrants are at risk that the costs of complying with environmental regulations in the future will have such an effect.

The EPA has recently enacted or proposed new federal regulations governing the management of cooling water intake structures, wastewater and CO<sub>2</sub> emissions. These regulations may require the Duke Energy Registrants to make additional capital expenditures and increase operating and maintenance costs.

**The Duke Energy Registrants' operations, capital expenditures and financial results may be affected by regulatory changes related to the impacts of global climate change.**

There is continued concern, both nationally and internationally, about climate change. Although there is no federal climate change legislation, in 2016, the United States signed the Paris Agreement on climate change by which the signatories agreed to pursue efforts to limit the increase in the global average temperature by less than 2 degrees Celsius above pre-industrial levels. If the United States honors the Paris accord, the EPA may adopt and implement regulations to further restrict emissions of GHGs. Increased regulation of GHG emissions could impose significant additional costs on the Duke Energy Registrants' operations, their suppliers and customers. Regulatory changes could also result in generation facilities to be retired early and result in stranded costs if Duke Energy is not able to fully recover the costs and investment in generation. At this time, the effect that climate change regulation may have in the future on Duke Energy's business, financial condition or results of operations is not able to be predicted.

**Operational Risks**

**The Duke Energy Registrants' results of operations may be negatively affected by overall market, economic and other conditions that are beyond their control.**

Sustained downturns or sluggishness in the economy generally affect the markets in which the Duke Energy Registrants operate and negatively influence operations. Declines in demand for electricity or natural gas as a result of economic downturns in the Duke Energy Registrants' regulated service territories will reduce overall sales and lessen cash flows, especially as industrial customers reduce production and, therefore, consumption of electricity and the use of natural gas. Although the Duke Energy Registrants' regulated electric and natural gas businesses are subject to regulated allowable rates of return and recovery of certain costs, such as fuel and purchased gas costs, under periodic adjustment clauses, overall declines in electricity or natural gas sold as a result of economic downturn or recession could reduce revenues and cash flows, thereby diminishing results of operations. Additionally, prolonged economic downturns that negatively impact the Duke Energy Registrants' results of operations and cash flows could result in future material impairment charges to write-down the carrying value of certain assets, including goodwill, to their respective fair values.

The Duke Energy Registrants also sell electricity into the spot market or other competitive power markets on a contractual basis. With respect to such transactions, the Duke Energy Registrants are not guaranteed any rate of return on their capital investments through mandated rates, and revenues and results of operations are likely to depend, in large part, upon prevailing market prices. These market prices may fluctuate substantially over relatively short periods of time and could reduce the Duke Energy Registrants' revenues and margins, thereby diminishing results of operations.

Factors that could impact sales volumes, generation of electricity and market prices at which the Duke Energy Registrants are able to sell electricity and natural gas are as follows:

- weather conditions, including abnormally mild winter or summer weather that cause lower energy or natural gas usage for heating or cooling purposes, as applicable, and periods of low rainfall that decrease the ability to operate facilities in an economical manner;
- supply of and demand for energy commodities;
- transmission or transportation constraints or inefficiencies that impact nonregulated energy operations;
- availability of competitively priced alternative energy sources, which are preferred by some customers over electricity produced from coal, nuclear or natural gas plants, and customer usage of energy-efficient equipment that reduces energy demand;
- natural gas, crude oil and refined products production levels and prices;

- ability to procure satisfactory levels of inventory, such as coal, natural gas and uranium; and
- capacity and transmission service into, or out of, the Duke Energy Registrants' markets.

**Duke Energy's acquisition of Piedmont may not achieve its intended results.**

Duke Energy and Piedmont completed the merger agreement with the expectation that the transaction will result in various benefits, including, among other things, being accretive to earnings and foundational to establishing a broader natural gas infrastructure business within Duke Energy. Achieving the anticipated benefits of the transaction is subject to a number of uncertainties, including whether the business of Piedmont is integrated in an efficient and effective manner. Failure to achieve these anticipated benefits could result in increased costs, decreases in the amount of expected revenues generated by the combined company and diversion of management's time and energy, all of which could have an adverse effect on the combined company's financial position, results of operations or cash flows.

**Natural disasters or operational accidents may adversely affect the Duke Energy Registrants' operating results.**

Natural disasters (such as electromagnetic events or the 2011 earthquake and tsunami in Japan) or other operational accidents within the company or industry (such as the San Bruno, California natural gas transmission pipeline failure) could have direct significant impacts on the Duke Energy Registrants as well as on key contractors and suppliers. Such events could indirectly impact the Duke Energy Registrants through changes to policies, laws and regulations whose compliance costs have a significant impact on the Duke Energy Registrants' financial position, results of operations and cash flows.

**The reputation and financial condition of the Duke Energy Registrants could be negatively impacted due to their obligations to comply with federal and state regulations, laws, and other legal requirements that govern the operations, assessments, storage, closure, remediation, disposal and monitoring relating to CCR, the high costs and new rate impacts associated with implementing these new CCR-related requirements and the strategies and methods necessary to implement these requirements in compliance with these legal obligations.**

As a result of electricity produced for decades at coal-fired power plants, the Duke Energy Registrants manage large amounts of CCR that are primarily stored in dry storage within landfills or combined with water in other surface impoundments, all in compliance with applicable regulatory requirements. However, the potential exists for another CCR-related incident, such as the one that occurred during the 2014 Dan River Steam Station ash basin release, that could raise environmental or general public health concerns. Such a CCR-related incident could have a material adverse impact on the reputation and financial condition of the Duke Energy Registrants.

During 2015, EPA regulations were enacted related to the management of CCR from power plants. These regulations classify CCR as nonhazardous waste under the RCRA and apply to electric generating sites with new and existing landfills, new and existing surface impoundments, structural fills and CCR piles, and establishes requirements regarding landfill design, structural integrity design and assessment criteria for surface impoundments, groundwater monitoring, protection and remedial procedures and other operational and reporting procedures for the disposal and management of CCR. In addition to the federal regulations, CCR landfills and surface impoundments will continue to be independently regulated by existing state laws, regulations and permits, as well as additional legal requirements that may be imposed in the future. These federal and state laws, regulations and other legal requirements may require or result in additional expenditures, increased operating and maintenance costs and/or result in closure of certain power generating facilities, which could affect the financial position, results of operations and cash flows of the Duke Energy Registrants. The Duke Energy Registrants intend to seek full cost recovery for expenditures through the normal ratemaking process with state and federal utility commissions, who permit recovery in rates of necessary and prudently incurred costs associated with the Duke Energy Registrants' regulated operations, and through other wholesale contracts with terms that contemplate recovery of such costs, although there is no guarantee of full cost recovery. In addition, the timing for recovery of such costs could have a material adverse impact on Duke Energy's cash flows.

The Duke Energy Registrants have recognized significant asset retirement obligations related to these CCR-related requirements. Closure activities began in 2015 at the four sites specified as high priority by the Coal Ash Act and at the W.S. Lee Steam Station site in South Carolina in connection with other legal requirements. Excavation at these sites involves movement of large amounts of CCR materials to off-site locations for use as structural fill, to appropriate engineered off-site or onsite lined landfills or conversion of the ash for beneficial use. At other sites, preliminary planning and closure methods have been studied and factored into the estimated retirement and management costs. The Coal Ash Act requires CCR surface impoundments in North Carolina to be closed, with the closure method based on a risk ranking classification determined by state regulators. As the closure and CCR management work progresses and final closure plans and corrective action measures are developed and approved at each site, the scope and complexity of work and the amount of CCR material could be greater than estimates and could, therefore, materially increase compliance expenditures and rate impacts.

**The Duke Energy Registrants' financial position, results of operations and cash flows may be negatively affected by a lack of growth or slower growth in the number of customers, or decline in customer demand or number of customers.**

Growth in customer accounts and growth of customer usage each directly influence demand for electricity and natural gas and the need for additional power generation and delivery facilities. Customer growth and customer usage are affected by a number of factors outside the control of the Duke Energy Registrants, such as mandated energy efficiency measures, demand-side management goals, distributed generation resources and economic and demographic conditions, such as population changes, job and income growth, housing starts, new business formation and the overall level of economic activity.

Certain regulatory and legislative bodies have introduced or are considering requirements and/or incentives to reduce energy consumption by certain dates. Additionally, technological advances driven by federal laws mandating new levels of energy efficiency in end-use electric devices or other improvements in or applications of technology could lead to declines in per capita energy consumption.

Advances in distributed generation technologies that produce power, including fuel cells, micro-turbines, wind turbines and solar cells, may reduce the cost of alternative methods of producing power to a level competitive with central power station electric production utilized by the Duke Energy Registrants.

Some or all of these factors could result in a lack of growth or decline in customer demand for electricity or number of customers and may cause the failure of the Duke Energy Registrants to fully realize anticipated benefits from significant capital investments and expenditures which could have a material adverse effect on their financial position, results of operations and cash flows.

Furthermore, the Duke Energy Registrants currently have energy efficiency riders in place to recover the cost of energy efficiency programs in North Carolina, South Carolina, Florida, Ohio and Kentucky. Should the Duke Energy Registrants be required to invest in conservation measures that result in reduced sales from effective conservation, regulatory lag in adjusting rates for the impact of these measures could have a negative financial impact.

**The Duke Energy Registrants' operating results may fluctuate on a seasonal and quarterly basis and can be negatively affected by changes in weather conditions and severe weather, including extreme weather conditions associated with climate change.**

Electric power generation and natural gas distribution are generally seasonal businesses. In most parts of the U.S., the demand for power peaks during the warmer summer months, with market prices also typically peaking at that time. In other areas, demand for power peaks during the winter. Demand for natural gas peaks during the winter months. Further, extreme weather conditions such as heat waves, winter storms and severe weather associated with climate change could cause these seasonal fluctuations to be more pronounced. As a result, the overall operating results of the Duke Energy Registrants' businesses may fluctuate substantially on a seasonal and quarterly basis and thus make period-to-period comparison less relevant.

Sustained severe drought conditions could impact generation by hydroelectric plants, as well as fossil and nuclear plant operations, as these facilities use water for cooling purposes and for the operation of environmental compliance equipment. Furthermore, destruction caused by severe weather events, such as hurricanes, tornadoes, severe thunderstorms, snow and ice storms, can result in lost operating revenues due to outages, property damage, including downed transmission and distribution lines, and additional and unexpected expenses to mitigate storm damage. The cost of storm restoration efforts may not be fully recoverable through the regulatory process.

**The Duke Energy Registrants' sales may decrease if they are unable to gain adequate, reliable and affordable access to transmission assets.**

The Duke Energy Registrants depend on transmission and distribution facilities owned and operated by utilities and other energy companies to deliver electricity sold to the wholesale market. FERC's power transmission regulations require wholesale electric transmission services to be offered on an open-access, non-discriminatory basis. If transmission is disrupted, or if transmission capacity is inadequate, the Duke Energy Registrants' ability to sell and deliver products may be hindered.

The different regional power markets have changing regulatory structures, which could affect growth and performance in these regions. In addition, the ISOs who oversee the transmission systems in regional power markets have imposed in the past, and may impose in the future, price limitations and other mechanisms to address volatility in the power markets. These types of price limitations and other mechanisms may adversely impact the profitability of the Duke Energy Registrants' wholesale power marketing business.

**Duke Energy may be unable to complete necessary or desirable pipeline expansion or infrastructure development or maintenance projects, which may delay or prevent the Duke Energy Registrants from serving natural gas customers or expanding the natural gas business.**

In order to serve current or new natural gas customers or expand the service to existing customers, the Duke Energy Registrants need to maintain, expand or upgrade distribution, transmission and/or storage infrastructure, including laying new pipeline and building compressor stations. Various factors, such as the inability to obtain required approval from local, state and/or federal regulatory and governmental bodies, public opposition to projects, inability to obtain adequate financing, competition for labor and materials, construction delays, cost overruns and the inability to negotiate acceptable agreements relating to rights of way, construction or other material development components, may prevent or delay the completion of projects or increase costs. As a result, the Duke Energy Registrants may be unable to adequately serve existing natural gas customers or support customer growth or could incur higher than anticipated costs, which could have a negative financial impact.

**The availability of adequate interstate pipeline transportation capacity and natural gas supply may decrease.**

The Duke Energy Registrants purchase almost all of their natural gas supply from interstate sources that must be transported to the applicable service territories. Interstate pipeline companies transport the natural gas to the Duke Energy Registrants' systems under firm service agreements that are designed to meet the requirements of their core markets. A significant disruption to interstate pipelines capacity or reduction in natural gas supply due to events including, but not limited to, operational failures or disruptions, hurricanes, tornadoes, floods, freeze off of natural gas wells, terrorist or cyberattacks or other acts of war or legislative or regulatory actions or requirements, including remediation related to integrity inspections, could reduce the normal interstate supply of natural gas and thereby reduce earnings. Moreover, if additional natural gas infrastructure, including, but not limited to, exploration and drilling rigs and platforms, processing and gathering systems, off-shore pipelines, interstate pipelines and storage, cannot be built at a pace that meets demand, then growth opportunities could be limited and earnings negatively impacted.

**Fluctuations in commodity prices or availability may adversely affect various aspects of the Duke Energy Registrants' operations as well as their financial condition, results of operations and cash flows.**

The Duke Energy Registrants are exposed to the effects of market fluctuations in the price of natural gas, coal, fuel oil, nuclear fuel, electricity and other energy-related commodities as a result of their ownership of energy-related assets. Fuel costs are recovered primarily through cost-recovery clauses, subject to the approval of state utility commissions.

Additionally, the Duke Energy Registrants are exposed to risk that counterparties will not be able to fulfill their obligations. Disruption in the delivery of fuel, including disruptions as a result of, among other things, transportation delays, weather, labor relations, force majeure events or environmental regulations affecting any of these fuel suppliers, could limit the Duke Energy Registrants' ability to operate their facilities. Should counterparties fail to perform, the Duke Energy Registrants might be forced to replace the underlying commitment at prevailing market prices possibly resulting in losses in addition to the amounts, if any, already paid to the counterparties.

Certain of the Duke Energy Registrants' hedge agreements may result in the receipt of, or posting of, derivative collateral with counterparties, depending on the daily derivative position. Fluctuations in commodity prices that lead to the return of collateral received and/or the posting of collateral with counterparties negatively impact liquidity. Downgrades in the Duke Energy Registrants' credit ratings could lead to additional collateral posting requirements. The Duke Energy Registrants continually monitor derivative positions in relation to market price activity.

**Potential terrorist activities, or military or other actions, could adversely affect the Duke Energy Registrants' businesses.**

The continued threat of terrorism and the impact of retaliatory military and other action by the U.S. and its allies may lead to increased political, economic and financial market instability and volatility in prices for natural gas and oil, which may have material adverse effects in ways the Duke Energy Registrants cannot predict at this time. In addition, future acts of terrorism and possible reprisals as a consequence of action by the U.S. and its allies could be directed against companies operating in the U.S. Information technology systems, transmission and distribution and generation facilities such as nuclear plants could be potential targets of terrorist activities or harmful activities by individuals or groups. The potential for terrorism has subjected the Duke Energy Registrants' operations to increased risks and could have a material adverse effect on their businesses. In particular, the Duke Energy Registrants may experience increased capital and operating costs to implement increased security for their information technology systems, transmission and distribution and generation facilities, including nuclear power plants under the NRC's design basis threat requirements. These increased costs could include additional physical plant security and security personnel or additional capability following a terrorist incident.

**Cyberattacks and data security breaches could adversely affect the Duke Energy Registrants' businesses.**

Information security risks have generally increased in recent years as a result of the proliferation of new technologies and the increased sophistication and frequency of cyberattacks and data security breaches. The utility industry requires the continued operation of sophisticated information technology systems and network infrastructure, which are part of an interconnected regional grid. Additionally, connectivity to the internet continues to increase through smart grid and other initiatives. Because of the critical nature of the infrastructure, increased connectivity to the internet and technology systems' inherent vulnerability to disability or failures due to hacking, viruses, acts of war or terrorism or other types of data security breaches, the Duke Energy Registrants face a heightened risk of cyberattack. In the event of such an attack, the Duke Energy Registrants could (i) have business operations disrupted, property damaged, customer information stolen and other private information accessed, (ii) experience substantial loss of revenues, repair and restoration costs, implementation costs for additional security measures to avert future cyberattacks and other financial loss and (iii) be subject to increased regulation, litigation and reputational damage.

**Failure to attract and retain an appropriately qualified workforce could unfavorably impact the Duke Energy Registrants' results of operations.**

Certain events, such as an aging workforce, mismatch of skill set or complement to future needs, or unavailability of contract resources may lead to operating challenges and increased costs. The challenges include lack of resources, loss of knowledge base and the lengthy time required for skill development. In this case, costs, including costs for contractors to replace employees, productivity costs and safety costs, may increase. Failure to hire and adequately train replacement employees, including the transfer of significant internal historical knowledge and expertise to new employees, or future availability and cost of contract labor may adversely affect the ability to manage and operate the business, especially considering the workforce needs associated with nuclear generation facilities and new skills required to operate a modernized, technology-enabled power grid. If the Duke Energy Registrants are unable to successfully attract and retain an appropriately qualified workforce, their financial position, results of operations or cash flows could be negatively affected.

**The costs of retiring Duke Energy Florida's Crystal River Unit 3 could prove to be more extensive than is currently identified.**

Costs to retire and decommission the plant could exceed estimates and, if not recoverable through the regulatory process, could adversely affect Duke Energy's, Progress Energy's and Duke Energy Florida's financial condition, results of operations and cash flows.

**Duke Energy Ohio's and Duke Energy Indiana's membership in an RTO presents risks that could have a material adverse effect on their results of operations, financial condition and cash flows.**

The rules governing the various regional power markets may change, which could affect Duke Energy Ohio's and Duke Energy Indiana's costs and/or revenues. To the degree Duke Energy Ohio and Duke Energy Indiana incur significant additional fees and increased costs to participate in an RTO, their results of operations may be impacted. Duke Energy Ohio and Duke Energy Indiana may be allocated a portion of the cost of transmission facilities built by others due to changes in RTO transmission rate design. Duke Energy Ohio and Duke Energy Indiana may be required to expand their transmission system according to decisions made by an RTO rather than their own internal planning process. While RTO transmission rates were initially designed to be revenue neutral, various proposals and proceedings currently taking place by the FERC may cause transmission rates to change from time to time. In addition, RTOs have been developing rules associated with the allocation and methodology of assigning costs associated with improved transmission reliability, reduced transmission congestion and firm transmission rights that may have a financial impact on Duke Energy Ohio and Duke Energy Indiana.

As members of an RTO, Duke Energy Ohio and Duke Energy Indiana are subject to certain additional risks, including those associated with the allocation among RTO members, of losses caused by unreimbursed defaults of other participants in the RTO markets and those associated with complaint cases filed against an RTO that may seek refunds of revenues previously earned by RTO members.

## Nuclear Generation Risks

### **Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida may incur substantial costs and liabilities due to their ownership and operation of nuclear generating facilities.**

Ownership interest in and operation of nuclear stations by Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida subject them to various risks. These risks include, among other things: the potential harmful effects on the environment and human health resulting from the current or past operation of nuclear facilities and the storage, handling and disposal of radioactive materials; limitations on the amounts and types of insurance commercially available to cover losses that might arise in connection with nuclear operations; and uncertainties with respect to the technological and financial aspects of decommissioning nuclear plants at the end of their licensed lives.

Ownership and operation of nuclear generation facilities requires compliance with licensing and safety-related requirements imposed by the NRC. In the event of non-compliance the NRC may increase regulatory oversight, impose fines or shut down a unit depending upon its assessment of the severity of the situation. Revised security and safety requirements promulgated by the NRC, which could be prompted by, among other things, events within or outside of the control of Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida, such as a serious nuclear incident at a facility owned by a third-party, could necessitate substantial capital and other expenditures, as well as assessments to cover third-party losses. In addition, if a serious nuclear incident were to occur, it could have a material adverse effect on the results of operations, financial condition, cash flows and reputation of the Duke Energy Registrants.

## Liquidity, Capital Requirements and Common Stock Risks

### **The Duke Energy Registrants rely on access to short-term borrowings and longer-term capital markets to finance their capital requirements and support their liquidity needs. Access to those markets can be adversely affected by a number of conditions, many of which are beyond the Duke Energy Registrants' control.**

The Duke Energy Registrants' businesses are significantly financed through issuances of debt. The maturity and repayment profile of debt used to finance investments often does not correlate to cash flows from their assets. Accordingly, as a source of liquidity for capital requirements not satisfied by the cash flows from their operations and to fund investments originally financed through debt instruments with disparate maturities, the Duke Energy Registrants rely on access to short-term money markets as well as longer-term capital markets. The Subsidiary Registrants also rely on access to short-term intercompany borrowings. If the Duke Energy Registrants are not able to access capital at competitive rates or at all, the ability to finance their operations and implement their strategy and business plan as scheduled could be adversely affected. An inability to access capital may limit the Duke Energy Registrants' ability to pursue improvements or acquisitions that they may otherwise rely on for future growth.

Market disruptions may increase the cost of borrowing or adversely affect the ability to access one or more financial markets. Such disruptions could include: economic downturns, the bankruptcy of an unrelated energy company, unfavorable capital market conditions, market prices for electricity and gas, actual or threatened terrorist attacks, or the overall health of the energy industry. The availability of credit under Duke Energy's Master Credit Facility depends upon the ability of the banks providing commitments under the facility to provide funds when their obligations to do so arise. Systematic risk of the banking system and the financial markets could prevent a bank from meeting its obligations under the facility agreement.

Duke Energy maintains a revolving credit facility to provide backup for its commercial paper program and letters of credit to support variable rate demand tax-exempt bonds that may be put to the Duke Energy Registrant issuer at the option of the holder. The facility includes borrowing sublimits for the Duke Energy Registrants, each of whom is a party to the credit facility, and financial covenants that limit the amount of debt that can be outstanding as a percentage of the total capital for the specific entity. Failure to maintain these covenants at a particular entity could preclude Duke Energy from issuing commercial paper or the Duke Energy Registrants from issuing letters of credit or borrowing under the Master Credit Facility.

### **The Duke Energy Registrants must meet credit quality standards and there is no assurance they will maintain investment grade credit ratings. If the Duke Energy Registrants are unable to maintain investment grade credit ratings, they would be required under credit agreements to provide collateral in the form of letters of credit or cash, which may materially adversely affect their liquidity.**

Each of the Duke Energy Registrants' senior long-term debt issuances is currently rated investment grade by various rating agencies. The Duke Energy Registrants cannot ensure their senior long-term debt will be rated investment grade in the future.

If the rating agencies were to rate the Duke Energy Registrants below investment grade, borrowing costs would increase, perhaps significantly. In addition, the potential pool of investors and funding sources would likely decrease. Further, if the short-term debt rating were to fall, access to the commercial paper market could be significantly limited.

A downgrade below investment grade could also require the posting of additional collateral in the form of letters of credit or cash under various credit, commodity and capacity agreements and trigger termination clauses in some interest rate derivative agreements, which would require cash payments. All of these events would likely reduce the Duke Energy Registrants' liquidity and profitability and could have a material effect on their financial position, results of operations or cash flows.

### **Non-compliance with debt covenants or conditions could adversely affect the Duke Energy Registrants' ability to execute future borrowings.**

The Duke Energy Registrants' debt and credit agreements contain various financial and other covenants. Failure to meet those covenants beyond applicable grace periods could result in accelerated due dates and/or termination of the agreements.

**Market performance and other changes may decrease the value of the NDTF investments of Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida, which then could require significant additional funding.**

Ownership and operation of nuclear generation facilities also requires the maintenance of funded trusts that are intended to pay for the decommissioning costs of the respective nuclear power plants. The performance of the capital markets affects the values of the assets held in trust to satisfy these future obligations. Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida have significant obligations in this area and hold significant assets in these trusts. These assets are subject to market fluctuations and will yield uncertain returns, which may fall below projected rates of return. Although a number of factors impact funding requirements, a decline in the market value of the assets may increase the funding requirements of the obligations for decommissioning nuclear plants. If Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida are unable to successfully manage their NDTF assets, their financial condition, results of operations and cash flows could be negatively affected.

**Poor investment performance of the Duke Energy pension plan holdings and other factors impacting pension plan costs could unfavorably impact the Duke Energy Registrants' liquidity and results of operations.**

The costs of providing non-contributory defined benefit pension plans are dependent upon a number of factors, such as the rates of return on plan assets, discount rates, the level of interest rates used to measure the required minimum funding levels of the plans, future government regulation and required or voluntary contributions made to the plans. The Subsidiary Registrants are allocated their proportionate share of the cost and obligations related to these plans. Without sustained growth in the pension investments over time to increase the value of plan assets and, depending upon the other factors impacting costs as listed above, Duke Energy could be required to fund its plans with significant amounts of cash. Such cash funding obligations, and the Subsidiary Registrants' proportionate share of such cash funding obligations, could have a material impact on the Duke Energy Registrants' financial position, results of operations or cash flows.

**ITEM 1B. UNRESOLVED STAFF COMMENTS**

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None.



## ITEM 2. PROPERTIES

**ELECTRIC UTILITIES AND INFRASTRUCTURE**

The following table provides information related to the Electric Utilities and Infrastructure's generation stations as of December 31, 2016. The MW displayed in the table below are based on summer capacity. Ownership interest in all facilities is 100 percent unless otherwise indicated.

Facility	Plant Type	Primary Fuel	Location	Owned MW Capacity
<b>Duke Energy Carolinas</b>				
Oconee	Nuclear	Uranium	SC	2,554
McGuire	Nuclear	Uranium	NC	2,316
Catawba <sup>(a)</sup>	Nuclear	Uranium	SC	441
Belews Creek	Fossil	Coal	NC	2,220
Marshall	Fossil	Coal	NC	2,078
J.E. Rogers	Fossil	Coal	NC	1,396
Lincoln Combustion Turbine (CT)	Fossil	Gas/Oil	NC	1,267
Allen	Fossil	Coal	NC	1,127
Rockingham CT	Fossil	Gas/Oil	NC	825
Buck Combined Cycle (CC)	Fossil	Gas	NC	668
Dan River CC	Fossil	Gas	NC	651
Mill Creek CT	Fossil	Gas/Oil	SC	596
W.S. Lee	Fossil	Gas	SC	170
W.S. Lee CT	Fossil	Gas/Oil	SC	82
Bad Creek	Hydro	Water	SC	1,360
Jocassee	Hydro	Water	SC	780
Cowans Ford	Hydro	Water	NC	325
Keowee	Hydro	Water	SC	152
Other small facilities (25 plants)	Hydro	Water	NC/SC	666
Distributed generation	Renewable	Solar	NC	11
<b>Total Duke Energy Carolinas</b>				<b>19,685</b>

Facility	Plant Type	Primary Fuel	Location	Owned MW Capacity
<b>Duke Energy Progress</b>				
Brunswick	Nuclear	Uranium	NC	1,870
Harris	Nuclear	Uranium	NC	928
Robinson	Nuclear	Uranium	SC	741
Roxboro	Fossil	Coal	NC	2,439
Smith CC	Fossil	Gas/Oil	NC	1,088
H.F. Lee CC	Fossil	Gas/Oil	NC	910
Wayne County CT	Fossil	Gas/Oil	NC	863
Smith CT	Fossil	Gas/Oil	NC	780
Darlington CT	Fossil	Gas/Oil	SC	735
Mayo	Fossil	Coal	NC	727
L.V. Sutton CC	Fossil	Gas/Oil	NC	622
Asheville	Fossil	Coal	NC	378
Asheville CT	Fossil	Gas/Oil	NC	324
Weatherspoon CT	Fossil	Gas/Oil	NC	128
L.V. Sutton CT	Fossil	Gas/Oil	NC	61
Blewett CT	Fossil	Oil	NC	52
Walters	Hydro	Water	NC	112
Other small facilities (3 plants)	Hydro	Water	NC	115
Distributed generation	Renewable	Solar	NC	62
<b>Total Duke Energy Progress</b>				<b>12,935</b>

Facility	Plant Type	Primary Fuel	Location	Owned MW Capacity
<b>Duke Energy Florida</b>				
Crystal River	Fossil	Coal	FL	2,291
Hines CC	Fossil	Gas/Oil	FL	1,912
Bartow CC	Fossil	Gas/Oil	FL	1,105
Anclote	Fossil	Gas	FL	1,041
Intercession City CT	Fossil	Gas/Oil	FL	984
DeBary CT	Fossil	Gas/Oil	FL	583
Tiger Bay CC	Fossil	Gas/Oil	FL	205
Bartow CT	Fossil	Gas/Oil	FL	175
Bayboro CT	Fossil	Oil	FL	174
Suwannee River CT	Fossil	Gas	FL	155
Higgins CT	Fossil	Gas/Oil	FL	114
Avon Park CT	Fossil	Gas/Oil	FL	50
University of Florida CoGen CT	Fossil	Gas	FL	46
Distributed generation	Renewable	Solar	FL	4
<b>Total Duke Energy Florida</b>				<b>8,839</b>

Facility	Plant Type	Primary Fuel	Location	Owned MW Capacity
<b>Duke Energy Ohio</b>				
East Bend	Fossil	Coal	KY	600
Woodsdale CT	Fossil	Gas/Propane	OH	462
<b>Total Duke Energy Ohio</b>				<b>1,062</b>

Facility	Plant Type	Primary Fuel	Location	Owned MW Capacity
<b>Duke Energy Indiana</b>				
Gibson <sup>(b)</sup>	Fossil	Coal	IN	2,822
Cayuga <sup>(c)</sup>	Fossil	Coal/Oil	IN	1,005
Edwardsport	Fossil	Coal	IN	595
Madison CT	Fossil	Gas	OH	576
Vermillion CT <sup>(d)</sup>	Fossil	Gas	IN	355
Wheatland CT	Fossil	Gas	IN	460
Noblesville CC	Fossil	Gas/Oil	IN	285
Gallagher	Fossil	Coal	IN	280
Henry County CT	Fossil	Gas/Oil	IN	129
Cayuga CT	Fossil	Gas/Oil	IN	99
Connersville CT	Fossil	Oil	IN	86
Miami Wabash CT	Fossil	Oil	IN	80
Markland	Hydro	Water	IN	45
<b>Total Duke Energy Indiana</b>				<b>6,817</b>

Totals by Type	Owned MW Capacity
<b>Total Electric Utilities</b>	<b>49,338</b>
<b>Totals By Plant Type</b>	
Nuclear	8,850
Fossil	36,856
Hydro	3,555
Renewable	77
<b>Total Electric Utilities</b>	<b>49,338</b>

## PART I

- (a) Jointly owned with North Carolina Municipal Power Agency Number 1, North Carolina Electric Membership Corporation and Piedmont Municipal Power Agency. Duke Energy Carolinas' ownership is 19.25 percent of the facility.
- (b) Duke Energy Indiana owns and operates Gibson Station Units 1 through 4 and is a joint owner of unit 5 with Wabash Valley Power Association, Inc. (WVPA) and Indiana Municipal Power Agency. Duke Energy Indiana operates unit 5 and owns 50.05 percent.
- (c) Includes Cayuga Internal Combustion.
- (d) Jointly owned with WVPA. Duke Energy Indiana's ownership is 62.5 percent of the facility.

The following table provides information related to Electric Utilities and Infrastructure's electric transmission and distribution properties as of December 31, 2016.

	Duke Energy	Duke Energy Carolinas	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
<b>Electric Transmission Lines</b>						
Miles of 500 to 525 kilovolt (kV)	1,100	600	300	200	—	—
Miles of 345 kV	1,700	—	—	—	1,000	700
Miles of 230 kV	8,500	2,700	3,400	1,700	—	700
Miles of 100 to 161 kV	12,500	6,800	2,600	1,000	700	1,400
Miles of 13 to 69 kV	8,400	3,000	—	2,300	700	2,400
Total conductor miles of electric transmission lines	32,200	13,100	6,300	5,200	2,400	5,200
<b>Electric Distribution Lines</b>						
Miles of overhead lines	172,300	66,600	45,000	24,600	13,700	22,400
Miles of underground line	96,400	37,100	24,600	20,000	5,900	8,800
Total conductor miles of electric distribution lines	268,700	103,700	69,600	44,600	19,600	31,200
Number of electric transmission and distribution substations	3,300	1,500	500	500	300	500

Substantially all of Electric Utilities and Infrastructure's electric plant in service is mortgaged under indentures relating to Duke Energy Carolinas', Duke Energy Progress', Duke Energy Florida's, Duke Energy Ohio's and Duke Energy Indiana's various series of First Mortgage Bonds.

#### GAS UTILITIES AND INFRASTRUCTURE

Gas Utilities and Infrastructure owns transmission pipelines and distribution mains that are generally underground, located near public streets and highways, or on property owned by others for which Duke Energy Ohio and Piedmont have obtained the necessary legal rights to place and operate facilities on such property located within the Gas Utilities and Infrastructure service territories. The following table provides information related to Gas Utilities and Infrastructure's gas distribution as of December 31, 2016.

	Duke Energy	Duke Energy Ohio
Miles of gas distribution and transmission pipelines	32,900	7,200
Miles of gas service lines	26,600	6,200

**COMMERCIAL RENEWABLES**

The following table provides information related to Commercial Renewables' electric generation facilities as of December 31, 2016. The MW displayed in the table below are based on summer capacity. Ownership interest in all facilities is 100 percent unless otherwise indicated.

Facility	Plant Type	Primary Fuel	Location	Owned MW
				Capacity
<b>Duke Energy Renewables – Wind</b>				
Los Vientos Windpower	Renewable	Wind	TX	912
Top of the World	Renewable	Wind	WY	200
Frontier	Renewable	Wind	OK	200
Notrees	Renewable	Wind	TX	153
Campbell Hill	Renewable	Wind	WY	99
North Allegheny	Renewable	Wind	PA	70
Laurel Hill Wind Energy	Renewable	Wind	PA	69
Ocotillo	Renewable	Wind	TX	59
Kit Carson	Renewable	Wind	CO	51
Silver Sage	Renewable	Wind	WY	42
Happy Jack	Renewable	Wind	WY	29
Shirley	Renewable	Wind	WI	20
Sweetwater IV <sup>(a)</sup>	Renewable	Wind	TX	113
Sweetwater V <sup>(a)</sup>	Renewable	Wind	TX	38
Ironwood <sup>(a)</sup>	Renewable	Wind	KS	84
Cimarron II <sup>(a)</sup>	Renewable	Wind	KS	66
Mesquite Creek <sup>(a)</sup>	Renewable	Wind	TX	106
Total Renewables – Wind				2,311
<b>Duke Energy Renewables – Solar</b>				
Conetoe II	Renewable	Solar	NC	80
Seville I & II	Renewable	Solar	CA	50
Rio Bravo I & II	Renewable	Solar	CA	40
Caprock	Renewable	Solar	NM	25
Kelford	Renewable	Solar	NC	22
Highlander	Renewable	Solar	CA	21
Dogwood	Renewable	Solar	NC	20
Halifax Airport	Renewable	Solar	NC	20
Pasquotank	Renewable	Solar	NC	20
Pumpjack	Renewable	Solar	CA	20
Wildwood	Renewable	Solar	CA	20
Shawboro	Renewable	Solar	NC	20
Longboat	Renewable	Solar	CA	20
Bagdad	Renewable	Solar	AZ	15
TX Solar	Renewable	Solar	TX	14
Creswell Allgood	Renewable	Solar	NC	14
Victory	Renewable	Solar	CO	13
Washington White Post	Renewable	Solar	NC	12
Whitakers	Renewable	Solar	NC	12
Other small solar	Renewable	Solar	Various	125
Total Renewables – Solar				583
<b>Total Commercial Renewables</b>				<b>2,894</b>

(a) Commercial Renewables owns 47 percent of Sweetwater IV and V and 50 percent of Ironwood, Cimarron II and Mesquite Creek.

**OTHER**

Duke Energy owns approximately 8 million square feet and leases 2.3 million square feet of corporate, regional and district office space spread throughout its service territories.

Duke Energy also owns a 25 percent equity interest in NMC. In 2016, NMC produced approximately 765,000 metric tons of methanol and approximately 974,000 metric tons of MTBE. Approximately 40 percent of methanol is normally used in the MTBE production.

### **ITEM 3. LEGAL PROCEEDINGS**

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For information regarding legal proceedings, including regulatory and environmental matters, see Note 4, "Regulatory Matters," and Note 5, "Commitments and Contingencies," to the Consolidated Financial Statements.

#### **MTBE Litigation**

On June 19, 2014, the Commonwealth of Pennsylvania filed suit against, among others, Duke Energy Merchants, alleging contamination of "waters of the state" by MTBE from leaking gasoline storage tanks. MTBE is a gasoline additive intended to increase the oxygen level in gasoline and make it burn cleaner. The case was moved to federal court and consolidated in an existing multidistrict litigation docket of pending MTBE cases. Discovery in this case continues.

### **ITEM 4. MINE SAFETY DISCLOSURES**

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This is not applicable for any of the Duke Energy Registrants.

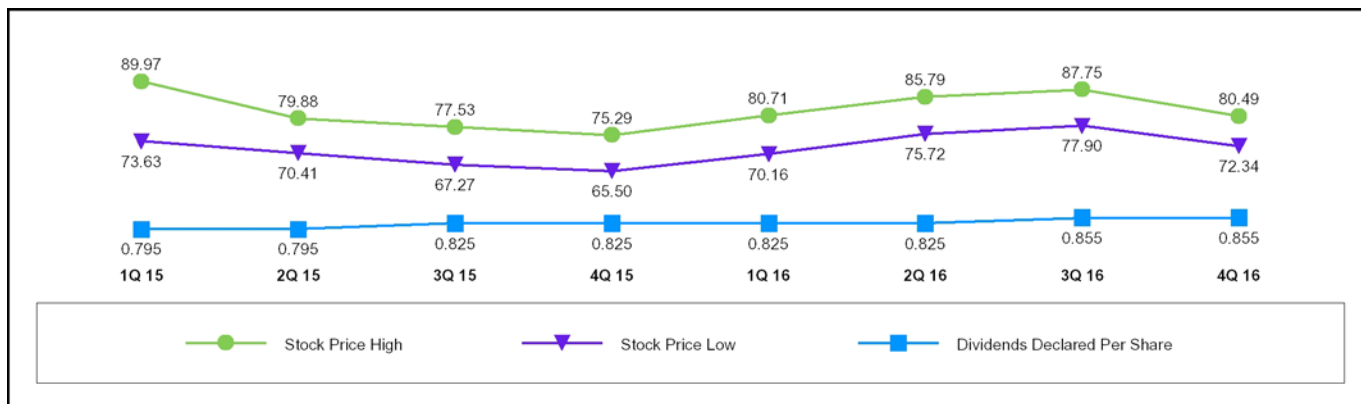
## ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

The common stock of Duke Energy is listed and traded on the New York Stock Exchange (NYSE) (ticker symbol DUK). As of January 31, 2017, there were 165,640 Duke Energy common stockholders of record.

There is no market for common stock of the Subsidiary Registrants, all of which is owned by Duke Energy.

### Common Stock Data by Quarter

The following chart provides Duke Energy common stock trading prices as reported on the NYSE and information on common stock dividends declared. Stock prices represent the intra-day high and low stock price.



Duke Energy expects to continue its policy of paying regular cash dividends; however, there is no assurance as to the amount of future dividends as they depend on future earnings, capital requirements and financial condition, and are subject to declaration by the Duke Energy Board of Directors.

Duke Energy's operating subsidiaries have certain restrictions on their ability to transfer funds in the form of dividends or loans to Duke Energy. See Note 4 to the Consolidated Financial Statements, "Regulatory Matters" for further information regarding these restrictions.

### Securities Authorized for Issuance Under Equity Compensation Plans

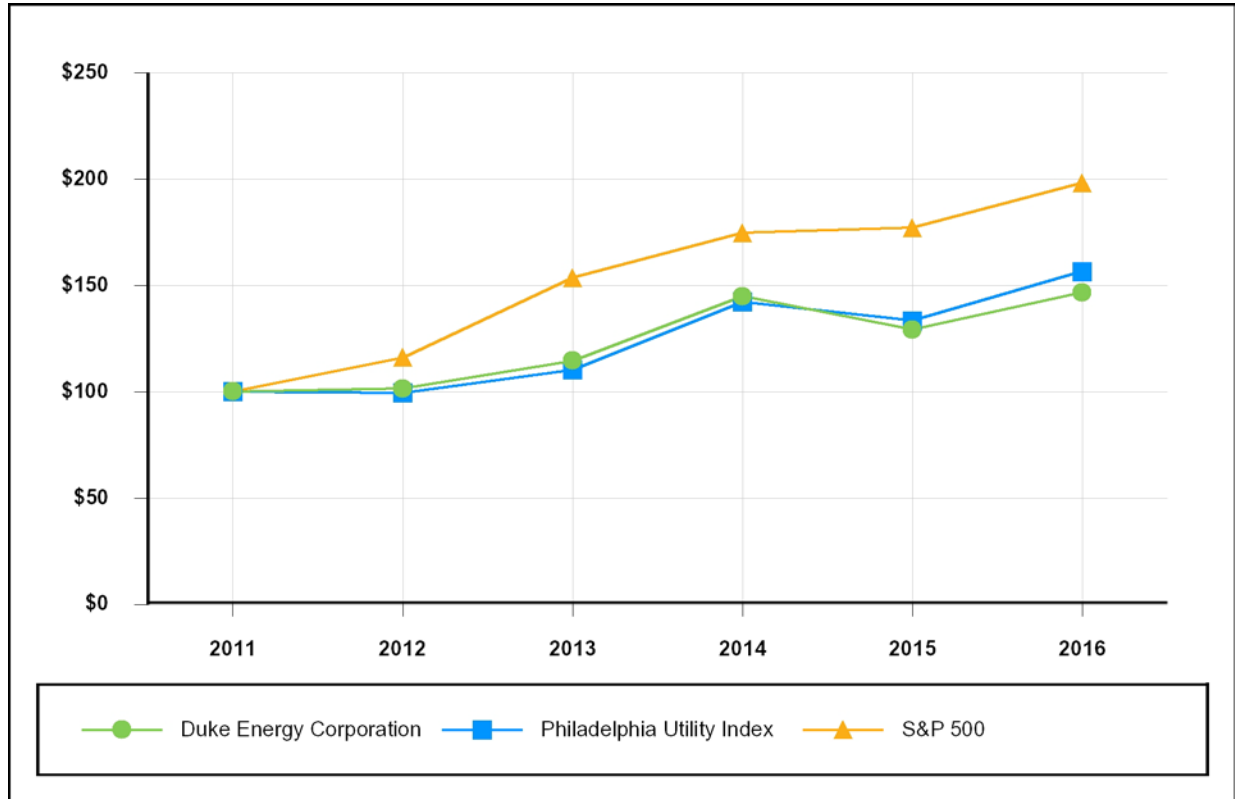
See Item 12 of Part III within this Annual Report for information regarding Securities Authorized for Issuance Under Equity Compensation Plans.

### Issuer Purchases of Equity Securities for Fourth Quarter 2016

There were no repurchases of equity securities during the fourth quarter of 2016.

**Stock Performance Graph**

The following performance graph compares the cumulative total shareholder return from Duke Energy Corporation common stock, as compared with the Standard & Poor's 500 Stock Index (S&P 500) and the Philadelphia Utility Sector Index (Philadelphia Utility Index) for the past five years. The graph assumes an initial investment of \$100 on December 31, 2011, in Duke Energy common stock, in the S&P 500 and in the Philadelphia Utility Index and that all dividends were reinvested. The stockholder return shown below for the five-year historical period may not be indicative of future performance.



**NYSE CEO Certification**

Duke Energy has filed the certification of its Chief Executive Officer and Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 as exhibits to this Annual Report on Form 10-K for the year ended December 31, 2016.

## ITEM 6. SELECTED FINANCIAL DATA

The following table provides selected financial data for the years of 2012 through 2016.

(in millions, except per-share amounts)	2016	2015 <sup>(a)</sup>	2014 <sup>(a)</sup>	2013 <sup>(a)</sup>	2012 <sup>(a)</sup>
<b>Statement of Operations<sup>(b)</sup></b>					
Total operating revenues	\$ 22,743	\$ 22,371	\$ 22,509	\$ 21,211	\$ 16,363
Operating income	5,341	5,078	4,842	4,305	2,403
Income from continuing operations	2,578	2,654	2,538	2,278	1,289
(Loss) Income from discontinued operations, net of tax	(408)	177	(649)	398	493
Net income	2,170	2,831	1,889	2,676	1,782
Net income attributable to Duke Energy Corporation	2,152	2,816	1,883	2,665	1,768
<b>Common Stock Data</b>					
Income from continuing operations attributable to Duke Energy Corporation common stockholders <sup>(c)</sup>					
Basic	\$ 3.71	\$ 3.80	\$ 3.58	\$ 3.21	\$ 2.23
Diluted	3.71	3.80	3.58	3.21	2.23
(Loss) Income from discontinued operations attributable to Duke Energy Corporation common stockholders <sup>(c)</sup>					
Basic	\$ (0.60)	\$ 0.25	\$ (0.92)	\$ 0.56	\$ 0.84
Diluted	(0.60)	0.25	(0.92)	0.55	0.84
Net income attributable to Duke Energy Corporation common stockholders <sup>(c)</sup>					
Basic	\$ 3.11	\$ 4.05	\$ 2.66	\$ 3.77	\$ 3.07
Diluted	3.11	4.05	2.66	3.76	3.07
Dividends declared per share of common stock <sup>(c)</sup>	3.36	3.24	3.15	3.09	3.03
<b>Balance Sheet</b>					
Total assets	\$ 132,761	\$ 121,156	\$ 120,557	\$ 114,779	\$ 113,856
Long-Term debt including capital leases, less current maturities	45,576	36,842	36,075	37,065	35,512

- (a) Prior year data has been recast to reflect the classification of the International Disposal Group as discontinued operations.
- (b) Significant transactions reflected in the results above include: (i) the sale of the International Disposal Group in 2016, including a loss on sale recorded within discontinued operations (see Note 2 to the Consolidated Financial Statements, "Acquisitions and Dispositions"); (ii) the acquisition of Piedmont in 2016, including losses on interest rate swaps related to the acquisition financing (see Note 2); (iii) 2014 impairment of the Midwest Disposal Group (see Note 2); (iv) 2014 incremental tax expense resulting from the decision to repatriate all cumulative historical undistributed foreign earnings (see Note 22, "Income Taxes"); (v) 2014 increase in the litigation reserve related to the criminal investigation of the Dan River coal ash release (see Note 5, "Commitments and Contingencies"); (vi) 2013 pretax charges of \$360 million related to Crystal River Unit 3 and nuclear development costs; (vii) the 2012 merger with Progress Energy; (viii) costs to achieve mergers in 2016, 2015, 2014, 2013 and 2012; and (ix) 2012 pretax impairment and other charges related to the Edwardsport Integrated Gasification Combined Cycle (IGCC) project of \$628 million.
- (c) On July 2, 2012, immediately prior to the merger with Progress Energy, Duke Energy executed a one-for-three reverse stock split. All share and earnings per share amounts are presented as if the one-for-three reverse stock split had been effective at the beginning of the earliest period presented.



## ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Management's Discussion and Analysis includes financial information prepared in accordance with generally accepted accounting principles (GAAP) in the United States (U.S.), as well as certain non-GAAP financial measures such as adjusted earnings and adjusted earnings per share discussed below. Generally, a non-GAAP financial measure is a numerical measure of financial performance, financial position or cash flows that excludes (or includes) amounts that are included in (or excluded from) the most directly comparable measure calculated and presented in accordance with GAAP. The non-GAAP financial measures should be viewed as a supplement to, and not a substitute for, financial measures presented in accordance with GAAP. Non-GAAP measures as presented herein may not be comparable to similarly titled measures used by other companies.

The following combined Management's Discussion and Analysis of Financial Condition and Results of Operations is separately filed by Duke Energy Corporation (collectively with its subsidiaries, Duke Energy) and its subsidiaries Duke Energy Carolinas, LLC (Duke Energy Carolinas), Progress Energy, Inc. (Progress Energy), Duke Energy Progress, LLC (Duke Energy Progress), Duke Energy Florida, LLC (Duke Energy Florida), Duke Energy Ohio, Inc. (Duke Energy Ohio) and Duke Energy Indiana, LLC (Duke Energy Indiana). However, none of the registrants make any representation as to information related solely to Duke Energy or the subsidiary registrants of Duke Energy other than itself. Subsequent to Duke Energy's acquisition of Piedmont Natural Gas Company, Inc. (Piedmont) on October 3, 2016, Piedmont is a wholly owned subsidiary of Duke Energy. The financial information for Duke Energy includes results of Piedmont subsequent to October 3, 2016. See Note 2 to the Consolidated Financial Statements, "Acquisitions and Dispositions," for additional information regarding the acquisition.

### DUKE ENERGY

Duke Energy is an energy company headquartered in Charlotte, North Carolina. Duke Energy operates in the U.S. primarily through its wholly owned subsidiaries, Duke Energy Carolinas, Duke Energy Progress, Duke Energy Florida, Duke Energy Ohio, Duke Energy Indiana and Piedmont. When discussing Duke Energy's consolidated financial information, it necessarily includes the results of the Subsidiary Registrants, which, along with Duke Energy, are collectively referred to as the Duke Energy Registrants.

Management's Discussion and Analysis should be read in conjunction with the Consolidated Financial Statements and Notes for the years ended December 31, 2016, 2015 and 2014.

### Executive Overview

#### *Acquisition of Piedmont Natural Gas*

On October 3, 2016, Duke Energy completed the acquisition of Piedmont, a North Carolina corporation primarily engaged in regulated natural gas distribution to residential, commercial, industrial and power generation customers in portions of North Carolina, South Carolina and Tennessee. Piedmont is also invested in joint-venture, energy-related businesses, including regulated interstate natural gas transportation and storage and regulated intrastate natural gas transportation. The acquisition provides a foundation for Duke Energy to establish a broader, long-term strategic natural gas infrastructure platform to complement its existing natural gas pipeline investments and regulated natural gas business in the Midwest. Cost savings, efficiencies and other benefits are expected from combined operations.

Duke Energy acquired all of Piedmont's outstanding common stock for a total cash purchase price of \$5.0 billion and assumed Piedmont's existing long-term debt, which had an estimated fair value of approximately \$2.0 billion at the time of the acquisition. The excess of the purchase price over the estimated fair value of Piedmont's assets and liabilities on the acquisition date was recorded as goodwill. The transaction resulted in incremental goodwill of approximately \$3.4 billion.

Duke Energy financed the transaction with a combination of debt, equity issuances and other cash sources. Financings to fund the transaction included \$3.75 billion of long-term debt issued in August 2016, \$750 million borrowed under a short-term loan facility (Term Loan) in September 2016, as well as the issuance of 10.6 million shares of common stock in October 2016. The share issuance resulted in net cash proceeds of approximately \$723 million. See Note 6 to the Consolidated Financial Statements, "Debt and Credit Facilities," for additional information related to the debt issuance and Note 18, "Common Stock," for additional information related to the equity issuance.

Duke Energy recorded pretax non-recurring transaction and integration costs associated with the acquisition of \$439 million in 2016, including interest expense of \$234 million related to the acquisition financing. The interest expense primarily relates to losses on forward-starting interest rate swaps. The remaining charges include commitments made in conjunction with the transaction, such as charitable contributions and a one-time bill credit to Piedmont customers, as well as professional fees and severance. Duke Energy also expects to incur system integration and other acquisition-related transition costs, primarily through 2018, that are necessary to achieve certain anticipated cost savings, efficiencies and other benefits.

See Note 2 to the Consolidated Financial Statements, "Acquisitions and Dispositions," for additional information regarding the transaction.

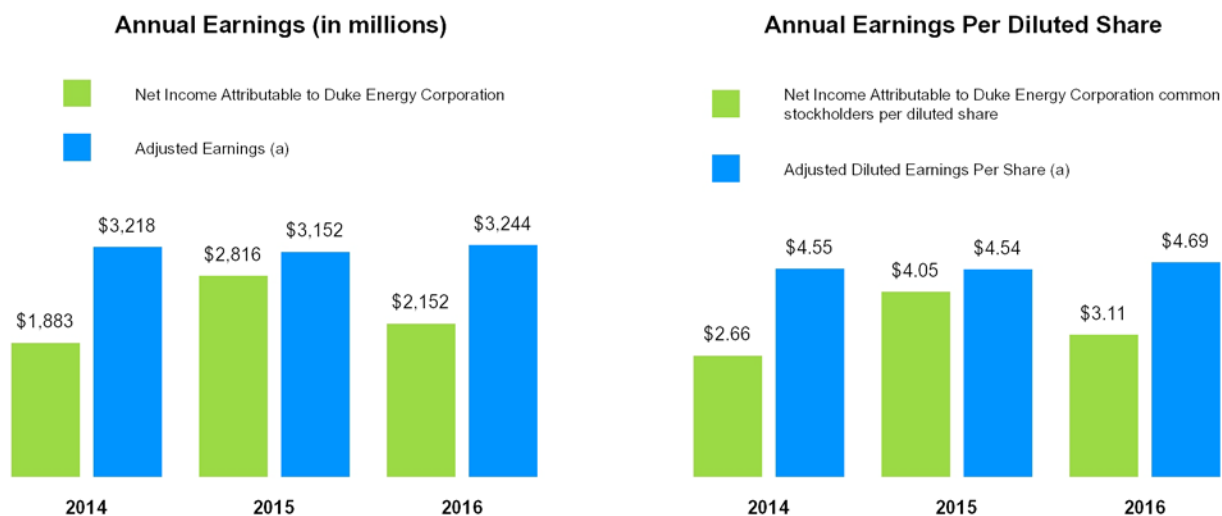
#### *Sale of International Energy*

In February 2016, Duke Energy announced it had initiated a process to divest its Latin American generation businesses and, in October 2016, reached agreements to sell the businesses in two separate transactions for a combined enterprise value of \$2.4 billion. Both deals closed ahead of schedule in December 2016. Duke Energy sold its Brazilian business to China Three Gorges for approximately \$1.2 billion, including the assumption of debt, and its remaining Central and South American businesses to I Squared Capital in a deal also valued at approximately \$1.2 billion. The transactions generated cash proceeds of \$1.9 billion, excluding transaction costs, which were primarily used to reduce Duke Energy holding company debt. Existing favorable tax attributes result in no immediate U.S. federal-level cash tax impacts.

As a result of the transactions, the International Energy Disposal Group was classified as held for sale and as discontinued operations in the fourth quarter of 2016.

In conjunction with the advancement of marketing efforts, in the second quarter of 2016 Duke Energy performed recoverability tests of the asset groups of the International Disposal Group, and as a result recorded an after-tax impairment charge of \$145 million related to certain assets in Central America. In the fourth quarter of 2016, Duke Energy recorded an after-tax loss on disposal of \$640 million, which includes the recognition of cumulative foreign currency translation losses of \$620 million. Both charges are included within Loss from Discontinued Operations, net of tax on the Consolidated Statements of Operations for the year ended December 31, 2016. See Note 2 to the Consolidated Financial Statements, "Acquisitions and Dispositions" for additional information.

## Financial Results



- (a) See Results of Operations below for Duke Energy's definition of adjusted earnings and adjusted earnings per share as well as a reconciliation of this non-GAAP financial measure to net income attributable to Duke Energy and net income attributable to Duke Energy per diluted share.

2016 GAAP reported earnings were impacted by charges related to the International Energy sale described above, which were recorded to discontinued operations. See "Results of Operations" below for a detailed discussion of the consolidated results of operations, as well as a detailed discussion of financial results for each of Duke Energy's reportable business segments, as well as Other.

### 2016 Areas of Focus and Accomplishments

Duke Energy advanced a number of important strategic initiatives to transform its energy future with a focus on customers, employees, operations and growth. The company has responded to an environment of changing customer demands, investing in electric and gas infrastructure that customers value and that provide an opportunity for sustainable growth.

**Portfolio Transition.** With the acquisition of Piedmont and the sale of International Energy, Duke Energy completed a multi-year portfolio transition. The Piedmont acquisition reflects the growing importance of natural gas to the future of the energy infrastructure within the company's service territory and throughout the U.S., and establishes a strategic platform for future growth in natural gas infrastructure. Duke Energy's exit of the Latin American market results in a portfolio of domestic electric and gas infrastructure businesses with a lower risk profile and enhances the ability to generate more consistent earnings and cash flows over time.

**Operational Excellence.** Duke Energy continues to focus on the safe and efficient operation of its generation fleet. During the year Duke Energy's safety performance metrics led the utilities industry, and its regulated fuel costs averaged \$2.22/kwh, which is the lowest in the past several years. Additionally, the nuclear fleet increased its capacity factor for a fourth consecutive year to approximately 96 percent, with several units setting all-time generation records.

**Storm Response and System Restoration.** Duke Energy's service territories experienced numerous storms during 2016, including Winter Storm Jonas and Hurricane Matthew. During Hurricane Matthew, over 1.7 million customers in Florida and the Carolinas were without power. In the Carolinas, 1.4 million outages were restored in record time, helping communities start the rebuilding process. Power was restored to customers through the commitment and resolve of employees and contractors.

**Customer Satisfaction.** Higher J.D. Power customer satisfaction scores in 2016 reflect progress in the Company's efforts to improve customer satisfaction. In Florida, scores improved more than 30 points. The work to improve customer satisfaction will continue, but all jurisdictions remain on track to make steady gains in the years ahead as Duke Energy continues to transform the customer experience.

**Constructive Regulatory Outcomes.** Through constructive stakeholder engagement, Duke Energy reached settlements for the Edwardsport IGCC facility in Indiana and Duke Energy Progress South Carolina rate case. These settlements have been approved by the Indiana Utility Regulatory Commission (IURC) and Public Service Commission of South Carolina (PSCSC), respectively. Duke Energy will also save its Florida customers more than \$800 million over approximately 20 years through the successful securitization financing of its regulatory asset related to Crystal River 3.

**Coal Ash Management.** Duke Energy continued to make significant progress on the safe storage of coal ash in 2016. Closure activities are underway at five sites and comprehensive closure plans for all Duke Energy coal ash sites were developed and disclosed publicly during 2016, consistent with Federal Coal Combustion Residuals (CCR) requirements. In May 2016, Duke Energy received preliminary risk rankings for its coal ash sites in North Carolina from the North Carolina Department of Environmental Quality (NCDEQ), and in July 2016 new legislation was passed that provided clarity on the risk ranking framework. The legislation also required the completion of dam improvement projects and the installation of water lines for residents within a half mile of coal ash sites in the state. Work was completed on all required deadlines under the new legislation.

**Cost Management and Efficiencies.** Duke Energy has a demonstrated track record of driving efficiencies and productivity, including merger integration. These efficiencies will help in Duke Energy's objective to keep overall customer rates below the national average, while moderating customer bill increases over time. In June 2016, Duke Energy achieved the \$687 million of guaranteed savings for customers in the Carolinas from the 2012 merger with Progress Energy, a full year ahead of its original commitment.

**Growth in the Dividend.** In 2016, Duke Energy continued to grow the dividend payment to shareholders by approximately 4 percent. 2016 represented the 90<sup>th</sup> consecutive year Duke Energy paid a cash dividend on its common stock.

### Duke Energy Objectives – 2017 and Beyond

Duke Energy will continue to deliver exceptional value to customers, be an integral part of the communities in which it does business, and provide attractive returns to investors. Duke Energy is committed to lead the way to cleaner, smarter energy solutions that customers value through a strategy focused on:

- Transformation of the customer experience to meet changing customer expectations through enhanced convenience, control and choice in energy supply and usage.
- Modernization of the electric grid, including storm hardening, to ensure the system is better prepared for severe weather and to improve the system's reliability and flexibility, as well as to provide better information and services for customers.
- Generation of cleaner energy through an increased amount of natural gas, renewables generation and the continued safe and reliable operation of nuclear plants.
- Expansion of natural gas infrastructure, from midstream gas pipelines to local distribution systems.
- Operational excellence through engagement with employees and being an industry leader in safety performance and efficient operations.
- Stakeholder engagement to ensure the regulatory rules in the states in which Duke Energy operates benefit customers and allow Duke Energy to recover its significant investments in a timely manner.

Primary objectives toward the implementation of this strategy include:

**Growth Initiatives.** Growth in the Electric Utilities and Infrastructure business is expected to be supported by the investment of significant capital in the electric transmission and distribution grid, and in cleaner, more efficient generation. Duke Energy expects to invest approximately \$30 billion in Electric Utilities and Infrastructure growth projects over the next five years, continuing its efforts to generate cleaner energy. Duke Energy intends to work constructively with regulators to evaluate the current construct and seek modernized recovery solutions, such as riders, rate decoupling and multiyear rate plans, that benefit both customers and shareholders.

Investment projects at Electric Utilities and Infrastructure currently underway that will support growth initiatives include:

- Duke Energy Indiana's \$1.4 billion grid modernization plan, which was approved by the IURC in 2016, is aimed at improving reliability, including fewer outages and quicker restoration. The plan allows for recovery of Duke Energy's investment through a rider. As part of the settlement, Duke Energy also received approval to install AMI meters, deferring the costs for future recovery in a rate case.
- Significant investments in natural gas-fired combined cycle plants, including completing the \$1.5 billion Citrus Country plant in Florida, the \$600 million Lee facility in South Carolina and the \$1 billion investment in the Western Carolinas Modernization Project. These investments will allow Duke Energy to replace older, less efficient coal units early.
- Duke Energy expects to continue to advance other cleaner energy sources within its regulated electric jurisdictions, including hydro, wind, solar and combined heat-and-power projects, increasing the flexibility of the system and allowing Duke Energy to continue lowering carbon emissions.

Electric Utilities and Infrastructure will also invest significantly in modernizing the electric grid to provide greater flexibility, better reliability and power quality, as well as more valuable products and services for its customers.

These significant investments will result in the need to file rate cases with regulators to update customer rates. Duke Energy will also focus on modernizing the regulatory constructs in its jurisdictions to minimize rate impacts to customers and recover costs in a more timely manner.

Duke Energy expects to invest around \$6 billion in its Gas Utilities and Infrastructure business over the next five years. Growth in Gas Utilities and Infrastructure will be focused on the following:

- With the acquisition of Piedmont, Duke Energy now operates gas distribution businesses across five states. The continued integration of Piedmont, as well as additional investments in the gas Local Distribution Company (LDC) system, will help maintain system integrity and expand gas distribution to new customers.
- Duke Energy will continue to grow its midstream pipeline business, underpinned by investments in the Atlantic Coast Pipeline, Sabal Trail and Constitution pipeline projects. These highly-contracted pipelines will bring much needed, low-cost gas supplies to the eastern U.S., spurring economic growth and helping Duke Energy to grow its customer base in the Southeast.

For Commercial Renewables, Duke Energy will continue to pursue long-term, highly-contracted wind and solar projects that meet its return criteria.

**Cost Management.** Duke Energy has a demonstrated track record of driving efficiencies and productivity into the business and continues to identify sustainable cost savings as an essential element in response to a transforming industry.

**Execute on Coal Ash Management Strategy.** Duke Energy will continue the company's compliance strategy with the North Carolina Coal Ash Management Act of 2014 (Coal Ash Act) and Resource Conservation and Recovery Act. Duke Energy will update ash management plans to comply with the appropriate regulations and expand excavation and other compliance work at additional sites once plans and permits are approved.

## Results of Operations

### Non-GAAP Measures

Management evaluates financial performance in part based on non-GAAP financial measures, including adjusted earnings and adjusted diluted EPS. These items represent income from continuing operations attributable to Duke Energy, adjusted for the dollar and per-share impact of special items. As discussed below, special items include certain charges and credits which management believes are not indicative of Duke Energy's ongoing performance. Management believes the presentation of adjusted earnings and adjusted diluted EPS provides useful information to investors, as it provides them with an additional relevant comparison of Duke Energy's performance across periods.

Management uses these non-GAAP financial measures for planning and forecasting, and for reporting financial results to the Duke Energy Board of Directors (Board of Directors), employees, stockholders, analysts and investors. Adjusted diluted EPS is also used as a basis for employee incentive bonuses. The most directly comparable GAAP measures for adjusted earnings and adjusted diluted EPS are Net Income Attributable to Duke Energy Corporation (GAAP Reported Earnings) and Diluted EPS Attributable to Duke Energy Corporation common stockholders (GAAP Reported EPS).

Special items included in the periods presented include the following items which management believes do not reflect ongoing costs:

- Costs to Achieve Mergers represents charges that result from potential or completed strategic acquisitions.
- Cost Savings Initiatives represents severance charges related to company-wide initiatives to standardize processes and systems, leverage technology and workforce optimization.
- Commercial Renewables Impairment and Asset Impairment represent other-than-temporary impairments.
- Edwardsport Settlement, Ash Basin Settlement and Penalties, and Coal Ash Plea Agreements Reserve represent charges related to Plea Agreements and settlement agreements with regulators and other governmental entities.

Adjusted earnings also include the operating results of the nonregulated Midwest generation business and Duke Energy Retail Sales (collectively, the Midwest Generation Disposal Group) and the International Disposal Group, which have been classified as discontinued operations. Management believes inclusion of the operating results of the Disposal Groups within adjusted earnings and adjusted diluted EPS results in a better reflection of Duke Energy's financial performance during the period.

Duke Energy's adjusted earnings and adjusted diluted EPS may not be comparable to similarly titled measures of another company because other companies may not calculate the measures in the same manner.

### Reconciliation of GAAP Reported Amounts to Adjusted Amounts

The following table presents a reconciliation of adjusted earnings and adjusted diluted EPS to the most directly comparable GAAP measures.

(in millions, except per share amounts)	Years Ended December 31,					
	2016		2015		2014	
	Earnings	EPS	Earnings	EPS	Earnings	EPS
GAAP Reported Earnings/EPS	\$ 2,152	\$ 3.11	\$ 2,816	\$ 4.05	\$ 1,883	\$ 2.66
Adjustments to Reported:						
Costs to Achieve Mergers	329	0.48	60	0.09	127	0.18
Cost Savings Initiatives	57	0.08	88	0.13	—	—
Commercial Renewables Impairment	45	0.07	—	—	—	—
Edwardsport Settlement	—	—	58	0.08	—	—
Ash Basin Settlement and Penalties	—	—	11	0.02	—	—
Asset Impairment	—	—	—	—	59	0.08
Coal Ash Plea Agreements Reserve	—	—	—	—	102	0.14
Asset Sales	—	—	—	—	(9)	(0.01)
Economic Hedges (mark-to-market)	—	—	—	—	6	0.01
Discontinued Operations <sup>(a)(b)(c)</sup>	661	0.95	119	0.17	1,050	1.49
Adjusted Earnings/Adjusted Diluted EPS	\$ 3,244	\$ 4.69	\$ 3,152	\$ 4.54	\$ 3,218	\$ 4.55

- (a) For 2016, includes a loss on sale of the International Disposal Group. Represents the GAAP reported Loss from Discontinued Operations, less the International Disposal Group operating results, which are included in adjusted earnings.
- (b) For 2015, includes the impact of a litigation reserve related to the Midwest Generation Disposal Group. Represents (i) GAAP reported Income from Discontinued Operations, less the International Disposal Group operating results and Midwest Generation Disposal Group operating results, which are included in adjusted earnings, and (ii) a state tax charge resulting from the completion of the sale of the Midwest Generation Disposal Group but not reported as discontinued operations.
- (c) For 2014, includes an impairment of the Midwest Generation Disposal Group and a tax charge related to the repatriation of foreign earnings of the International Disposal Group. Represents the GAAP reported Loss from Discontinued Operations, less the International Disposal Group operating results and Midwest Generation Disposal Group operating results, which are included in adjusted earnings.

**Year Ended December 31, 2016 as compared to 2015**

Duke Energy's full-year 2016 GAAP Reported EPS was \$3.11 compared to \$4.05 for full-year 2015. GAAP Reported EPS was lower primarily due to a \$0.93 loss on sale of the International business, which has been presented as discontinued operations. Duke Energy also recorded \$0.40 of after-tax costs to achieve the Piedmont merger in 2016, including losses on interest rate swaps related to the acquisition financing. See Note 2, "Acquisitions and Dispositions," for additional information on the Piedmont and International transactions.

As discussed, management also evaluates financial performance based on adjusted earnings. Duke Energy's full-year 2016 adjusted diluted EPS was \$4.69 compared to \$4.54 for full-year 2015. The variance in adjusted diluted EPS was primarily due to:

- More favorable weather in 2016 compared to 2015;
- Increased retail revenues from pricing and riders, including energy efficiency programs;
- Strong operations and maintenance cost control at Electric Utilities and Infrastructure; and
- Piedmont's earnings contribution subsequent to the acquisition in October 2016.

Partially offset by:

- Higher storm costs at Electric Utilities and Infrastructure due to significant 2016 storms;
- Higher interest expense related to additional debt outstanding; and
- Higher depreciation and amortization expense at Electric Utilities and Infrastructure primarily due to higher depreciable base.

**Year Ended December 31, 2015 as compared to 2014**

Duke Energy's full-year 2015 GAAP Reported EPS was \$4.05 compared to \$2.66 for full-year 2014. GAAP Reported EPS in 2015 was higher primarily due to a \$0.92 loss per share from discontinued operations in 2014, which included an impairment of the Midwest Generation Disposal Group and a tax charge on repatriated foreign earnings related to the International Disposal Group.

As discussed, management also evaluates financial performance based on adjusted earnings. Duke Energy's full-year 2015 adjusted diluted EPS was \$4.54 compared to \$4.55 for full-year 2014. The variance in adjusted diluted EPS was primarily due to:

- Lower results in Latin America primarily due to lower demand, unfavorable hydrology in Brazil, changes in foreign currency exchange rates, a tax benefit in 2014 related to the reorganization of Chilean operations and lower dispatch in Central America due to increased competition;
- Higher operations and maintenance expense primarily due to a 2014 benefit associated with the adoption of nuclear outage levelization, amounts related to additional ownership interest in assets acquired from North Carolina Eastern Municipal Power Agency (NCEMPA), and higher planned fossil generation outage costs, partially offset by lower storm restoration costs;
- Higher depreciation and amortization expense primarily due to higher depreciable base; and
- Lower equity in earnings of unconsolidated affiliates due to lower margins at National Methanol Company (NMC), largely driven by lower MTBE prices, partially offset by lower butane costs.

Partially offset by:

- Increased retail pricing primarily due to rate riders in most jurisdictions, including increased revenues related to energy efficiency programs, equity returns related to additional ownership interest in assets acquired from NCEMPA and higher base rates;
- Increased wholesale net margins largely due to increases in contracted amounts and prices and a new wholesale contract with NCEMPA;
- Retail sales growth of 0.6 percent;
- Higher results at the nonregulated Midwest generation business prior to its sale on April 2, 2015, due to higher PJM Interconnection LLC (PJM) capacity revenues and increased generation margins; and
- Reduction in shares outstanding due to the Duke Energy accelerated stock repurchase (only impacts per share amounts).

## Segment Results

The remaining information presented in this discussion of results of operations is on a GAAP basis. Management evaluates segment performance based on segment income. Segment income is defined as income from continuing operations net of income attributable to noncontrolling interests. Segment income includes intercompany revenues and expenses that are eliminated in the Consolidated Financial Statements.

Due to the Piedmont acquisition and the sale of International Energy in the fourth quarter of 2016, Duke Energy's segment structure has been realigned to include the following segments: Electric Utilities and Infrastructure, Gas Utilities and Infrastructure and Commercial Renewables. The remainder of Duke Energy's operations is presented as Other. Prior period information has been recast to conform to the current segment structure. See Note 2 to the Consolidated Financial Statements, "Acquisitions and Disposition," for further information on the Piedmont acquisition and International Energy sale and Note 3, "Business Segments," for additional information on Duke Energy's segment structure.

### Electric Utilities and Infrastructure

(in millions)	Years Ended December 31,					
	2016	2015	Variance 2016 vs. 2015	2014	Variance 2015 vs. 2014	2014
Operating Revenues	\$ 21,366	\$ 21,521	\$ (155)	\$ 21,691	\$ (170)	
Operating Expenses	15,821	16,295	(474)	16,609	(314)	
Gains on Sales of Other Assets and Other, net	—	5	(5)	4	1	
Operating Income	5,545	5,231	314	5,086	145	
Other Income and Expenses	303	264	39	267	(3)	
Interest Expense	1,136	1,074	62	1,057	17	
Income Before Income Taxes	4,712	4,421	291	4,296	125	
Income Tax Expense	1,672	1,602	70	1,582	20	
Segment Income	\$ 3,040	\$ 2,819	\$ 221	\$ 2,714	\$ 105	
Duke Energy Carolinas Gigawatt-Hours (GWh) sales	88,545	86,950	1,595	88,070	(1,120)	
Duke Energy Progress GWh sales	69,049	64,881	4,168	62,871	2,010	
Duke Energy Florida GWh sales	40,404	40,053	351	38,703	1,350	
Duke Energy Ohio GWh sales	25,163	25,439	(276)	24,735	704	
Duke Energy Indiana GWh sales	34,368	33,518	850	33,433	85	
Total Electric Utilities and Infrastructure GWh sales	257,529	250,841	6,688	247,812	3,029	
Net proportional MW capacity in operation	49,295	50,170	(875)	49,600	570	

### Year Ended December 31, 2016 as Compared to 2015

Electric Utilities and Infrastructure's higher earnings were primarily due to increased pricing and rider revenues, favorable weather, a prior year impairment charge associated with the 2015 Edwardsport IGCC settlement and an increase in wholesale power margins. These impacts were partially offset by increased depreciation and amortization expense, higher interest expense and higher operations and maintenance expense. The following is a detailed discussion of the variance drivers by line item.

**Operating Revenues.** The variance was driven primarily by:

- a \$768 million decrease in fuel revenues driven by lower fuel prices included in rates.

Partially offset by:

- a \$414 million increase in rider revenues including increased revenues related to energy efficiency programs, the additional ownership interest in generating assets acquired from NCEMPA in the third quarter of 2015 and increased revenues related to Duke Energy Indiana's clean coal equipment, and increased retail electric pricing primarily due to the expiration of the North Carolina cost of removal decrement rider;
- a \$101 million increase in retail sales, net of fuel revenue, due to favorable weather compared to the prior year; and
- a \$76 million increase in wholesale power revenues primarily due to additional volumes and capacity charges for customers served under long-term contracts, including the NCEMPA wholesale contract.

**Operating Expenses.** The variance was driven primarily by:

- a \$713 million decrease in fuel expense (including purchased power and natural gas purchases for resale) primarily due to lower natural gas and coal prices, and lower volumes of coal and oil, partially offset by higher volumes of natural gas; and

- an \$88 million pretax impairment charge in the prior year related to the 2015 Edwardsport IGCC settlement.

Partially offset by:

- a \$162 million increase in depreciation and amortization expense primarily due to additional plant in service, including the additional ownership interest in generating assets acquired from NCEMPA, as well as the expiration of the North Carolina cost of removal decrement rider; and
- a \$154 million increase in operations and maintenance expense primarily due to higher environmental and operational costs that are recoverable in rates, increased employee benefit costs, and higher storm restoration costs, partially offset by lower costs due to effective cost control efforts.

**Other Income and Expenses.** The variance was primarily driven by higher AFUDC equity.

**Interest Expense.** The variance was due to higher debt outstanding in the current year.

**Income Tax Expense.** The variance was primarily due to an increase in pretax income. The effective tax rates for the years ended December 31, 2016 and 2015 were 35.5 percent and 36.2 percent, respectively.

#### Year Ended December 31, 2015 as Compared to 2014

Electric Utilities and Infrastructure's higher earnings were primarily due to an increase in wholesale power margins, growth in retail sales, and increased retail pricing primarily due to rate riders in most jurisdictions, including increased revenues related to energy efficiency programs, and higher base rates primarily due to phasing of 2013 rate cases. These drivers were partially offset by an impairment charge associated with the 2015 Edwardsport IGCC settlement, higher operations and maintenance expense and increased depreciation and amortization expense. The following is a detailed discussion of the variance drivers by line item.

**Operating Revenues.** The variance was driven primarily by:

- a \$296 million decrease in fuel revenues due to lower overall fuel prices included in rates; and
- a \$131 million decrease in revenues to recover gross receipts taxes due to the North Carolina Tax Simplification and Rate Reduction Act, which terminated the collection of the North Carolina gross receipts tax effective July 1, 2014 (offset in Operating Expenses).

Partially offset by:

- a \$175 million increase in wholesale power revenues, primarily due to additional volumes and capacity charges for customers served under long-term contracts, including the NCEMPA wholesale contract; and
- an \$81 million increase from retail sales growth (net of fuel revenue) due to increased demand.

**Operating Expenses.** The variance was driven primarily by:

- a \$378 million decrease in fuel expense (including purchased power) primarily due to lower natural gas and coal prices and lower volumes of coal and oil, partially offset by higher volumes of natural gas; and
- a \$131 million decrease in property and other taxes primarily due to the termination of the collection of the North Carolina gross receipts tax (offset in Operating Revenues) and the partial reversal of a sales tax reserve recorded in 2014 at Duke Energy Indiana, partially offset by higher property taxes across multiple jurisdictions.

Partially offset by:

- an \$88 million pretax impairment charge related to the 2015 Edwardsport IGCC settlement. See Note 4 to the Consolidated Financial Statements, "Regulatory Matters," for additional information;
- a \$49 million increase in depreciation and amortization expense primarily due to additional plant in service; and
- a \$47 million increase in operations and maintenance expense primarily due to planned nuclear spending and the 2014 benefit of the adoption of nuclear outage levelization, higher costs for customer programs and distribution projects, and higher maintenance costs at fossil generation stations primarily due to increased ownership interest in assets acquired from NCEMPA, partially offset by a 2014 litigation reserve related to the Dan River coal ash spill (see Note 5 to the Consolidated Financial Statements, "Commitments and Contingencies," for additional information) and lower storm restoration costs.

**Income Tax Expense.** The variance was primarily due to an increase in pretax income. The effective tax rates for the years ended December 31, 2015 and 2014 were 36.2 percent and 36.8 percent, respectively.

#### Matters Impacting Future Electric Utilities and Infrastructure Results

An order from regulatory authorities disallowing recovery of costs related to closure of ash impoundments could have an adverse impact on Electric Utilities and Infrastructure's financial position, results of operations and cash flows. See Notes 4 and 9 to the Consolidated Financial Statements, "Regulatory Matters" and "Asset Retirement Obligations," respectively, for additional information.

On May 18, 2016, the NCDEQ issued proposed risk classifications for all coal ash surface impoundments in North Carolina. All ash impoundments not previously designated as high priority by the Coal Ash Act were designated as intermediate risk. Certain impoundments classified as intermediate risk, however, may be reassessed in the future as low risk pursuant to legislation signed by the former North Carolina governor on July 14, 2016. Electric Utilities and Infrastructure's estimated asset retirement obligations (AROs) related to the closure of North Carolina ash impoundments are based upon the mandated closure method or a probability weighting of potential closure methods for the impoundments that may be reassessed to low risk. As the final risk ranking classifications in North Carolina are delineated, final closure plans and corrective action measures are developed and approved for each site, the closure work progresses and the closure method scope and remedial methods are determined, the complexity of work and the amount of coal combustion material could be different than originally estimated and, therefore, could materially impact Electric Utilities and Infrastructure's financial position. See Note 9 to the Consolidated Financial Statements, "Asset Retirement Obligations," for additional information.

Duke Energy is a party to multiple lawsuits and could be subject to fines and other penalties related to the Dan River coal ash release and operations at other North Carolina facilities with ash basins. The outcome of these lawsuits and potential fines and penalties could have an adverse impact on Electric Utilities and Infrastructure's financial position, results of operations and cash flows. See Note 5 to the Consolidated Financial Statements, "Commitments and Contingencies," for additional information.

In the fourth quarter of 2016, Hurricane Matthew caused historic flooding, extensive damage and widespread power outages within the Duke Energy Progress service territory. Duke Energy Progress filed a petition with the North Carolina Utilities Commission (NCUC) requesting an accounting order to defer approximately \$140 million of incremental operation and maintenance and capital costs incurred in response to Hurricane Matthew and other significant 2016 storms. The NCUC has not ruled on the petition. A final order from the NCUC that disallows the deferral and future recovery of all or a significant portion of the incremental storm restoration costs incurred could result in an adverse impact on Electric Utilities and Infrastructure's financial position, results of operations and cash flows.

Duke Energy Carolinas and Duke Energy Progress intend to file rate cases in North Carolina in 2017 to recover costs of complying with CCR regulations and the Coal Ash Act, as well as costs of capital investments in generation, transmission and distribution systems and any increase in expenditures subsequent to previous rate cases. Duke Energy Ohio has notified the Public Utilities Commission of Ohio (PUCO) of its intent to file an electric distribution rate case in Ohio to address recovery of electric distribution system capital investments and any increase in expenditures subsequent to previous rate cases. Electric Utilities and Infrastructure's earnings could be adversely impacted if these rate cases are delayed or denied by the NCUC or PUCO.

#### Gas Utilities and Infrastructure

(in millions)	Years Ended December 31,				
	2016	2015	Variance 2016 vs. 2015	2014	Variance 2015 vs. 2014
Operating Revenues	\$ 901	\$ 541	\$ 360	\$ 578	\$ (37)
Operating Expenses	636	408	228	419	(11)
(Loss) Gains on Sales of Other Assets and Other, net	(1)	6	(7)	—	6
Operating Income	264	139	125	159	(20)
Other Income and Expenses	24	3	21	3	—
Interest Expense	46	25	21	37	(12)
Income Before Income Taxes	242	117	125	125	(8)
Income Tax Expense	90	44	46	45	(1)
Segment Income	\$ 152	\$ 73	\$ 79	\$ 80	\$ (7)
Piedmont LDC throughput (dekatherms) <sup>(a)</sup>	120,908,508	—	120,908,508	—	—
Duke Energy Midwest LDC throughput (MCF)	81,870,489	84,523,814	(2,653,325)	93,275,895	(8,752,081)

(a) Only includes throughput subsequent to Duke Energy's acquisition of Piedmont on October 3, 2016.

#### Year Ended December 31, 2016 as Compared to 2015

Gas Utilities and Infrastructure's higher results were primarily due to the inclusion of Piedmont's earnings subsequent to the merger on October 3, 2016 and higher equity earnings from pipeline investments. Piedmont's earnings included in Gas Utilities and Infrastructure's results were \$67 million for the year ended December 31, 2016.

**Operating Revenues.** The variance was driven primarily by a \$398 million increase in operating revenues due to the inclusion of Piedmont operating revenues beginning in October 2016, partially offset by a \$38 million decrease in fuel revenues driven by lower natural gas prices and decreased sales volumes for Midwest operations.

**Operating Expenses.** The variance was driven primarily by a \$276 million increase in operating expenses due to the inclusion of Piedmont operating expenses beginning in October 2016, partially offset by a \$38 million decrease in the cost of natural gas, primarily due to decreased volumes and lower natural gas prices for Midwest operations.

**Other Income and Expenses.** The increase was driven primarily by higher equity earnings from pipeline investments.

**Interest Expense.** The variance was primarily due to the inclusion of Piedmont interest expenses beginning in October 2016.



**Income Tax Expense.** The variance was primarily due to an increase in pretax income. The effective tax rates for the years ended December 31, 2016 and 2015 were 37.2 percent and 37.6 percent, respectively.

#### **Year Ended December 31, 2015 as Compared to 2014**

Gas Utilities and Infrastructure's lower earnings were primarily due to unfavorable weather.

**Operating Revenues.** The variance was driven primarily by:

- a \$43 million decrease in fuel revenues primarily driven by lower natural gas prices and decreased sales volumes; and
- a \$7 million decrease in sales to retail customers due to unfavorable weather.

Partially offset by:

- a \$19 increase in regulated natural gas rider revenues primarily due to rate increases.

**Operating Expenses.** The variance is driven primarily by:

- a \$43 million decrease in the cost of natural gas, primarily due to decreased volumes and lower natural gas prices.

Partially offset by:

- a \$16 million increase due to a favorable gas excise tax settlement in June 2014; and
- an \$8 million increase due to amortization of the manufactured gas plant (MGP) regulatory asset.

**Income Tax Expense.** The variance was primarily due to lower pretax income, partially offset by an increase in effective tax rate. The effective tax rates for the years ended December 31, 2015 and 2014 were 37.6 percent and 36.0 percent, respectively.

#### **Matters Impacting Future Gas Utilities and Infrastructure Results**

Gas Utilities and Infrastructure has a 24 percent ownership interest in Constitution Pipeline Company, LLC (Constitution), a natural gas pipeline project slated to transport natural gas supplies to major northeastern markets. On April 22, 2016, the New York State Department of Environmental Conservation denied Constitution's application for a necessary water quality certification for the New York portion of the Constitution pipeline. Constitution has stopped construction and discontinued capitalization of future development costs until the project's uncertainty is resolved. To the extent the legal and regulatory proceedings have unfavorable outcomes, or if Constitution concludes that the project is not viable or does not go forward, an impairment charge of up to the recorded investment in the project, net of any cash and working capital returned, may be recorded. With the project on hold, funding of project costs has ceased until resolution of legal actions. Duke Energy is contractually obligated to provide funding of required operating costs, including the ownership percentage of legal expenses to obtain the necessary permitting for the project and project costs incurred prior to the denial of the water permit. If the legal actions result in an outcome where the project is abandoned, Constitution is obligated under various contracts to pay breakage fees that Gas Utilities and Infrastructure would be obligated to fund up to the ownership percentage, or potentially up to \$10 million.

In 2013, the PUCO issued an order (PUCO order) approving Duke Energy Ohio's recovery of costs incurred between 2008 and 2012 for environmental investigation and remediation of two former MGP sites. At December 31, 2016, Duke Energy Ohio had recorded in Regulatory assets on the Consolidated Balance Sheet approximately \$99 million of estimated MGP remediation costs not yet recovered through the MGP rider mechanism. Intervenor have appealed to the Ohio Supreme Court the PUCO order authorizing recovery of these amounts. That appeal remains pending. Duke Energy Ohio cannot predict the outcome of the appeal before the Ohio Supreme Court or future action by the PUCO. If Duke Energy Ohio is not able to recover these remediation costs in rates, the costs could have an adverse impact on Gas Utilities and Infrastructure's financial position, results of operations and cash flows. See Note 4 to the Consolidated Financial Statements, "Regulatory Matters," for additional information.

## Commercial Renewables

(in millions)	Years Ended December 31,				
	2016	2015	Variance 2016 vs. 2015	2014	Variance 2015 vs. 2014
Operating Revenues	\$ 484	\$ 286	\$ 198	\$ 236	\$ 50
Operating Expenses	492	322	170	231	91
Gains on Sales of Other Assets and Other, net	5	1	4	—	1
Operating (Loss) Income	(3)	(35)	32	5	(40)
Other Income and Expenses	(83)	2	(85)	11	(9)
Interest Expense	53	44	9	50	(6)
Loss Before Income Taxes	(139)	(77)	(62)	(34)	(43)
Income Tax Benefit	(160)	(128)	(32)	(88)	(40)
Less: (Loss) Income Attributable to Noncontrolling Interests	(2)	(1)	(1)	1	(2)
Segment Income	\$ 23	\$ 52	\$ (29)	\$ 53	\$ (1)
Renewable plant production, GWh	7,565	5,577	1,988	5,462	115
Net proportional MW capacity in operation	2,892	1,943	949	1,370	573

## Year Ended December 31, 2016 as Compared to 2015

Commercial Renewables' lower earnings were primarily due to an impairment charge related to certain equity method investments in wind projects, partially offset by new wind and solar generation placed in service and improved wind production. The following is a detailed discussion of variance drivers by line item.

**Operating Revenues.** The variance was driven primarily by:

- a \$135 million increase due to growth of REC Solar, a California-based provider of solar installations acquired by Duke Energy in 2015; and
- a \$66 million increase from new wind and solar generation placed in service and improved wind production.

**Operating Expenses.** The variance was driven primarily by:

- a \$130 million increase in operating expenses due to growth of REC Solar; and
- a \$36 million increase in operating expenses due to new wind and solar generation placed in service.

**Other Income and Expenses.** The variance was due to a \$71 million pretax impairment charge related to certain equity method investments in wind projects. See Note 12 to the Consolidated Financial Statements, "Investments in Unconsolidated Affiliates," for additional information.

**Income Tax Benefit.** The variance was primarily due to a decrease in pretax income and the impact of production tax credits (PTCs) for the renewables portfolio.

## Year Ended December 31, 2015 as Compared to 2014

Commercial Renewables' results were impacted by new solar and wind generation placed in service, partially offset by unfavorable wind patterns. The following is a detailed discussion of variance drivers by line item.

**Operating Revenues.** The variance was driven primarily by:

- a \$41 million increase due to the acquisition of REC Solar; and
- a \$27 million increase from new solar and wind generation placed in service.

Partially offset by:

- an \$18 million decrease due to lower wind production.

**Operating Expenses.** The variance was driven primarily by:

- a \$48 million increase in operating expenses due to the acquisition of REC Solar; and
- a \$33 million increase in operating expenses due to new wind and solar generation placed in service.

**Other Income and Expenses.** The variance was primarily due to lower equity earnings due to lower wind production.

**Interest Expense.** The variance was primarily due to an increase in capitalized interest in 2015 from higher spending on wind and solar projects.

**Income Tax Benefit.** The variance was primarily due to a decrease in pretax income and the impact of PTCs.

#### **Matters Impacting Future Commercial Renewables Results**

Changes or variability in assumptions used in calculating the fair value of the Commercial Renewables reporting units for goodwill testing purposes including but not limited to, legislative actions related to tax credit extensions, long-term growth rates and discount rates, could significantly impact the estimated fair value of the Commercial Renewables reporting units. In the event of a significant decline in the estimated fair value of the Commercial Renewables reporting units, goodwill impairment charges could be recorded. The carrying value of goodwill within Commercial Renewables was approximately \$122 million at December 31, 2016.

Persistently low market pricing for wind resources, primarily in the Energy Reliability Council of Texas West market, and the future expiration of tax incentives including Investment Tax Credits (ITCs) and PTCs could result in adverse impacts to the future results of Commercial Renewables.

#### **Other**

(in millions)	Years Ended December 31,					
	2016	2015	Variance 2016 vs. 2015	2014	Variance 2015 vs. 2014	
Operating Revenues	\$ 117	\$ 135	\$ (18)	\$ 116	\$ 19	
Operating Expenses	604	409	195	528	(119)	
Gains on Sales of Other Assets and Other, net	23	18	5	6	12	
Operating Loss	(464)	(256)	(208)	(406)	150	
Other Income and Expenses	75	98	(23)	174	(76)	
Interest Expense	693	393	300	409	(16)	
Loss Before Income Taxes	(1,082)	(551)	(531)	(641)	90	
Income Tax Benefit	(446)	(262)	(184)	(314)	52	
Less: Income attributable to Noncontrolling Interests	9	10	(1)	5	5	
Net Expense	\$ (645)	\$ (299)	\$ (346)	\$ (332)	\$ 33	

#### **Year Ended December 31, 2016 as Compared to 2015**

Other's higher net expense was driven by higher costs related to the Piedmont acquisition, higher charitable donations and higher interest expense related to the Piedmont acquisition financing. The following is a detailed discussion of the variance drivers by line item.

**Operating Revenues.** The decrease was primarily due to customer credits recorded in the fourth quarter related to Piedmont merger commitments. See Note 2 to the Consolidated Financial Statements, "Acquisitions and Dispositions," for additional information.

**Operating Expenses.** The increase was primarily due to transaction and integration costs associated with the Piedmont acquisition and increased donations to the Duke Energy Foundation, partially offset by a decrease in severance accruals. The Duke Energy Foundation is a nonprofit organization funded by Duke Energy shareholders that makes charitable contributions to selected nonprofits and government subdivisions.

**Other Income and Expenses.** The variance was primarily due to lower earnings from NMC, which was recast to Other following the sale of the International disposal group (See Note 3 to the Consolidated Financial Statements, "Business Segments"), partially offset by higher returns on investments that support employee benefit obligations.

**Interest Expense.** The increase was primarily due to Piedmont acquisition financing, including bridge facility costs and losses on forward-starting interest rate swaps. For additional information see Notes 2 and 14 to the Consolidated Financial Statements, "Acquisitions and Dispositions" and "Derivatives and Hedging," respectively.

**Income Tax Benefit.** The variance was primarily due to an increase in pretax losses, partially offset by a decrease in the effective tax rate. The effective tax rates for the years ended December 31, 2016 and 2015 were 41.2 percent and 47.5 percent, respectively. The decrease in the effective tax rate was primarily due to the benefit from legal entity restructuring recorded in 2015.

#### **Year Ended December 31, 2015 as Compared to 2014**

Other's lower net expense was driven by an impairment charge in 2014 related to the Ohio Valley Electric Corporation (OVEC) and lower Progress Energy merger costs, partially offset by lower earnings from NMC. The following is a detailed discussion of the variance drivers by line item.

**Operating Revenues.** The increase was primarily due to higher revenues from OVEC.

**Operating Expenses.** The decrease was primarily due to an impairment charge in 2014 related to OVEC, lower charges related to the Progress Energy merger, and higher prior year captive insurance losses, partially offset by severance accruals and higher North Carolina franchise taxes.

**Gains on Sales of Other Assets and Other, net.** The variance was primarily due to a gain on sale of telecommunication leases.

**Other Income and Expenses, net.** The variance was primarily due to lower earnings from NMC, lower returns on investments that support employee benefit obligations and a gain on an investment sale in 2014, partially offset by interest income from the resolution of an income tax matter.

**Income Tax Benefit.** The variance was primarily due to a decrease in pretax losses. The effective tax rates for the years ended December 31, 2015 and 2014 were 47.5 percent and 49.0 percent, respectively.

#### **Matters Impacting Future Other Results**

Included in Other is Duke Energy Ohio's 9 percent ownership interest in OVEC, which owns 2,256 MW of coal fired generation capacity. As a counterparty to an inter-company power agreement (ICPA), Duke Energy Ohio has a contractual arrangement to receive entitlements to capacity and energy from OVEC's power plants through June 2040 commensurate with its power participation ratio, which is equivalent to Duke Energy Ohio's ownership interest. Costs, including fuel, operating expenses, fixed costs, debt amortization, and interest expense, are allocated to counterparties to the ICPA, including Duke Energy Ohio, based on their power participation ratio. The value of the ICPA is subject to variability due to fluctuations in power prices and changes in OVEC's costs of business. Deterioration in the credit quality or bankruptcy of one or more parties to the ICPA could increase the costs of OVEC. In addition, certain proposed environmental rulemaking costs could result in future increased cost allocations.

The retired Beckjord generating station (Beckjord), a nonregulated facility retired during 2014, is not subject to the EPA rule related to the disposal of CCR from electric utilities. However, if costs are incurred as a result of environmental regulations or to mitigate risk associated with on-site storage of coal ash, the costs could have an adverse impact on Other's financial position, results of operations and cash flows.

Earnings from an equity method investment in NMC reflect sales of methanol and MTBE, which generate margins that are directionally correlated with Brent crude oil prices. The recent decline in crude oil prices have reduced the earnings realized from NMC. Further weakness in the market price of Brent crude oil and related commodities may result in a further decline in earnings. Duke Energy's economic ownership interest will decrease from 25 percent to 17.5 percent upon successful startup of NMC's polyacetal production facility, which is expected to occur in the second quarter of 2017.

U.S. federal tax reform has become an important priority of the current Congress and Administration. Any substantial revision to the U.S. tax code, including a loss of the ability to deduct interest expense, could adversely impact Duke Energy's future earnings, cash flows or financial position.

#### **(LOSS) INCOME FROM DISCONTINUED OPERATIONS, NET OF TAX**

##### **Year Ended December 31, 2016 as Compared to 2015**

The variance was primarily driven by the loss on the disposal of Duke Energy's Latin American generation business and an impairment charge related to certain assets in Central America, partially offset by a tax benefit related to historic unremitted foreign earnings and immaterial out of period tax adjustments unrelated to the Disposal Groups. See Note 2 to the Consolidated Financial Statements, "Acquisitions and Dispositions," for additional information.

##### **Year Ended December 31, 2015 as Compared to 2014**

The variance was primarily due to the 2014 impairment of the Midwest Generation Disposal Group and a 2014 tax charge related to historic unremitted foreign earnings, partially offset by lower operating results of the International Disposal Group in 2015 compared to 2014. Operating results for the International Disposal Group in 2015 were impacted by lower demand, unfavorable hydrology in Brazil, changes in foreign currency exchange rates, the absence of a 2014 tax benefit related to the reorganization of Chilean operations and lower dispatch in Central America due to increased competition.

#### **DUKE ENERGY CAROLINAS**

##### **Introduction**

Management's Discussion and Analysis should be read in conjunction with the accompanying Consolidated Financial Statements and Notes for the years ended December 31, 2016, 2015 and 2014.

##### **Basis of Presentation**

The results of operations and variance discussion for Duke Energy Carolinas is presented in a reduced disclosure format in accordance with General Instruction (I)(2)(a) of Form 10-K.

## Results of Operations

(in millions)	Years Ended December 31,		
	2016	2015	Variance
Operating Revenues	\$ 7,322	\$ 7,229	\$ 93
Operating Expenses	5,255	5,268	(13)
Loss on Sales of Other Assets and Other, net	(5)	(1)	(4)
Operating Income	2,062	1,960	102
Other Income and Expenses	162	160	2
Interest Expense	424	412	12
Income Before Income Taxes	1,800	1,708	92
Income Tax Expense	634	627	7
Net Income	\$ 1,166	\$ 1,081	\$ 85

The following table shows the percent changes in GWh sales and average number of customers for Duke Energy Carolinas. The below percentages for retail customer classes represent billed sales only. Total sales includes billed and unbilled retail sales and wholesale sales to incorporated municipalities and to public and private utilities and power marketers. Amounts are not weather normalized.

Increase (Decrease) over prior year	2016	2015
Residential sales	0.1 %	(0.2)%
General service sales	0.7 %	1.0 %
Industrial sales	(0.9)%	2.6 %
Wholesale power sales	9.8 %	1.5 %
Joint dispatch sales	(2.3)%	(44.8)%
Total sales	1.8 %	(1.3)%
Average number of customers	1.4 %	1.3 %

## Year Ended December 31, 2016 as Compared to 2015

**Operating Revenues.** The variance was driven primarily by:

- a \$91 million increase in retail pricing and rider revenues, including increased revenues related to energy efficiency programs and the expiration of the North Carolina cost of removal decrement rider;
- a \$58 million increase in retail sales, net of fuel revenues, to retail customers due to more favorable weather compared to the prior year; and
- a \$45 million increase in wholesale power revenues, net of sharing, primarily due to additional demand from customers served under long-term contracts.

Partially offset by:

- a \$106 million decrease in fuel revenues, driven primarily by lower fuel prices included in electric retail and wholesale rates.

**Operating Expenses.** The variance was driven primarily by:

- an \$84 million decrease in fuel expense (including purchased power) primarily due to lower natural gas and coal prices, as well as changes in generation mix.

Partially offset by:

- a \$41 million increase in operations and maintenance expense primarily due to costs associated with merger commitments related to the Piedmont acquisition in 2016, increased employee benefit costs, higher energy efficiency program costs, and higher storm restoration costs, partially offset by lower severance expenses, lower expenses at generating plants, lower costs associated with the Progress Energy merger and decreased corporate costs;
- a \$24 million increase in depreciation and amortization expense due to additional plant in service; and
- a \$7 million increase in property and other taxes primarily due to higher property taxes.

**Interest Expense.** The variance was primarily due to higher debt outstanding in the current year.

**Income Tax Expense.** The variance was primarily due to an increase in pretax income, partially offset by a lower effective tax rate. The effective tax rate for the years ended December 31, 2016 and 2015 were 35.2 percent and 36.7 percent, respectively. The decrease in the effective tax rate was primarily due to audit settlements and the impact of favorable tax return true-ups.

### **Matters Impacting Future Results**

An order from regulatory authorities disallowing recovery of costs related to closure of ash impoundments could have an adverse impact on Duke Energy Carolinas' financial position, results of operations and cash flows. See Notes 4 and 9 to the Consolidated Financial Statements, "Regulatory Matters" and "Asset Retirement Obligations," respectively, for additional information.

On May 18, 2016, the NCDEQ issued proposed risk classifications for all coal ash surface impoundments in North Carolina. All ash impoundments not previously designated as high priority by the Coal Ash Act were designated as intermediate risk. Certain impoundments classified as intermediate risk, however, may be reassessed in the future as low risk pursuant to legislation signed by the former North Carolina governor on July 14, 2016. Duke Energy Carolinas' estimated AROs related to the closure of North Carolina ash impoundments are based upon the mandated closure method or a probability weighting of potential closure methods for the impoundments that may be reassessed to low risk. As the final risk ranking classifications in North Carolina are delineated, final closure plans and corrective action measures are developed and approved for each site, the closure work progresses, and the closure method scope and remedial action methods are determined, the complexity of work and the amount of coal combustion material could be different than originally estimated and, therefore, could materially impact Duke Energy Carolinas' financial position. See Note 9 to the Consolidated Financial Statements, "Asset Retirement Obligations," for additional information.

Duke Energy Carolinas is a party to multiple lawsuits and subject to fines and other penalties related to the Dan River coal ash release and operations at other North Carolina facilities with ash basins. The outcome of these lawsuits, fines and penalties could have an adverse impact on Duke Energy Carolinas' financial position, results of operations and cash flows. See Note 5 to the Consolidated Financial Statements, "Commitments and Contingencies," for additional information.

Duke Energy Carolinas intends to file a rate case in North Carolina in 2017 to recover costs of complying with CCR regulations and the Coal Ash Act, as well as costs of capital investments in generation, transmission and distribution systems and any increase in expenditures subsequent to previous rate cases. Duke Energy Carolinas' earnings could be adversely impacted if the rate case is delayed or denied by the NCUC.

**PROGRESS ENERGY****Introduction**

Management's Discussion and Analysis should be read in conjunction with the accompanying Consolidated Financial Statements and Notes for the years ended December 31, 2016, 2015 and 2014.

**Basis of Presentation**

The results of operations and variance discussion for Progress Energy is presented in a reduced disclosure format in accordance with General Instruction (I)(2)(a) of Form 10-K.

**Results of Operations**

(in millions)	Years Ended December 31,		
	2016	2015	Variance
Operating Revenues	\$ 9,853	\$ 10,277	\$ (424)
Operating Expenses	7,737	8,142	(405)
Gains on Sales of Other Assets and Other, net	25	25	—
Operating Income	2,141	2,160	(19)
Other Income and Expenses	114	97	17
Interest Expense	689	670	19
Income Before Income Taxes	1,566	1,587	(21)
Income Tax Expense	527	522	5
Income from Continuing Operations	1,039	1,065	(26)
Income (Loss) from Discontinued Operations, net of tax	2	(3)	5
Net Income	1,041	1,062	(21)
Less: Net Income Attributable to Noncontrolling Interests	10	11	(1)
Net Income Attributable to Parent	\$ 1,031	\$ 1,051	\$ (20)

**Year Ended December 31, 2016 as Compared to 2015**

**Operating Revenues.** The variance was driven primarily by:

- a \$638 million decrease in fuel revenues due to lower fuel prices and changes in generation mix, partially offset by increased capacity rates to retail customers at Duke Energy Florida; and
- a \$17 million decrease in retail sales, net of fuel revenue, due to unfavorable weather compared to the prior year at Duke Energy Florida.

Partially offset by:

- a \$188 million increase in rider revenues, including increased revenues related to energy efficiency programs, the additional ownership interest in certain generating assets acquired from NCEMPA in the third quarter of 2015, nuclear asset securitization revenues beginning in 2016, and an increase in energy conservation and environmental cost recovery clause revenues, partially offset by lower nuclear cost recovery clause (NCRC) rider revenues due to suspending recovery for the Levy nuclear project in 2015; and
- a \$34 million increase in wholesale power revenues primarily due to the NCEMPA contract, partially offset by lower peak demand at Duke Energy Progress and contracts that expired in the prior year at Duke Energy Florida.

**Operating Expenses.** The variance was driven primarily by:

- a \$581 million decrease in fuel expense primarily due to lower natural gas prices, changes in generation mix, lower deferred fuel expense, and lower generation costs, partially offset by increased purchased power.

Partially offset by:

- a \$96 million increase in depreciation and amortization expense primarily due to additional plant in service, including the additional ownership interest in generation assets acquired from NCEMPA; and
- an \$84 million increase in operations and maintenance expense due to costs associated with merger commitments related to the Piedmont acquisition in 2016, higher employee benefit costs, and higher storm restoration costs at Duke Energy Progress, partially offset by lower nuclear costs and severance costs at Duke Energy Progress and lower costs related to fleet maintenance work at Duke Energy Florida.

**Other Income and Expenses.** The variance is due to higher AFUDC equity return on certain projects at Duke Energy Florida.

**Interest Expense.** The variance is due to higher debt outstanding, partially offset by higher AFUDC debt return on certain projects at Duke Energy Florida.

**Income Tax Expense.** The variance was primarily due to a higher effective tax rate, partially offset by lower pretax income. The effective tax rate for the twelve months ended December 31, 2016 and 2015 were 33.7 percent and 32.9 percent, respectively.

#### **Matters Impacting Future Results**

An order from regulatory authorities disallowing recovery of costs related to closure of ash impoundments could have an adverse impact on Progress Energy's financial position, results of operations and cash flows. See Notes 4 and 9 to the Consolidated Financial Statements, "Regulatory Matters" and "Asset Retirement Obligations," respectively, for additional information.

On May 18, 2016, the NCDEQ issued proposed risk classifications for all coal ash surface impoundments in North Carolina. All ash impoundments not previously designated as high priority by the Coal Ash Act were designated as intermediate risk. Certain impoundments classified as intermediate risk, however, may be reassessed in the future as low risk pursuant to legislation signed by the former North Carolina governor on July 14, 2016. Duke Energy Progress' estimated AROs related to the closure of North Carolina ash impoundments are based upon the mandated closure method or a probability weighting of potential closure methods for the impoundments that may be reassessed to low risk. As the final risk ranking classifications in North Carolina are delineated, final closure plans and corrective action measures are developed and approved for each site, the closure work progresses, and the closure method scope and remedial action methods are determined, the complexity of work and the amount of coal combustion material could be different than originally estimated and, therefore, could materially impact Duke Energy Progress' financial position. See Note 9 to the Consolidated Financial Statements, "Asset Retirement Obligations," for additional information.

Duke Energy Progress is a party to multiple lawsuits and subject to fines and other penalties related to operations at certain North Carolina facilities with ash basins. The outcome of these lawsuits, fines and penalties could have an adverse impact on Progress Energy's financial position, results of operations and cash flows. See Note 5 to the Consolidated Financial Statements, "Commitments and Contingencies," for additional information.

In the fourth quarter of 2016, Hurricane Matthew caused historic flooding, extensive damage and widespread power outages within the Duke Energy Progress service territory. Duke Energy Progress filed a petition with the NCUC requesting an accounting order to defer approximately \$140 million of incremental operation and maintenance and capital costs incurred in response to Hurricane Matthew and other significant 2016 storms. The NCUC has not ruled on the petition. A final order from the NCUC that disallows the deferral and future recovery of all or a significant portion of the incremental storm restoration costs incurred could result in an adverse impact on Progress Energy's financial position, results of operations and cash flows.

Duke Energy Progress intends to file a rate case in North Carolina in 2017 to recover costs of complying with CCR regulations and the Coal Ash Act, as well as costs of capital investments in generation, transmission and distribution systems and any increase in expenditures subsequent to previous rate cases. Progress Energy's earnings could be adversely impacted if the rate case is delayed or denied by the NCUC.



**DUKE ENERGY PROGRESS****Introduction**

Management's Discussion and Analysis should be read in conjunction with the accompanying Consolidated Financial Statements and Notes for the years ended December 31, 2016, 2015 and 2014.

**Basis of Presentation**

The results of operations and variance discussion for Duke Energy Progress is presented in a reduced disclosure format in accordance with General Instruction (I)(2)(a) of Form 10-K.

**Results of Operations**

(in millions)	Years Ended December 31,		
	2016	2015	Variance
Operating Revenues	\$ 5,277	\$ 5,290	\$ (13)
Operating Expenses	4,194	4,269	(75)
Gains on Sales of Other Asset and Other, net	3	3	—
Operating Income	1,086	1,024	62
Other Income and Expenses	71	71	—
Interest Expense	257	235	22
Income Before Income Taxes	900	860	40
Income Tax Expense	301	294	7
Net Income	\$ 599	\$ 566	\$ 33

The following table shows the percent changes in GWh sales and average number of customers for Duke Energy Progress. The below percentages for retail customer classes represent billed sales only. Total sales includes billed and unbilled retail sales and wholesale sales to incorporated municipalities and to public and private utilities and power marketers. Amounts are not weather normalized.

Increase (Decrease) over prior year	2016	2015
Residential sales	(1.5)%	(1.4)%
General service sales	0.2 %	0.9 %
Industrial sales	(0.1)%	(0.3)%
Wholesale power sales	18.4 %	13.0 %
Joint dispatch sales	17.7 %	14.1 %
Total sales	6.4 %	3.2 %
Average number of customers	1.3 %	1.4 %

**Year Ended December 31, 2016 as Compared to 2015**

**Operating Revenues.** The variance was driven primarily by:

- a \$206 million decrease in fuel revenues driven by lower natural gas prices and changes in generation mix;
- a \$17 million decrease in intercompany Joint Dispatch Agreement (JDA) revenues; and
- a \$5 million decrease in transmission revenues due to a settlement with customers that reduced the rate of return on equity.

Partially offset by:

- a \$150 million increase in rider revenues due to the purchase of NCEMPA's ownership interest in certain generating assets and energy efficiency programs; and
- a \$65 million increase in wholesale power revenues primarily due to the NCEMPA contract effective August 1, 2015, partially offset by lower peak demand.

**Operating Expenses.** The variance was driven primarily by:

- a \$199 million decrease in fuel expense primarily due to lower natural gas prices and changes in generation mix.

Partially offset by:

- a \$61 million increase in depreciation and amortization expense primarily due to additional plant in service, including the additional ownership interest in generating assets acquired from NCEMPA;
- a \$51 million increase in operations and maintenance expense primarily due to a favorable pension expense adjustment recorded in 2015, costs associated with merger commitments related to the Piedmont acquisition in 2016, higher storm restoration costs, and higher employee benefit costs, partially offset by lower nuclear costs (net of nuclear levelization) due to fewer outages in 2016 and lower severance costs; and
- a \$15 million increase in property and other taxes due to a 2015 North Carolina Franchise Tax refund and increases in current year property taxes in North Carolina and South Carolina.

**Interest Expense.** The variance was due to higher debt outstanding.

**Income Tax Expense.** The variance was primarily due to an increase in pretax income, partially offset by a lower effective tax rate. The effective tax rate for the years ended December 31, 2016 and 2015 were 33.4 percent and 34.2 percent, respectively. The decrease in the effective tax rate was primarily due to the impact of favorable tax return true-ups and a rate change in North Carolina.

### **Matters Impacting Future Results**

An order from regulatory authorities disallowing recovery of costs related to closure of ash impoundments could have an adverse impact on Duke Energy Progress' financial position, results of operations and cash flows. See Notes 4 and 9 to the Consolidated Financial Statements, "Regulatory Matters" and "Asset Retirement Obligations," respectively, for additional information.

On May 18, 2016, the NCDEQ issued proposed risk classifications for all coal ash surface impoundments in North Carolina. All ash impoundments not previously designated as high priority by the Coal Ash Act were designated as intermediate risk. Certain impoundments classified as intermediate risk, however, may be reassessed in the future as low risk pursuant to legislation signed by the former North Carolina governor on July 14, 2016. Duke Energy Progress' estimated AROs related to the closure of North Carolina ash impoundments are based upon the mandated closure method or a probability weighting of potential closure methods for the impoundments that may be reassessed to low risk. As the final risk ranking classifications in North Carolina are delineated, final closure plans and corrective action measures are developed and approved for each site, the closure work progresses, and the closure method scope and remedial action methods are determined, the complexity of work and the amount of coal combustion material could be different than originally estimated and, therefore, could materially impact Duke Energy Progress' financial position. See Note 9 to the Consolidated Financial Statements, "Asset Retirement Obligations," for additional information.

Duke Energy Progress is a party to multiple lawsuits and subject to fines and other penalties related to operations at certain North Carolina facilities with ash basins. The outcome of these lawsuits, fines and penalties could have an adverse impact on Duke Energy Progress' financial position, results of operations and cash flows. See Note 5 to the Consolidated Financial Statements, "Commitments and Contingencies," for additional information.

In the fourth quarter of 2016, Hurricane Matthew caused historic flooding, extensive damage and widespread power outages within the Duke Energy Progress service territory. Duke Energy Progress filed a petition with the NCUC requesting an accounting order to defer approximately \$140 million of incremental operation and maintenance and capital costs incurred in response to Hurricane Matthew and other significant 2016 storms. The NCUC has not ruled on the petition. A final order from the NCUC that disallows the deferral and future recovery of all or a significant portion of the incremental storm restoration costs incurred could result in an adverse impact on Duke Energy Progress' financial position, results of operations and cash flows.

Duke Energy Progress intends to file a rate case in North Carolina in 2017 to recover costs of complying with CCR regulations and the Coal Ash Act, as well as costs of capital investments in generation, transmission and distribution systems and any increase in expenditures subsequent to previous rate cases. Duke Energy Progress' earnings could be adversely impacted if the rate case is delayed or denied by the NCUC.

**DUKE ENERGY FLORIDA****Introduction**

Management's Discussion and Analysis should be read in conjunction with the accompanying Consolidated Financial Statements and Notes for the years ended December 31, 2016, 2015 and 2014.

**Basis of Presentation**

The results of operations and variance discussion for Duke Energy Florida is presented in a reduced disclosure format in accordance with General Instruction (I)(2)(a) of Form 10-K.

**Results of Operations**

(in millions)	Years Ended December 31,		
	2016	2015	Variance
Operating Revenues	\$ 4,568	\$ 4,977	\$ (409)
Operating Expenses	3,527	3,862	(335)
Operating Income	1,041	1,115	(74)
Other Income and Expenses	44	24	20
Interest Expense	212	198	14
Income Before Income Taxes	873	941	(68)
Income Tax Expense	322	342	(20)
Net Income	\$ 551	\$ 599	\$ (48)

The following table shows the percent changes in GWh sales and average number of customers for Duke Energy Florida. The below percentages for retail customer classes represent billed sales only. Wholesale power sales include both billed and unbilled sales. Total sales includes billed and unbilled retail sales and wholesale sales to incorporated municipalities and to public and private utilities and power marketers. Amounts are not weather normalized.

Increase (Decrease) over prior year	2016	2015
Residential sales	1.7 %	4.9 %
General service sales	(0.1)%	2.4 %
Industrial sales	(2.9)%	0.8 %
Wholesale and other	35.2 %	(2.3)%
Total sales	0.9 %	3.5 %
Average number of customers	1.5 %	1.5 %

**Year Ended December 31, 2016 as Compared to 2015**

**Operating Revenues.** The variance was driven primarily by:

- a \$432 million decrease in fuel and capacity revenues primarily due to lower fuel prices to retail customers, partially offset by increased capacity rates to retail customers;
- a \$31 million decrease in wholesale power revenues primarily driven by contracts that expired in the prior year; and
- a \$17 million decrease in retail sales, net of fuel revenue, due to unfavorable weather compared to the prior year.

Partially offset by:

- a \$38 million increase in rider revenues primarily due to nuclear asset securitization revenues beginning in 2016, and an increase in energy conservation cost recovery clause and environmental cost recovery clause revenues due to higher recovery rates in 2016, partially offset by a decrease in NCRC revenues as a result of suspending recovery of the Levy nuclear project in 2015;
- a \$19 million increase in other revenues primarily due to a customer settlement charge taken in the prior year, increased transmission demand and higher transmission rates; and
- a \$16 million increase in weather-normal sales volumes to retail customers in the current year.

**Operating Expenses.** The variance was driven primarily by:

- a \$382 million decrease in fuel expense primarily due to lower deferred fuel expense and lower generation costs, partially offset by increased purchased power; and
- a \$20 million decrease in property and other taxes due to lower revenue related taxes compared to the prior year.

Partially offset by:

- a \$35 million increase in depreciation and amortization expense primarily due to an increase in base assets and clause amortization; and
- a \$33 million increase in operations and maintenance expense primarily due to higher employee benefit costs and costs recoverable through the energy conservation cost recovery clause, partially offset by lower costs related to fleet maintenance work.

**Other Income and Expenses.** The variance was primarily driven by higher AFUDC equity return on the Citrus County Combined Cycle and Hines Chiller Uprate projects in the current year.

**Interest Expense.** The variance was due to new bonds issued in 2016, partially offset by higher AFUDC debt return on the Citrus County Combined Cycle and Hines Chiller Uprate projects in the current year.

**Income Tax Expense.** The variance was primarily due to lower pretax income, partially offset by a higher effective tax rate. The effective tax rate for the years ended December 31, 2016 and 2015 were 36.9 percent and 36.3 percent, respectively. The increase in effective tax rate was primarily due the release of tax reserves in 2015 due to expired tax statutes, partially offset by higher AFUDC equity.

**DUKE ENERGY OHIO****Introduction**

Management's Discussion and Analysis should be read in conjunction with the accompanying Consolidated Financial Statements and Notes for the years ended December 31, 2016, 2015 and 2014.

**Basis of Presentation**

The results of operations and variance discussion for Duke Energy Ohio is presented in a reduced disclosure format in accordance with General Instruction (I)(2)(a) of Form 10-K.

**Results of Operations**

(in millions)	Years Ended December 31,		
	2016	2015	Variance
Operating Revenues	\$ 1,944	\$ 1,905	\$ 39
Operating Expenses	1,599	1,610	(11)
Gains on Sales of Other Assets and Other, net	2	8	(6)
Operating Income	347	303	44
Other Income and Expenses	9	6	3
Interest Expense	86	79	7
Income from Continuing Operations Before Income Taxes	270	230	40
Income Tax Expense from Continuing Operations	78	81	(3)
Income from Continuing Operations	192	149	43
Income from Discontinued Operations, net of tax	36	23	13
Net Income	\$ 228	\$ 172	\$ 56

The following table shows the percent changes in GWh sales of electricity and average number of electric customers for Duke Energy Ohio. The below percentages for retail customer classes represent billed sales only. Total sales includes billed and unbilled retail sales and wholesale sales to incorporated municipalities and to public and private utilities and power marketers. Amounts are not weather normalized.

Increase (Decrease) over prior year	2016	2015
Residential sales	0.7 %	(2.2)%
General service sales	1.3 %	(0.1)%
Industrial sales	(0.7)%	0.4 %
Wholesale power sales	(53.9)%	222.3 %
Total sales	(1.1)%	2.8 %
Average number of customers	0.8 %	0.7 %

**Year Ended December 31, 2016 as Compared to 2015**

**Operating Revenues.** The variance was driven primarily by:

- a \$61 million increase in rider revenues primarily due to increased rates and true-ups.

Partially offset by:

- a \$25 million decrease in fuel revenues driven by lower electric fuel and natural gas prices and decreased natural gas sales volumes.

**Operating Expenses.** The variance was driven by:

- a \$38 million decrease in the cost of natural gas, primarily due to decreased volumes and lower natural gas prices.

Partially offset by:

- a \$17 million increase in operations and maintenance expense primarily due to increased spending on energy efficiency programs, higher PJM transmission owner scheduling and reactive supply expenses, and increased costs related to distribution projects and inspection maintenance programs, partially offset by lower allocated corporate costs;
- a \$6 million increase in depreciation and amortization expense due to additional plant in service; and
- a \$4 million increase in property and other taxes due to higher property taxes.

**Income Tax Expense.** The variance was primarily due to a lower effective tax rate, partially offset by an increase in pretax income. The effective tax rate for the years ended December 31, 2016 and 2015 were 28.9 percent and 35.2 percent, respectively. The decrease in the effective tax rate was primarily due to an immaterial out of period adjustment related to deferred tax balances associated with property, plant and equipment.

**Income from Discontinued Operations, Net of Tax.** The variance was primarily due to an income tax benefit resulting from immaterial out of period deferred tax liability adjustments related to the Midwest Generation Disposal Group, partially offset by the Midwest Generation Disposal Group's operating results in 2015. See Note 2 to the Consolidated Financial Statements, "Acquisitions and Dispositions," for additional information.

#### **Matters Impacting Future Results**

An order from regulatory authorities disallowing recovery of costs related to closure of ash basins could have an adverse impact on Duke Energy Ohio's financial position, results of operations and cash flows. See Notes 4 and 9 to the Consolidated Financial Statements, "Regulatory Matters" and "Asset Retirement Obligations," respectively, for additional information.

Duke Energy Ohio's nonregulated Beckjord station, a facility retired during 2014, is not subject to the EPA rule related to the disposal of CCR from electric utilities. However, if costs are incurred as a result of environmental regulations or to mitigate risk associated with on-site storage of coal ash at the facility, the costs could have an adverse impact on Duke Energy Ohio's financial position, results of operations and cash flows.

In 2013, the PUCO issued an order (PUCO order) approving Duke Energy Ohio's recovery of costs incurred between 2008 and 2012 for environmental investigation and remediation of two former MGP sites. At December 31, 2016, Duke Energy Ohio had recorded in Regulatory assets on the Consolidated Balance Sheet approximately \$99 million of estimated MGP remediation costs not yet recovered through the MGP rider mechanism. Intervenors have appealed to the Ohio Supreme Court the PUCO order authorizing recovery of these amounts. That appeal remains pending. Duke Energy Ohio cannot predict the outcome of the appeal before the Ohio Supreme Court or future action by the PUCO. If Duke Energy Ohio is not able to recover these remediation costs in rates, the costs could have an adverse impact on Duke Energy Ohio's financial position, results of operations and cash flows. See Note 4 to the Consolidated Financial Statements, "Regulatory Matters," for additional information.

Duke Energy Ohio has a 9 percent ownership interest in OVEC, which owns 2,256 MW of coal fired generation capacity. As a counterparty to an ICPA, Duke Energy Ohio has a contractual arrangement to receive entitlements to capacity and energy from OVEC's power plants through June 2040 commensurate with its power participation ratio, which is equivalent to Duke Energy Ohio's ownership interest. Costs, including fuel, operating expenses, fixed costs, debt amortization, and interest expense, are allocated to counterparties to the ICPA, including Duke Energy Ohio, based on their power participation ratio. The value of the ICPA is subject to variability due to fluctuations in power prices and changes in OVEC's costs of business. Deterioration in the credit quality or bankruptcy of one or more parties to the ICPA could increase the costs of OVEC. In addition, certain proposed environmental rulemaking costs could result in future increased cost allocations.

Duke Energy Ohio has notified the PUCO of its intent to file an electric distribution rate case in Ohio to address recovery of electric distribution system capital investments and any increase in expenditures subsequent to previous rate cases. Duke Energy Ohio's earnings could be adversely impacted if the rate case is delayed or denied by the PUCO.

**DUKE ENERGY INDIANA****Introduction**

Management's Discussion and Analysis should be read in conjunction with the accompanying Consolidated Financial Statements and Notes for the years ended December 31, 2016, 2015 and 2014.

**Basis of Presentation**

The results of operations and variance discussion for Duke Energy Indiana is presented in a reduced disclosure format in accordance with General Instruction (I)(2)(a) of Form 10-K.

**Results of Operations**

(in millions)	Years Ended December 31,		
	2016	2015	Variance
Operating Revenues	\$ 2,958	\$ 2,890	68
Operating Expenses	2,194	2,247	(53)
Gains on Sales of Other Assets and Other, net	1	1	—
Operating Income	765	644	121
Other Income and Expenses	22	11	11
Interest Expense	181	176	5
Income Before Income Taxes	606	479	127
Income Tax Expense	225	163	62
Net Income	\$ 381	\$ 316	65

The following table shows the percent changes in GWh sales and average number of customers for Duke Energy Indiana. The below percentages for retail customer classes represent billed sales only. Total sales includes billed and unbilled retail sales and wholesale sales to incorporated municipalities and to public and private utilities and power marketers. Amounts are not weather normalized.

Increase (Decrease) over prior year	2016	2015
Residential sales	(0.4)%	(4.1)%
General service sales	0.7 %	(0.5)%
Industrial sales	0.4 %	(1.4)%
Wholesale power sales	10.8 %	9.4 %
Total sales	2.5 %	0.3 %
Average number of customers	1.1 %	0.8 %

**Year Ended December 31, 2016 as Compared to 2015**

**Operating Revenues.** The variance was driven primarily by:

- a \$94 million increase in rider revenues related to clean coal equipment and Edwardsport IGCC; and
- a \$20 million increase in wholesale power revenues due to new contracts and higher demand.

Partially offset by:

- a \$50 million decrease in fuel revenues primarily due to a decrease in fuel prices.

**Operating Expenses.** The variance was driven primarily by:

- a \$73 million decrease in fuel expense primarily due to lower fuel prices and lower purchased power costs; and
- an \$88 million pretax impairment charge in the prior year related to the 2015 Edwardsport IGCC settlements.

Partially offset by:

- a \$62 million increase in depreciation and amortization expense primarily due to additional plant in service, as well as increased depreciation related to AROs;
- a \$40 million increase in operations and maintenance expense due to 2016 costs at Edwardsport IGCC in excess of the settlement cap and increased costs related to energy efficiency programs and clean coal technology that are recoverable through rate riders, partially offset by decreased expenses at several generating plants; and
- an \$8 million impairment charge in the current year related to the early retirement of certain metering equipment.

**Other Income and Expense.** The variance was driven primarily by an increase in AFUDC equity in the current year and certain costs resulting from the 2015 Edwardsport IGCC settlements in the prior year.

**Income Tax Expense.** The variance was primarily due to an increase in pretax income. The effective tax rates for the years ended December 31, 2016 and 2015 were 37.1 percent and 34.0 percent, respectively. The increase in the effective tax rate was primarily due to an immaterial out of period adjustment to deferred tax balances in 2015 associated with property, plant and equipment and the reclassification of state tax credits from income tax to general franchise tax in 2016.

**Matters Impacting Future Results**

On April 17, 2015, the EPA published in the Federal Register a rule to regulate the disposal of CCR from electric utilities as solid waste. Duke Energy Indiana has interpreted the rule to identify the coal ash basin sites impacted and has assessed the amounts of coal ash subject to the rule and a method of compliance. Duke Energy Indiana's interpretation of the requirements of the CCR rule is subject to potential legal challenges and further regulatory approvals, which could result in additional ash basin closure requirements, higher costs of compliance and greater AROs. An order from regulatory authorities disallowing recovery of costs related to closure of ash basins could have an adverse impact on Duke Energy Indiana's financial position, results of operations and cash flows.

The IURC approved a settlement agreement between Duke Energy Indiana and multiple parties that resolves all disputes, claims and issues from the IURC proceedings related to post-commercial operating performance and recovery of ongoing operating and capital costs at the Edwardsport IGCC generating facility. Pursuant to the terms of this agreement, the agreement imposes a cost cap for retail recoverable operations and maintenance costs through 2017. An inability to manage operating costs in accordance with caps imposed pursuant to the agreement could have an adverse impact on Duke Energy Indiana's financial position, results of operations and cash flows. See Note 4 to the Consolidated Financial Statements, "Regulatory Matters," for additional information.



## CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Preparation of financial statements requires the application of accounting policies, judgments, assumptions and estimates that can significantly affect the reported results of operations, cash flows or the amounts of assets and liabilities recognized in the financial statements. Judgments made include the likelihood of success of particular projects, possible legal and regulatory challenges, earnings assumptions on pension and other benefit fund investments and anticipated recovery of costs, especially through regulated operations.

Management discusses these policies, estimates and assumptions with senior members of management on a regular basis and provides periodic updates on management decisions to the Audit Committee of the Board of Directors. Management believes the areas described below require significant judgment in the application of accounting policy or in making estimates and assumptions that are inherently uncertain and that may change in subsequent periods.

For further information, see Note 1 to the Consolidated Financial Statements, "Summary of Significant Accounting Policies."

### Regulated Operations Accounting

Duke Energy's regulated operations meet the criteria for application of regulated operations accounting treatment for substantially all of its operations. As a result, Duke Energy records assets and liabilities that would not be recorded for nonregulated entities. Regulatory assets generally represent incurred costs that have been deferred because such costs are probable of future recovery in customer rates. Regulatory liabilities generally represent obligations to make refunds or reduce rates to customers for previous collections or deferred revenue for costs that have yet to be incurred. Regulatory assets and liabilities can also be recorded for Alternative Revenue Programs (ARP), such as rate stabilization adjustment mechanisms and weather normalization adjustments. These programs allow for the deferral or accrual of revenues to provide recovery of approved margins on an annual basis independent of weather and consumption patterns. Duke Energy also has ARP's that relate to energy efficiency programs.

Management continually assesses whether recorded regulatory assets are probable of future recovery by considering factors such as applicable regulatory environment changes, historical regulatory treatment for similar costs in Duke Energy's jurisdictions, litigation of rate orders, recent rate orders to other regulated entities, levels of actual return on equity compared to approved rates of return on equity and the status of any pending or potential deregulation legislation. If future recovery of costs ceases to be probable, asset write-offs would be recognized in operating income. Additionally, regulatory agencies can provide flexibility in the manner and timing of the depreciation of property, plant and equipment, recognition of asset retirement costs and amortization of regulatory assets, or may disallow recovery of all or a portion of certain assets. For further information on regulatory assets and liabilities, see Note 4 to the Consolidated Financial Statements, "Regulatory Matters."

As required by regulated operations accounting rules, significant judgment can be required to determine if an otherwise recognizable incurred cost, such as closure costs for ash impoundments, qualifies to be deferred for future recovery as a regulatory asset. Significant judgment can also be required to determine if revenues previously recognized are for entity specific costs that are no longer expected to be or have not yet been incurred and are therefore a regulatory liability. See Note 4 to the Consolidated Financial Statements, "Regulatory Matters," for a more in-depth discussion of Regulatory Assets and Liabilities.

Regulated operations accounting rules also require recognition of a disallowance (also called "impairment") loss if it becomes probable that part of the cost of a plant under construction (or a recently completed or an abandoned plant) will be disallowed for ratemaking purposes and a reasonable estimate of the amount of the disallowance can be made. For example, if a cost cap is set for a plant still under construction, the amount of the disallowance is a result of a judgment as to the ultimate cost of the plant. Other disallowances can require judgments on allowed future rate recovery. See Note 4 to the Consolidated Financial Statements, "Regulatory Matters," for a discussion of disallowances recorded related to the Edwardsport IGCC Plant, the retired Crystal River Unit 3 Nuclear Plant (Crystal River Unit 3) and the Grid Infrastructure Improvement Plan.

When it becomes probable that regulated assets will be abandoned, the cost of the asset is removed from plant in service. The value that may be retained as a regulatory asset on the balance sheet for the abandoned property is dependent upon amounts that may be recovered through regulated rates, including any return. As such, an impairment charge, if any, could be partially or fully offset by the establishment of a regulatory asset if rate recovery is probable. The impairment for a disallowance of costs for regulated plants under construction, recently completed or abandoned is based on discounted cash flows.

For further information, see Note 4 to the Consolidated Financial Statements, "Regulatory Matters."

### Goodwill Impairment Assessments

Duke Energy allocates goodwill to reporting units, which are either the Business Segments listed in Note 3 to the Consolidated Financial Statements or one level below based on how the Business Segment is managed. Duke Energy is required to test goodwill for impairment at least annually and more frequently if it is more likely than not that the fair value is less than the carrying value. Duke Energy performs its annual impairment test as of August 31.

Application of the goodwill impairment test requires management's judgment, including determining the fair value of the reporting unit, which management estimates using a weighted combination of the income approach, which estimates fair value based on discounted cash flows, and the market approach, which estimates fair value based on market comparables within the utility and energy industries. Significant assumptions used in these fair value analyses include discount and growth rates, future rates of return expected to result from ongoing rate regulation, utility sector market performance and transactions, projected operating and capital cash flows for Duke Energy's business and the fair value of debt.

Estimated future cash flows under the income approach are based to a large extent on Duke Energy's internal business plan, and adjusted as appropriate for Duke Energy's views of market participant assumptions. Duke Energy's internal business plan reflects management's assumptions related to customer usage and attrition based on internal data and economic data obtained from third-party sources, projected commodity pricing data and potential changes in environmental regulations. The business plan assumes the occurrence of certain events in the future, such as the outcome of future rate filings, future approved rates of returns on equity, anticipated earnings/returns related to significant future capital investments, continued recovery of cost of service, the renewal of certain contracts and the future of renewable tax credits. Management also makes assumptions regarding operation, maintenance and general and administrative costs based on the expected outcome of the aforementioned events. In estimating cash flows, Duke Energy incorporates expected growth rates, regulatory and economic stability, the ability to renew contracts and other factors, into its revenue and expense forecasts.

One of the most significant assumptions that Duke Energy utilizes in determining the fair value of its reporting units under the income approach is the discount rate applied to the estimated future cash flows. Management determines the appropriate discount rate for each of its reporting units based on the weighted average cost of capital (WACC) for each individual reporting unit. The WACC takes into account both the after-tax cost of debt and cost of equity. A major component of the cost of equity is the current risk-free rate on 20-year U.S. Treasury bonds. In the 2016 impairment tests, Duke Energy considered implied WACCs for certain peer companies in determining the appropriate WACC rates to use in its analysis. As each reporting unit has a different risk profile based on the nature of its operations, including factors such as regulation, the WACC for each reporting unit may differ. Accordingly, the WACCs were adjusted, as appropriate, to account for company specific risk premiums. The discount rates used for calculating the fair values as of August 31, 2016, for each of Duke Energy's domestic reporting units ranged from 5.2 percent to 15 percent. The underlying assumptions and estimates are made as of a point in time. Subsequent changes, particularly changes in the discount rates, authorized regulated rates of return or growth rates inherent in management's estimates of future cash flows, could result in future impairment charges.

For Duke Energy's international operations, a country-specific risk adder based on the average risk premium for each separate country in which International Energy operates was added to the base discount rate to reflect the differing risk profiles. This resulted in a discount rate for the August 31, 2016, goodwill impairment test for the international operations of 11.5 percent. In December 2016, Duke Energy disposed of its International operations and no longer has goodwill associated with the International operations. For further information, see Note 2 to the Consolidated Financial Statements, "Acquisitions and Dispositions."

Duke Energy primarily operates in environments that are either fully or partially rate-regulated. In such environments, revenue requirements are adjusted periodically by regulators based on factors including levels of costs, sales volumes and costs of capital. Accordingly, Duke Energy's regulated utilities operate to some degree with a buffer from the direct effects, positive or negative, of significant swings in market or economic conditions. However, significant changes in discount rates over a prolonged period may have a material impact on the fair value of equity.

As of August 31, 2016, all of the reporting units' estimated fair value of equity substantially exceeded the carrying value of equity.

For further information, see Note 11 to the Consolidated Financial Statements, "Goodwill and Intangible Assets."

### **Asset Retirement Obligations**

AROs are recognized for legal obligations associated with the retirement of property, plant and equipment. Substantially all AROs are related to regulated operations. When recording an ARO, the present value of the projected liability is recognized in the period in which it is incurred, if a reasonable estimate of fair value can be made. The liability is accreted over time. For operating plants, the present value of the liability is added to the cost of the associated asset and depreciated over the remaining life of the asset. For retired plants, the present value of the liability is recorded as a regulatory asset unless determined not to be recoverable.

The present value of the initial obligation and subsequent updates are based on discounted cash flows, which include estimates regarding timing of future cash flows, selection of discount rates and cost escalation rates, among other factors. These estimates are subject to change. Depreciation expense is adjusted prospectively for any changes to the carrying amount of the associated asset. The Duke Energy Registrants receive amounts to fund the cost of the ARO for regulated operations through a combination of regulated revenues and earnings on the nuclear decommissioning trust fund (NDTF). As a result, amounts recovered in regulated revenues, earnings on the NDTF, accretion expense and depreciation of the associated asset are netted and deferred as a regulatory asset or liability.

Obligations for nuclear decommissioning are based on-site-specific cost studies. Duke Energy Carolinas and Duke Energy Progress assume prompt dismantlement of the nuclear facilities after operations are ceased. Duke Energy Florida assumes Crystal River Unit 3 will be placed into a safe storage configuration until eventual dismantlement is completed by 2074. Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida also assume that spent fuel will be stored on-site until such time that it can be transferred to a yet to be built U.S. Department of Energy (DOE) facility.

Obligations for closure of ash basins are based upon discounted cash flows of estimated costs for site-specific plans, if known, or probability weightings of the potential closure methods if the closure plans are under development and multiple closure options are being considered and evaluated on a site-by-site basis.

For further information, see Note 9 to the Consolidated Financial Statements, "Asset Retirement Obligations."

### **Long-Lived Asset Impairment Assessments, Excluding Regulated Operations**

Property, plant and equipment, excluding plant held for sale, is stated at the lower of carrying value (historical cost less accumulated depreciation and previously recorded impairments) or fair value, if impaired. Duke Energy evaluates property, plant and equipment for impairment when events or changes in circumstances (such as a significant change in cash flow projections or the determination that it is more likely than not that an asset or asset group will be sold) indicate the carrying value of such assets may not be recoverable. The determination of whether an impairment has occurred is based on an estimate of undiscounted future cash flows attributable to the assets, as compared with their carrying value.

Performing an impairment evaluation involves a significant degree of estimation and judgment in areas such as identifying circumstances that indicate an impairment may exist, identifying and grouping affected assets and developing the undiscounted future cash flows. If an impairment has occurred, the amount of the impairment recognized is determined by estimating the fair value and recording a loss if the carrying value is greater than the fair value. Additionally, determining fair value requires probability weighting future cash flows to reflect expectations about possible variations in their amounts or timing and the selection of an appropriate discount rate. Although cash flow estimates are based on relevant information available at the time the estimates are made, estimates of future cash flows are, by nature, highly uncertain and may vary significantly from actual results. For assets identified as held for sale, the carrying value is compared to the estimated fair value less cost to sell to determine if an impairment loss is required. Until the assets are disposed of, their estimated fair value is re-evaluated when circumstances or events change.

When determining whether an asset or asset group has been impaired, management groups assets at the lowest level that has discrete cash flows.

### Revenue Recognition

Revenues are recognized when either the electric service is provided or the natural gas is delivered. As retail meters are read, invoices are prepared and the invoice amount is generally recognized as "billed" revenue. Operating revenues also include "unbilled" electric and natural gas revenues for the amount of service provided or product delivered after the last meter reading prior to the end of the accounting period. Unbilled retail revenues are estimated by applying an average revenue per kilowatt-hour (kWh), per thousand cubic feet (Mcf) or per dekatherm (dth) for all customer classes to the number of estimated kWh, Mcf or dth delivered but not yet billed.

For wholesale customers, the invoice amount is generally recognized as "billed" revenue. Although meters are read as of the end of the month, invoices have typically not been prepared. An estimate of the wholesale invoice is included in the reported amount of "unbilled" revenue. In addition, adjustments to accounts receivable or accruals of accounts payable are sometimes recorded to contracts billed under estimated formula rates which are subsequently true-up in the following year.

The amount of unbilled revenues can vary significantly from period to period as a result of numerous factors that impact the change in the unbilled revenue receivable balance, including seasonality, weather, customer usage patterns, customer mix, timing of rendering customer bills, meter readings schedules and the average price in effect for customer classes.

### Pension and Other Post-Retirement Benefits

The calculation of pension expense, other post-retirement benefit expense and net pension and other post-retirement assets or liabilities require the use of assumptions and election of permissible accounting alternatives. Changes in assumptions can result in different expense and reported asset or liability amounts and future actual experience can differ from the assumptions. Duke Energy believes the most critical assumptions for pension and other post-retirement benefits are the expected long-term rate of return on plan assets and the assumed discount rate applied to future projected benefit payments. Additionally, the health care cost trend rate assumption is critical to Duke Energy's estimate of other post-retirement benefits.

Duke Energy elects to amortize net actuarial gains or losses in excess of the corridor of 10 percent of the greater of the market-related value of plan assets or plan projected benefit obligation, into net pension or other post-retirement benefit expense over the average remaining service period of active covered employees. Prior service cost or credit, which represents the effect on plan liabilities due to plan amendments, is amortized over the average remaining service period of active covered employees.

Duke Energy, or its affiliates, maintain, and the Subsidiary Registrants participate in, qualified, non-contributory defined benefit retirement plans. The plans cover most U.S. employees using a cash balance formula. Under a cash balance formula, a plan participant accumulates a retirement benefit consisting of pay credits based upon a percentage of current eligible earnings based on age and years of service and current interest credits. Certain employees are covered under plans that use a final average earnings formula. As of January 1, 2014, the qualified and non-qualified non-contributory defined benefit plans are closed to new and rehired non-union, and certain unionized employees. Piedmont employees hired or rehired after December 31, 2007, cannot participate in the qualified, non-contributory defined benefit plans, but are participants in a Money Purchase Pension plan. Duke Energy, or its affiliates, maintain, and the Subsidiary Registrants participate in, non-qualified, non-contributory defined benefit retirement plans which cover certain executives.

Duke Energy provides some health care and life insurance benefits for retired employees on a contributory and non-contributory basis. Certain employees are eligible for these benefits if they have met age and service requirements at retirement, as defined in the plans. These plans are closed to new participants.

As of December 31, 2016, Duke Energy assumes pension and other post-retirement plan assets will generate a long-term rate of return of 6.50 percent (6.75 percent for Piedmont pension and other post-retirement plan assets). The expected long-term rate of return was developed using a weighted average calculation of expected returns based primarily on future expected returns across asset classes considering the use of active asset managers, where applicable. Equity securities are held for their higher expected returns. Debt securities are primarily held to hedge the pension liability. Hedge funds, real estate and other global securities are held for diversification. Investments within asset classes are diversified to achieve broad market participation and reduce the impact of individual managers on investments. In 2013, Duke Energy adopted a de-risking investment strategy for its pension assets. As the funded status of the plans increase, over time the targeted allocation to return-seeking assets will be reduced and the targeted allocation to fixed-income assets will be increased to better manage Duke Energy's pension assets and reduce funded status volatility. Based on the current funded status of the plans, the asset allocation for the Duke Energy pension plans is 63 percent fixed-income assets and 37 percent return-seeking assets. The asset allocation for the Piedmont assets is 61 percent return-seeking assets and 39 percent liability hedging fixed-income assets. Duke Energy regularly reviews its actual asset allocation and periodically rebalances its investments to the targeted allocations when considered appropriate.

The assets for Duke Energy's pension and other post-retirement plans are maintained in a master retirement trust. Piedmont also has qualified pension and other post-retirement assets. Duke Energy also invests other post-retirement assets in Voluntary Employees' Beneficiary Association trusts and mutual funds within a Piedmont 401(h) account (excludes 401(h) accounts within the master retirement trust). The investment objective is to achieve sufficient returns, subject to a prudent level of portfolio risk, for the purpose of promoting the security of plan benefits for participants.

Duke Energy discounted its future U.S. pension and other post-retirement obligations using a rate of 4.1 percent as of December 31, 2016. Discount rates used to measure benefit plan obligations for financial reporting purposes reflect rates at which pension benefits could be effectively settled. As of December 31, 2016, Duke Energy determined its discount rate for U.S. pension and other post-retirement obligations using a bond selection-settlement portfolio approach. This approach develops a discount rate by selecting a portfolio of high quality corporate bonds that generate sufficient cash flow to provide for projected benefit payments of the plan. The selected bond portfolio is derived from a universe of non-callable corporate bonds rated Aa quality or higher. After the bond portfolio is selected, a single interest rate is determined that equates the present value of the plan's projected benefit payments discounted at this rate with the market value of the bonds selected.

Future changes in plan asset returns, assumed discount rates and various other factors related to the participants in Duke Energy's pension and post-retirement plans will impact future pension expense and liabilities. Duke Energy cannot predict with certainty what these factors will be in the future. The following table presents the approximate effect on Duke Energy's 2016 pretax pension expense, pretax other post-retirement expense, pension obligation and other post-retirement benefit obligation if a 0.25 percent change in rates were to occur.

(in millions)	Qualified and Non- Qualified Pension Plans		Other Post-Retirement Plans	
	0.25%	(0.25)%	0.25%	(0.25)%
Effect on 2016 pretax pension and other post-retirement expense				
Expected long-term rate of return	\$ (20)	\$ 20	\$ (1)	\$ 1
Discount rate	(17)	17	(1)	1
Effect on pension and other post-retirement benefit obligation at December 31, 2016				
Discount rate	(202)	207	(17)	17

Duke Energy's other post-retirement plan uses a health care trend rate covering both pre- and post-age 65 retired plan participants, which is comprised of a medical care trend rate, which reflects the near- and long-term expectation of increases in medical costs, and a prescription drug trend rate, which reflects the near- and long-term expectation of increases in prescription drug costs. As of December 31, 2016, the health care trend rate was 7 percent, trending down to 4.75 percent by 2023. The following table presents the approximate effect on Duke Energy's 2016 pretax other post-retirement expense and other post-retirement benefit obligation if a 1 percentage point change in the health care trend rate were to occur. These plans are closed to new hires.

(in millions)	Other Post-Retirement Plans	
	1%	(1)%
Effect on 2016 other post-retirement expense	\$ 5	\$ (5)
Effect on other post-retirement benefit obligation at December 31, 2016	29	(25)

For further information, see Note 21 to the Consolidated Financial Statements, "Employee Benefit Plans."

### Income Taxes

Duke Energy and its subsidiaries file a consolidated federal income tax return and other state returns. The Subsidiary Registrants entered into a tax-sharing agreement with Duke Energy. Income taxes recorded represent amounts the Subsidiary Registrants would incur as separate C-Corporations. Deferred income taxes have been provided for temporary differences between GAAP and tax bases of assets and liabilities because the differences create taxable or tax-deductible amounts for future periods. ITCs associated with regulated operations are deferred and amortized as a reduction of income tax expense over the estimated useful lives of the related properties.

Positions taken or expected to be taken on tax returns, including the decision to exclude certain income or transactions from a return, are recognized in the financial statements when it is more likely than not the tax position can be sustained based solely on the technical merits of the position. The largest amount of tax benefit that is greater than 50 percent likely of being effectively settled is recorded. Management considers a tax position effectively settled when: (i) the taxing authority has completed its examination procedures, including all appeals and administrative reviews; (ii) the Duke Energy Registrants do not intend to appeal or litigate the tax position included in the completed examination; and (iii) it is remote the taxing authority would examine or re-examine the tax position. The amount of a tax return position that is not recognized in the financial statements is disclosed as an unrecognized tax benefit. If these unrecognized tax benefits are later recognized, then there will be a decrease in income tax expense or a reclassification between deferred and current taxes payable. If the portion of tax benefits that has been recognized changes and those tax benefits are subsequently unrecognized, then the previously recognized tax benefits may impact the financial statements through increasing income tax expense or a reclassification between deferred and current taxes payable. Changes in assumptions on tax benefits may also impact interest expense or interest income and may result in the recognition of tax penalties.

Tax-related interest and penalties are recorded in Interest Expense and Other Income and Expenses, net, in the Consolidated Statements of Operations.

**LIQUIDITY AND CAPITAL RESOURCES****Sources and Uses of Cash**

Duke Energy relies primarily upon cash flows from operations, debt issuances and its existing cash and cash equivalents to fund its liquidity and capital requirements. Duke Energy's capital requirements arise primarily from capital and investment expenditures, repaying long-term debt and paying dividends to shareholders. Duke Energy's projected primary sources and uses for the next three fiscal years are included in the table below.

(in millions)	2017	2018	2019
<b>Uses:</b>			
Capital expenditures	\$ 8,780	\$ 10,030	\$ 10,075
Debt maturities and reduction in short-term debt <sup>(a)</sup>	2,700	2,950	2,750
Dividend payments <sup>(b)</sup>	2,450	2,550	2,650
<b>Sources:</b>			
Net cash flows from operations <sup>(c)</sup>	\$ 6,750	\$ 7,950	\$ 8,750
Debt issuances	6,500	6,650	5,400
Equity issuances	—	350	350

- (a) Excludes capital leases and 2018 maturities of securitized receivables expected to be renewed. Amounts represent Duke Energy's financing plan, which accelerates certain contractual maturities.  
(b) Subject to approval by the Board of Directors.  
(c) Includes expenditures related to ash basin closures.

During 2014, Duke Energy declared a taxable dividend of foreign earnings in the form of notes payable that was intended to result in the repatriation of approximately \$2.7 billion of cash held and expected to be generated by International Energy over a period of up to eight years. In 2015, approximately \$1.5 billion was remitted. In 2016, \$120 million was remitted. The remaining amount was remitted in the first quarter of 2017.

The Subsidiary Registrants generally maintain minimal cash balances and use short-term borrowings to meet their working capital needs and other cash requirements. The Subsidiary Registrants, excluding Progress Energy, support their short-term borrowing needs through participation with Duke Energy and certain of its other subsidiaries in a money pool arrangement. The companies with short-term funds may provide short-term loans to affiliates participating under this arrangement. See Note 6 to the Consolidated Financial Statements, "Debt and Credit Facilities," for additional discussion of the money pool arrangement.

Duke Energy and the Subsidiary Registrants, excluding Progress Energy, may also use short-term debt, including commercial paper and the money pool, as a bridge to long-term debt financings. The levels of borrowing may vary significantly over the course of the year due to the timing of long-term debt financings and the impact of fluctuations in cash flows from operations. From time to time, Duke Energy's current liabilities exceed current assets resulting from the use of short-term debt as a funding source to meet scheduled maturities of long-term debt, as well as cash needs, which can fluctuate due to the seasonality of its businesses.

**Piedmont Acquisition**

On October 3, 2016, Duke Energy acquired all outstanding common stock of Piedmont for a total cash purchase price of \$5.0 billion, and assumed Piedmont's existing long-term debt, which had an estimated fair value of approximately \$2.0 billion at the time of the acquisition. For further information on the acquisition, refer to Note 2 to the Consolidated Financial Statements, "Acquisitions and Dispositions."

Financings to fund the transaction included \$3.75 billion of long-term debt issued in August 2016, \$750 million borrowed under the Term Loan in September 2016, as well as the issuance of 10.6 million shares of common stock in October 2016. The share issuance resulted in net cash proceeds of approximately \$723 million. See Note 6 to the Consolidated Financial Statements, "Debt and Credit Facilities," for additional information related to the debt issuance and Note 18, "Common Stock," for additional information related to the equity issuance.

**International Energy**

In February 2016, Duke Energy announced it had initiated a process to divest the International Disposal Group, and in October 2016, announced it had entered into two separate sales agreements to execute the divestiture. Both sales closed in December of 2016, resulting in available cash proceeds of \$1.9 billion, excluding transaction costs. Proceeds were primarily used to reduce Duke Energy holding company debt. Existing favorable tax attributes result in no immediate U.S. federal-level cash tax impacts. For further information on the sale, refer to Note 2 to the Consolidated Financial Statements, "Acquisitions and Dispositions."

## Credit Facilities and Registration Statements

### Available Credit Facilities

Duke Energy has a Master Credit Facility with a capacity of \$7.5 billion through January 2020. The Duke Energy Registrants, excluding Progress Energy (Parent) and Piedmont, have borrowing capacity under the Master Credit Facility up to specified sublimits for each borrower. Duke Energy has the unilateral ability at any time to increase or decrease the borrowing sublimits of each borrower, subject to a maximum sublimit for each borrower. The amount available under the Master Credit Facility has been reduced to backstop issuances of commercial paper, certain letters of credit and variable-rate demand tax-exempt bonds that may be put to the Duke Energy Registrants at the option of the holder. Duke Energy Carolinas and Duke Energy Progress are also required to each maintain \$250 million of available capacity under the Master Credit Facility as security to meet obligations under plea agreements reached with the U.S. Department of Justice in 2015 related to violations at North Carolina facilities with ash basins.

Piedmont has a separate five-year revolving syndicated credit facility, with a capacity of \$850 million through December 2020 and an expansion option of up to an additional \$200 million. The facility provides a line of credit for letters of credit of \$10 million.

The table below includes the current borrowing sublimits and available capacity under these credit facilities.

(in millions)	December 31, 2016						
	Duke Energy <sup>(a)</sup>	Duke Energy (Parent)	Duke Energy Carolinas	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
Facility size <sup>(b)</sup>	\$ 8,350	\$ 3,400	\$ 1,100	\$ 1,000	\$ 950	\$ 450	\$ 600
Reduction to backstop issuances							
Commercial paper <sup>(c)</sup>	(2,022)	(977)	(300)	(150)	(84)	(31)	(150)
Outstanding letters of credit	(78)	(69)	(4)	(2)	(1)	—	—
Tax-exempt bonds	(116)	—	(35)	—	—	—	(81)
Coal ash set-aside	(500)	—	(250)	(250)	—	—	—
Available capacity	\$ 5,634	\$ 2,354	\$ 511	\$ 598	\$ 865	\$ 419	\$ 369

(a) Includes amounts related to Piedmont's \$850 million credit facility.

(b) Represents the sublimit of each borrower.

(c) Duke Energy issued \$625 million of commercial paper and loaned the proceeds through the money pool to Duke Energy Carolinas, Duke Energy Progress, Duke Energy Ohio and Duke Energy Indiana. The balances are classified as Long-Term Debt Payable to Affiliated Companies in the Consolidated Balance Sheets.

### Term Loan Facility

In 2016, Duke Energy (Parent) entered into a \$1.5 billion term loan facility, as amended (Term Loan) maturing on July 31, 2017. During 2016, Duke Energy (Parent) drew the full amount available under the Term Loan and used \$750 million of proceeds to fund a portion of the Piedmont acquisition and the remaining \$750 million to manage short-term liquidity and for general corporate purposes. The terms and conditions of the Term Loan were generally consistent with those governing Duke Energy's Master Credit Facility. In December 2016, Duke Energy (Parent) repaid the \$1.5 billion term loan which terminated this credit facility.

### Shelf Registration

In September 2016, Duke Energy filed a registration statement (Form S-3) with the SEC. Under this Form S-3, which is uncapped, the Duke Energy Registrants, excluding Progress Energy may issue debt and other securities in the future at amounts, prices and with terms to be determined at the time of future offerings. The registration statement also allows for the issuance of common stock by Duke Energy.

In January 2017, Duke Energy amended its Form S-3 to add Piedmont as a registrant and included in the amendment a prospectus for Piedmont under which it may issue debt securities in the same manner as other Duke Energy Registrants.

**CAPITAL EXPENDITURES**

Duke Energy continues to focus on reducing risk and positioning its business for future success and will invest principally in its strongest business sectors. Duke Energy's projected capital and investment expenditures for the next three fiscal years are included in the table below.

(in millions)	2017	2018	2019
New generation	\$ 935	\$ 690	\$ 580
Regulated renewables	70	65	385
Environmental	665	405	45
Nuclear fuel	425	425	395
Major nuclear	285	375	340
Customer additions	435	510	520
Grid modernization and other transmission and distribution projects	2,025	3,055	3,150
Maintenance and other	2,140	1,780	1,935
<b>Total Electric Utilities and Infrastructure</b>	<b>6,980</b>	<b>7,305</b>	<b>7,350</b>
Gas Utilities and Infrastructure	1,300	2,175	2,025
Commercial Renewables and Other	500	550	700
<b>Total projected capital and investment expenditures</b>	<b>\$ 8,780</b>	<b>\$ 10,030</b>	<b>\$ 10,075</b>

**DEBT MATURITIES**

The following table shows the significant components of Current maturities of Long-Term Debt on the Consolidated Balance Sheets. The Duke Energy Registrants currently anticipate satisfying these obligations with cash on hand and proceeds from additional borrowings.

(in millions)	Maturity Date	Interest Rate	December 31, 2016
<b>Unsecured Debt</b>			
Duke Energy (Parent)	April 2017	1.226% \$	<b>400</b>
Duke Energy (Parent)	August 2017	1.625%	<b>700</b>
Piedmont Natural Gas	September 2017	8.510%	<b>35</b>
<b>First Mortgage Bonds</b>			
Duke Energy Progress	March 2017	1.146%	<b>250</b>
Duke Energy Florida	September 2017	5.800%	<b>250</b>
Duke Energy Progress	November 2017	1.111%	<b>200</b>
<b>Secured</b>			
Duke Energy	June 2017	2.365%	<b>45</b>
Duke Energy	June 2017	2.260%	<b>34</b>
<b>Tax-exempt Bonds</b>			
Duke Energy Carolinas	February 2017	3.600%	<b>77</b>
Duke Energy Carolinas	February 2017	0.810%	<b>10</b>
Duke Energy Carolinas	February 2017	0.790%	<b>25</b>
<b>Other<sup>(a)</sup></b>			<b>293</b>
<b>Current maturities of long-term debt</b>			<b>\$ 2,319</b>

(a) Includes capital lease obligations, amortizing debt and small bullet maturities.

**DIVIDEND PAYMENTS**

In 2016, Duke Energy paid quarterly cash dividends for the 90th consecutive year and expects to continue its policy of paying regular cash dividends in the future. There is no assurance as to the amount of future dividends because they depend on future earnings, capital requirements, financial condition and are subject to the discretion of the Board of Directors.

Duke Energy targets a dividend payout ratio of between 70 percent and 75 percent, based upon adjusted diluted EPS. In 2015 and 2016, Duke Energy increased the dividend by approximately 4 percent annually. Through 2021, the annual dividend growth rate is expected to be approximately 4 to 6 percent.

### Dividend and Other Funding Restrictions of Duke Energy Subsidiaries

As discussed in Note 4 to the Consolidated Financial Statements, "Regulatory Matters," Duke Energy's wholly owned public utility operating companies have restrictions on the amount of funds that can be transferred to Duke Energy through dividends, advances or loans as a result of conditions imposed by various regulators in conjunction with merger transactions. Duke Energy Progress and Duke Energy Florida also have restrictions imposed by their first mortgage bond indentures and Articles of Incorporation which in certain circumstances limit their ability to make cash dividends or distributions on common stock. Additionally, certain other Duke Energy subsidiaries have other restrictions, such as minimum working capital and tangible net worth requirements pursuant to debt and other agreements that limit the amount of funds that can be transferred to Duke Energy. At December 31, 2016, the amount of restricted net assets of wholly owned subsidiaries of Duke Energy that may not be distributed to Duke Energy in the form of a loan or dividend is less than 25 percent of Duke Energy's net assets. Duke Energy does not have any legal or other restrictions on paying common stock dividends to shareholders out of its consolidated equity accounts. Although these restrictions cap the amount of funding the various operating subsidiaries can provide to Duke Energy, management does not believe these restrictions will have a significant impact on Duke Energy's ability to access cash to meet its payment of dividends on common stock and other future funding obligations.

### CASH FLOWS FROM OPERATING ACTIVITIES

Cash flows from operations of Electric Utilities and Infrastructure and Gas Utilities and Infrastructure are primarily driven by sales of electricity and natural gas, respectively, and costs of operations. These cash flows from operations are relatively stable and comprise a substantial portion of Duke Energy's operating cash flows. Weather conditions, working capital and commodity price fluctuations, and unanticipated expenses including unplanned plant outages, storms, legal costs and related settlements can affect the timing and level of cash flows from operations.

Duke Energy believes it has sufficient liquidity resources through the commercial paper markets, and ultimately, the Master Credit Facility, to support these operations. Cash flows from operations are subject to a number of other factors, including, but not limited to, regulatory constraints, economic trends and market volatility (see Item 1A, "Risk Factors," for additional information).

At December 31, 2016, Duke Energy had cash and cash equivalents and short-term investments of \$392 million.

### DEBT ISSUANCES

Depending on availability based on the issuing entity, the credit rating of the issuing entity, and market conditions, the Subsidiary Registrants prefer to issue first mortgage bonds and secured debt, followed by unsecured debt. This preference is the result of generally higher credit ratings for first mortgage bonds and secured debt, which typically result in lower interest costs. Duke Energy Corporation primarily issues unsecured debt.

Duke Energy's capitalization is balanced between debt and equity as shown in the table below.

	Projected 2017	Actual 2016	Actual 2015
Equity	44%	45%	48%
Debt	56%	55%	52%

Duke Energy's fixed charges coverage ratio, calculated using Securities and Exchange Commission (SEC) guidelines, was 2.7 times for 2016, 3.1 times for 2015, and 3.0 times for 2014.

### Restrictive Debt Covenants

Duke Energy's debt and credit agreements contain various financial and other covenants. Duke Energy's Master Credit Facility contains a covenant requiring the debt-to-total capitalization ratio to not exceed 65 percent for each borrower. Piedmont's credit facility contains a debt-to-total capitalization covenant not to exceed 70 percent. Failure to meet those covenants beyond applicable grace periods could result in accelerated due dates and/or termination of the agreements or sublimits thereto. As of December 31, 2016, each of the Duke Energy Registrants were in compliance with all covenants related to their debt agreements. In addition, some credit agreements may allow for acceleration of payments or termination of the agreements due to nonpayment, or acceleration of other significant indebtedness of the borrower or some of its subsidiaries. None of the debt or credit agreements contain material adverse change clauses.



### Credit Ratings

The Duke Energy Registrants each hold credit ratings by Fitch Ratings, Inc. (Fitch), Moody's Investors Service, Inc. (Moody's) and Standard & Poor's Rating Services (S&P). The following table includes Duke Energy and certain subsidiaries' credit ratings and ratings outlook as of February 2017.

	Fitch	Moody's	S&P
<b>Duke Energy Corporation</b>	Negative	Negative	Stable
Issuer Credit Rating	BBB+	Baa1	A-
Senior Unsecured Debt	BBB+	Baa1	BBB+
Commercial Paper	F-2	P-2	A-2
<b>Duke Energy Carolinas</b>	Stable	Stable	Stable
Senior Secured Debt	AA-	Aa2	A
Senior Unsecured Debt	A+	A1	A-
<b>Progress Energy</b>	Stable	Stable	Stable
Senior Unsecured Debt	BBB	Baa2	BBB+
<b>Duke Energy Progress</b>	Stable	Stable	Stable
Senior Secured Debt	A+	Aa3	A
<b>Duke Energy Florida</b>	Stable	Stable	Stable
Senior Secured Debt	A	A1	A
Senior Unsecured Debt	A-	A3	A-
<b>Duke Energy Ohio</b>	Stable	Stable	Stable
Senior Secured Debt	A	A2	A
Senior Unsecured Debt	A-	Baa1	A-
<b>Duke Energy Indiana</b>	Positive	Stable	Stable
Senior Secured Debt	A	Aa3	A
Senior Unsecured Debt	A-	A2	A-
<b>Duke Energy Kentucky</b>	Stable	Stable	Stable
Senior Unsecured Debt	A-	Baa1	A-
<b>Piedmont Natural Gas</b>	N/A	Stable	Stable
Senior Unsecured	N/A	A2	A-
Commercial Paper	N/A	P-1	A-2

Credit ratings are intended to provide credit lenders a framework for comparing the credit quality of securities and are not a recommendation to buy, sell or hold. The Duke Energy Registrants' credit ratings are dependent on the rating agencies' assessments of their ability to meet their debt principal and interest obligations when they come due. If, as a result of market conditions or other factors, the Duke Energy Registrants are unable to maintain current balance sheet strength, or if earnings and cash flow outlook materially deteriorates, credit ratings could be negatively impacted.

### Cash Flow Information

The following table summarizes Duke Energy's cash flows for the three most recently completed fiscal years.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Cash flows provided by (used in):			
Operating activities	\$ 6,798	\$ 6,676	\$ 6,586
Investing activities	(11,533)	(5,277)	(5,373)
Financing activities	4,270	(2,578)	(678)
Changes in cash and cash equivalents included in assets held for sale	474	1,099	(548)
Net increase (decrease) in cash and cash equivalents	9	(80)	(13)
Cash and cash equivalents at beginning of period	383	463	476
Cash and cash equivalents at end of period	\$ 392	\$ 383	\$ 463

**OPERATING CASH FLOWS**

The following table summarizes key components of Duke Energy's operating cash flows for the three most recently completed fiscal years.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Net income	\$ 2,170	\$ 2,831	\$ 1,889
Non-cash adjustments to net income	5,398	4,800	5,366
Contributions to qualified pension plans	(155)	(302)	—
Payments for AROs	(608)	(346)	(68)
Working capital	(7)	(307)	(601)
Net cash provided by operating activities	\$ 6,798	\$ 6,676	\$ 6,586

For the year ended December 31, 2016 compared to 2015, the variance was driven primarily by:

- a \$300 million increase in cash flows from working capital primarily due to the sale of the international business; and
- a \$147 million decrease in contributions to qualified pension plans.

Offset by:

- a \$262 million increase in payments for AROs; and
- a \$63 million decrease in net income after non-cash adjustments due to higher storm costs offset by favorable weather, increased rider revenues, higher wholesale margins and strong cost control.

For the year ended December 31, 2015 compared to 2014, the variance was driven primarily by:

- a \$376 million increase in net income after non-cash adjustments resulting from increased retail pricing due to rate riders and higher base rates, increased wholesale net margins due to higher contracted amounts and prices, a new wholesale contract with NCEMPA, retail sales growth; and
- a \$294 million increase in cash flows from a working capital decrease primarily due to lower current year receivables resulting from unseasonably warmer weather in December 2015 and prior year under collection of fuel and purchased power due to increased consumption.

Offset by:

- a \$302 million increase in contributions to qualified pension plans; and
- a \$278 million increase in payments for AROs.

**INVESTING CASH FLOWS**

The following table summarizes key components of Duke Energy's investing cash flows for the three most recently completed fiscal years.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Capital, investment and acquisition expenditures	\$ (13,215)	\$ (8,363)	\$ (5,528)
Available for sale securities, net	83	3	23
Net proceeds from the sales of discontinued operations and other assets, net of cash divested	1,418	2,968	179
Other investing items	181	115	(47)
Net cash used in investing activities	\$ (11,533)	\$ (5,277)	\$ (5,373)

The primary use of cash related to investing activities is capital, investment and acquisition expenditures, detailed by reportable business segment in the following table.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Electric Utilities and Infrastructure	\$ 6,649	\$ 6,852	\$ 4,642
Gas Utilities and Infrastructure	5,519	234	121
Commercial Renewables	857	1,019	514
Other	190	258	251
Total capital, investment and acquisition expenditures	\$ 13,215	\$ 8,363	\$ 5,528

For the year ended December 31, 2016 compared to 2015, the variance was driven primarily by:

- a \$4,852 million increase in capital, investment and acquisition expenditures mainly due to the Piedmont acquisition; and
- a \$1,550 million decrease in net proceeds from sales of discontinued operations mainly due to the variance in proceeds between the prior year sale of the Midwest generation business and the current year sale of the International business.

For the year ended December 31, 2015 compared to 2014, the variance was driven primarily by:

- a \$2,789 million increase in proceeds mainly due to the sale of the nonregulated Midwest generation business to Dynegy, Inc. (Dynegy); and
- a \$202 million return of collateral related to the Chilean acquisition in 2013. The collateral was used to repay a secured loan.

Partially offset by:

- a \$2,835 million increase in capital, investment and acquisition expenditures mainly due to the acquisition of NCEMPA ownership interests in certain generating assets, fuel and spare parts inventory jointly owned with and operated by Duke Energy Progress and growth initiatives in electric and natural gas infrastructure, solar projects and natural-gas fired generation.

## FINANCING CASH FLOWS

The following table summarizes key components of Duke Energy's financing cash flows for the three most recently completed fiscal years.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Issuance of common stock	\$ 731	\$ 17	\$ 25
Issuances (Repayments) of long-term debt, net	7,315	(74)	(123)
Notes payable and commercial paper	(1,447)	1,245	1,688
Dividends paid	(2,332)	(2,254)	(2,234)
Repurchase of common shares	—	(1,500)	—
Other financing items	3	(12)	(34)
Net cash provided by (used in) financing activities	\$ 4,270	\$ (2,578)	\$ (678)

For the year ended December 31, 2016 compared to 2015, the variance was driven primarily by:

- a \$7,389 million increase in proceeds from net issuances of long-term debt mainly due to the issuances of \$3,750 million of senior unsecured notes used to fund a portion of the Piedmont acquisition, \$1,294 million of nuclear asset-recovery bonds and other issuances primarily used to fund capital expenditures, pay down outstanding commercial paper and repay debt maturities; and
- a \$1,500 million decrease in cash outflows due to the 2015 repurchase of 19.8 million common shares under the ASR; and
- a \$714 million increase in proceeds resulting from the issuance of common stock to fund the acquisition of Piedmont.

Partially offset by:

- a \$2,692 million increase in cash outflows for the net payments of notes payable and commercial paper primarily through the use of proceeds from \$1,294 million nuclear asset-recovery bonds issued at Duke Energy Florida, further increased by the prior year use of short-term debt to repay long-term debt maturities at Duke Energy Florida in advance of the 2016 proceeds from the nuclear asset-recovery bonds.

For the year ended December 31, 2015 compared to 2014, the variance was driven primarily by:

- a \$1,500 million increase in cash outflows due to the 2015 repurchase of 19.8 million common shares under the ASR; and
- a \$443 million decrease in proceeds from net issuances of notes payable and commercial paper primarily due to prior year financing with short-term debt in advance of the 2015 receipt of proceeds from the sale of the nonregulated Midwest generation business to Dynegy, net of current year financing with short-term debt used to repay long-term debt maturities at Duke Energy Florida in advance of the 2016 proceeds from the proposed issuance of the nuclear asset-recovery bonds.

**Summary of Significant Debt Issuances*****Piedmont Acquisition Financing***

In August 2016, Duke Energy issued \$3.75 billion of senior unsecured notes in three separate series. The net proceeds were used to finance a portion of the Piedmont acquisition. The \$4.9 billion Bridge Facility was terminated following the issuance of this debt. See Note 2 to the Consolidated Financial Statements, "Acquisitions and Dispositions," for additional information on the Piedmont acquisition.

***Nuclear Asset-Recovery Bonds***

In June 2016, DEFPF issued \$1,294 million of nuclear asset-recovery bonds and used the proceeds to acquire nuclear asset-recovery property from its parent, Duke Energy Florida. The nuclear asset-recovery bonds are payable only from and secured by the nuclear asset-recovery property. DEFPF is consolidated for financial reporting purposes; however, the nuclear asset-recovery bonds do not constitute a debt, liability or other legal obligation of, or interest in, Duke Energy Florida or any of its affiliates other than DEFPF. The assets of DEFPF, including the nuclear asset-recovery property, are not available to pay creditors of Duke Energy Florida or any of its affiliates. Duke Energy Florida used the proceeds from the sale to repay short-term borrowings under the intercompany money pool borrowing arrangement and make an equity distribution of \$649 million to the ultimate parent, Duke Energy (Parent), which repaid short-term borrowings. See Notes 4 and 17 to the Consolidated Financial Statements, "Regulatory Matters" and "Variable Interest Entities," respectively, for additional information.

***Solar Facilities Financing***

In August 2016, Emerald State Solar, LLC, an indirect wholly owned subsidiary of Duke Energy, entered into a \$333 million portfolio financing of approximately 22 North Carolina Solar facilities. Tranche A of \$228 million is secured by substantially all the assets of the solar facilities and is nonrecourse to Duke Energy. Tranche B of \$105 million is secured by an Equity Contribution Agreement with Duke Energy. Proceeds were used to reimburse Duke Energy for a portion of previously funded construction expenditures related to the Emerald State Solar, LLC portfolio. The initial interest rate on the loans was six months London Interbank Offered Rate (LIBOR) plus an applicable margin of 1.75 percent plus a 0.125 percent increase every three years thereafter. In connection with this debt issuance, Emerald State Solar, LLC entered into two interest rate swaps to convert the substantial majority of the loan interest payments from variable rates to fixed rates of approximately 1.81 percent for Tranche A and 1.38 percent for Tranche B, plus the applicable margin. See Note 14 to the Consolidated Financial Statements, "Derivatives and Hedging," for further information on the notional amounts of the interest rate swaps.

***Duke Energy Florida Bond Issuance***

In January 2017, Duke Energy Florida issued \$900 million of first mortgage bonds. The issuance was split between a \$250 million, three-year series and a \$650 million, 10-year series. The net proceeds from the issuance were used to repay at maturity \$250 million aggregate principal amount of bonds due September 2017, as well as to fund capital expenditures for ongoing construction and capital maintenance and for general corporate purposes.

The following tables summarize significant debt issuances (in millions).

Issuance Date	Maturity Date	Interest Rate	Year Ended December 31, 2016						
			Duke Energy	Duke Energy (Parent)	Duke Energy Carolinas	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
<b>Unsecured Debt</b>									
April 2016 <sup>(a)</sup>	April 2023	2.875%	\$ 350	\$ 350	\$ —	\$ —	\$ —	\$ —	\$ —
August 2016	September 2021	1.800%	750	750	—	—	—	—	—
August 2016	September 2026	2.650%	1,500	1,500	—	—	—	—	—
August 2016	September 2046	3.750%	1,500	1,500	—	—	—	—	—
<b>Secured Debt</b>									
June 2016 <sup>(b)</sup>	March 2020	1.196%	183	—	—	—	183	—	—
June 2016 <sup>(b)</sup>	September 2022	1.731%	150	—	—	—	150	—	—
June 2016 <sup>(b)</sup>	September 2029	2.538%	436	—	—	—	436	—	—
June 2016 <sup>(b)</sup>	March 2033	2.858%	250	—	—	—	250	—	—
June 2016 <sup>(b)</sup>	September 2036	3.112%	275	—	—	—	275	—	—
August 2016	June 2034	2.747%	228	—	—	—	—	—	—
August 2016	June 2020	2.747%	105	—	—	—	—	—	—
<b>First Mortgage Bonds</b>									
March 2016 <sup>(c)</sup>	March 2023	2.500%	500	—	500	—	—	—	—
March 2016 <sup>(c)</sup>	March 2046	3.875%	500	—	500	—	—	—	—
May 2016 <sup>(d)</sup>	May 2046	3.750%	500	—	—	—	—	—	500
June 2016 <sup>(c)</sup>	June 2046	3.700%	250	—	—	—	—	250	—
September 2016 <sup>(e)</sup>	October 2046	3.400%	600	—	—	—	600	—	—
September 2016 <sup>(c)</sup>	October 2046	3.700%	450	—	—	450	—	—	—
November 2016 <sup>(f)</sup>	December 2026	2.950%	600	—	600	—	—	—	—
Total issuances			\$ 9,127	\$ 4,100	\$ 1,600	\$ 450	\$ 1,894	\$ 250	\$ 500

- (a) Proceeds were used to pay down outstanding commercial paper and for general corporate purposes.
- (b) The nuclear asset recovery bonds are sequential pay amortizing bonds. The maturity date above represents the scheduled final maturity date for the bonds.
- (c) Proceeds were used to fund capital expenditures for ongoing construction, capital maintenance and for general corporate purposes.
- (d) Proceeds were used to repay \$325 million of unsecured debt due June 2016, \$150 million of first mortgage bonds due July 2016 and for general corporate purposes.
- (e) Proceeds were used to fund capital expenditures for ongoing construction, capital maintenance, to repay short-term borrowings under the intercompany money pool borrowing arrangement and for general corporate purposes.
- (f) Proceeds were used to repay at maturity \$350 million aggregate principal amount of certain bonds due December 2016, as well as to fund capital expenditures for ongoing construction and capital maintenance and for general corporate purposes.

Issuance Date	Maturity Date	Interest Rate	Year Ended December 31, 2015			
			Duke Energy	Duke Energy (Parent)	Duke Energy Carolinas	Duke Energy Progress
<b>Unsecured Debt</b>						
November 2015 <sup>(a)(b)</sup>	April 2024	3.750%	\$ 400	\$ 400	\$ —	\$ —
November 2015 <sup>(a)(b)</sup>	December 2045	4.800%	600	600	—	—
<b>First Mortgage Bonds</b>						
March 2015 <sup>(c)</sup>	June 2045	3.750%	500	—	500	—
August 2015 <sup>(a)(d)</sup>	August 2025	3.250%	500	—	—	500
August 2015 <sup>(a)(d)</sup>	August 2045	4.200%	700	—	—	700
Total issuances			\$ 2,700	\$ 1,000	\$ 500	\$ 1,200

- (a) Proceeds were used to repay short-term money pool and commercial paper borrowing issued to fund a portion of the NCEMPA acquisition, see Note 2 to the Consolidated Financial Statements, "Acquisitions and Dispositions," for further information.
- (b) Proceeds were used to refinance at maturity \$300 million of unsecured notes at Progress Energy due January 2016.
- (c) Proceeds were used to redeem at maturity \$500 million of first mortgage bonds due October 2015.
- (d) Proceeds were used to refinance at maturity \$400 million of first mortgage bonds due December 2015.

### Off-Balance Sheet Arrangements

Duke Energy and certain of its subsidiaries enter into guarantee arrangements in the normal course of business to facilitate commercial transactions with third parties. These arrangements include performance guarantees, stand-by letters of credit, debt guarantees, surety bonds and indemnifications.

Most of the guarantee arrangements entered into by Duke Energy enhance the credit standing of certain subsidiaries, non-consolidated entities or less than wholly owned entities, enabling them to conduct business. As such, these guarantee arrangements involve elements of performance and credit risk, which are not always included on the Consolidated Balance Sheets. The possibility of Duke Energy, either on its own or on behalf of Spectra Energy Capital, LLC (Spectra Capital) through indemnification agreements entered into as part of the January 2, 2007, spin-off of Spectra Energy Corp, having to honor its contingencies is largely dependent upon the future operations of the subsidiaries, investees and other third parties, or the occurrence of certain future events.

Duke Energy performs ongoing assessments of their respective guarantee obligations to determine whether any liabilities have been incurred as a result of potential increased non-performance risk by third parties for which Duke Energy has issued guarantees.

See Note 7 to the Consolidated Financial Statements, "Guarantees and Indemnifications," for further details of the guarantee arrangements.

Issuance of these guarantee arrangements is not required for the majority of Duke Energy's operations. Thus, if Duke Energy discontinued issuing these guarantees, there would not be a material impact to the consolidated results of operations, cash flows or financial position.

Other than the guarantee arrangements discussed above, normal operating lease arrangements and off-balance sheet debt related to non-consolidated VIEs, Duke Energy does not have any material off-balance sheet financing entities or structures. For additional information, see Note 5 and Note 17 to the Consolidated Financial Statements, "Commitments and Contingencies" and "Variable Interest Entities," respectively.

### Contractual Obligations

Duke Energy enters into contracts that require payment of cash at certain specified periods, based on certain specified minimum quantities and prices. The following table summarizes Duke Energy's contractual cash obligations as of December 31, 2016.

(in millions)	Total	Payments Due By Period			
		Less than 1 year (2017)	2-3 years (2018 & 2019)	4-5 years (2020 & 2021)	More than 5 years (2022 & beyond)
Long-Term debt <sup>(a)</sup>	\$ 45,278	\$ 2,211	\$ 6,592	\$ 5,582	\$ 30,893
Interest payments on long-term debt <sup>(b)</sup>	29,961	1,868	3,500	3,014	21,579
Capital leases <sup>(c)</sup>	1,562	148	308	322	784
Operating leases <sup>(c)</sup>	1,850	218	386	298	948
Purchase obligations: <sup>(d)</sup>					
Fuel and purchased power <sup>(e)(f)</sup>	25,353	4,819	6,136	3,786	10,612
Other purchase obligations <sup>(g)</sup>	7,688	5,802	719	193	974
Nuclear decommissioning trust annual funding <sup>(h)</sup>	315	30	28	28	229
<b>Total contractual cash obligations<sup>(i)(j)</sup></b>	<b>\$ 112,007</b>	<b>\$ 15,096</b>	<b>\$ 17,669</b>	<b>\$ 13,223</b>	<b>\$ 66,019</b>

- (a) See Note 6 to the Consolidated Financial Statements, "Debt and Credit Facilities."
- (b) Interest payments on variable rate debt instruments were calculated using December 31, 2016, interest rates and holding them constant for the life of the instruments.
- (c) See Note 5 to the Consolidated Financial Statements, "Commitments and Contingencies." Amounts in the table above include the interest component of capital leases based on the interest rates stated in the lease agreements and exclude certain related executory costs. Amounts exclude contingent lease obligations.
- (d) Current liabilities, except for current maturities of long-term debt, and purchase obligations reflected on the Consolidated Balance Sheets have been excluded from the above table.
- (e) Includes firm capacity payments that provide Duke Energy with uninterrupted firm access to electricity transmission capacity and natural gas transportation contracts, as well as undesignated contracts and contracts that qualify as normal purchase/normal sale (NPNS). For contracts where the price paid is based on an index, the amount is based on market prices at December 31, 2016, or the best projections of the index. For certain of these amounts, Duke Energy may settle on a net cash basis since Duke Energy has entered into payment netting arrangements with counterparties that permit Duke Energy to offset receivables and payables with such counterparties.
- (f) Amounts exclude obligations under the OVEC purchase power agreement. See Note 17 to the Consolidated Financial Statements for additional information.

- (g) Includes contracts for software, telephone, data and consulting or advisory services. Amount also includes contractual obligations for engineering, procurement and construction costs for new generation plants, wind and solar facilities, plant refurbishments, maintenance and day-to-day contract work and commitments to buy certain products. Amount excludes certain open purchase orders for services that are provided on demand, for which the timing of the purchase cannot be determined.
- (h) Related to future annual funding obligations to NDTF through nuclear power stations' relicensing dates. Amounts through 2017 include North Carolina jurisdictional amounts that Duke Energy Progress retained internally and is transitioning to its external decommissioning funds per a 2008 NCUC order. The transition of the original \$131 million must be complete by December 31, 2017, and at least 10 percent must be transitioned each year. See Note 9 to the Consolidated Financial Statements, "Asset Retirement Obligations."
- (i) Unrecognized tax benefits of \$17 million are not reflected in this table as Duke Energy cannot predict when open income tax years will close with completed examinations. See Note 22 to the Consolidated Financial Statements, "Income Taxes."
- (j) The table above excludes reserves for litigation, environmental remediation, asbestos-related injuries and damages claims and self-insurance claims (see Note 5 to the Consolidated Financial Statements, "Commitments and Contingencies") because Duke Energy is uncertain as to the timing and amount of cash payments that will be required. Additionally, the table above excludes annual insurance premiums that are necessary to operate the business, including nuclear insurance (see Note 5 to the Consolidated Financial Statements, "Commitments and Contingencies"), funding of pension and other post-retirement benefit plans (see Note 21 to the Consolidated Financial Statements, "Employee Benefit Plans"), AROs, including ash management expenditures (see Note 9 to the Consolidated Financial Statements, "Asset Retirement Obligations") and regulatory liabilities (see Note 4 to the Consolidated Financial Statements, "Regulatory Matters") because the amount and timing of the cash payments are uncertain. Also excluded are Deferred Income Taxes and ITCs recorded on the Consolidated Balance Sheets since cash payments for income taxes are determined based primarily on taxable income for each discrete fiscal year.

## QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

### Risk Management Policies

The Enterprise Risk Management policy framework at Duke Energy includes strategy, operational, project execution and financial or transaction related risks. Enterprise Risk Management includes market risk as part of the financial and transaction related risks in its framework. Duke Energy is exposed to market risks associated with commodity prices, interest rates, equity prices and foreign currency exchange rates. Duke Energy has established comprehensive risk management policies to monitor and manage these market risks. Duke Energy's Chief Executive Officer and Chief Financial Officer are responsible for the overall approval of market risk management policies and the delegation of approval and authorization levels. The Finance and Risk Management Committee of the Board of Directors receives periodic updates from the Chief Risk Officer and other members of management on market risk positions, corporate exposures and overall risk management activities. The Chief Risk Officer is responsible for the overall governance of managing commodity price risk, including monitoring exposure limits.

The following disclosures about market risk contain forward-looking statements that involve estimates, projections, goals, forecasts, assumptions, risks and uncertainties that could cause actual results or outcomes to differ materially from those expressed in the forward-looking statements. Please review Item 1A, "Risk Factors," and "Cautionary Statement Regarding Forward-Looking Information" for a discussion of the factors that may impact any such forward-looking statements made herein.

### Commodity Price Risk

Duke Energy is exposed to the impact of market fluctuations in the prices of electricity, coal, natural gas and other energy-related products marketed and purchased as a result of its ownership of energy-related assets. Duke Energy's exposure to these fluctuations is limited by the cost-based regulation of its regulated operations as these operations are typically allowed to recover substantially all of these costs through various cost-recovery clauses, including fuel clauses. While there may be a delay in timing between when these costs are incurred and when they are recovered through rates, changes from year to year generally do not have a material impact on operating results of these regulated operations.

Price risk represents the potential risk of loss from adverse changes in the market price of electricity or other energy commodities. Duke Energy's exposure to commodity price risk is influenced by a number of factors, including contract size, length, market liquidity, location and unique or specific contract terms. Duke Energy employs established policies and procedures to manage risks associated with these market fluctuations, which may include using various commodity derivatives, such as swaps, futures, forwards and options. For additional information, see Note 14 to the Consolidated Financial Statements, "Derivatives and Hedging."

The inputs and methodologies used to determine the fair value of contracts are validated by an internal group separate from Duke Energy's deal origination function. While Duke Energy uses common industry practices to develop its valuation techniques, changes in its pricing methodologies or the underlying assumptions could result in significantly different fair values and income recognition.

### Hedging Strategies

Duke Energy closely monitors risks associated with commodity price changes on its future operations and, where appropriate, uses various commodity instruments such as electricity, coal and natural gas forward contracts to mitigate the effect of such fluctuations on operations. Duke Energy's primary use of energy commodity derivatives is to hedge the generation portfolio against exposure to the prices of power and fuel.

The majority of instruments used to manage Duke Energy's commodity price exposure are either not designated as hedges or do not qualify for hedge accounting. These instruments are referred to as undesignated contracts. Mark-to-market changes for undesignated contracts entered into by regulated businesses are reflected as regulatory assets or liabilities on the Consolidated Balance Sheets. Undesignated contracts entered into by unregulated businesses are marked-to-market each period, with changes in the fair value of the derivative instruments reflected in earnings.

Duke Energy may also enter into other contracts that qualify for the NPNS exception. When a contract meets the criteria to qualify as NPNS, Duke Energy applies such exception. Income recognition and realization related to NPNS contracts generally coincide with the physical delivery of the commodity. For contracts qualifying for the NPNS exception, no recognition of the contract's fair value in the Consolidated Financial Statements is required until settlement of the contract as long as the transaction remains probable of occurring.

### **Generation Portfolio Risks**

Duke Energy is primarily exposed to market price fluctuations of wholesale power, natural gas and coal prices in the Electric Utilities and Gas Utilities segments. The Duke Energy Registrants optimize the value of their generation portfolios, which include generation assets, fuel and emission allowances. Modeled forecasts of future generation output and fuel requirements are based on forward power and fuel markets. The component pieces of the portfolio are bought and sold based on models and forecasts of generation in order to manage the economic value of the portfolio in accordance with the strategies of the business units.

For the Electric Utilities segment, the generation portfolio not utilized to serve retail operations or committed load is subject to commodity price fluctuations. However, the impact on the Consolidated Statements of Operations is partially offset by mechanisms in these regulated jurisdictions that result in the sharing of net profits from these activities with retail customers.

### **Interest Rate Risk**

Duke Energy is exposed to risk resulting from changes in interest rates as a result of its issuance of variable and fixed-rate debt and commercial paper. Duke Energy manages interest rate exposure by limiting variable-rate exposures to a percentage of total debt and by monitoring the effects of market changes in interest rates. Duke Energy also enters into financial derivative instruments, which may include instruments such as, but not limited to, interest rate swaps, swaptions and U.S. Treasury lock agreements to manage and mitigate interest rate risk exposure. See Notes 1, 6, 14 and 16 to the Consolidated Financial Statements, "Summary of Significant Accounting Policies," "Debt and Credit Facilities," "Derivatives and Hedging," and "Fair Value Measurements."

At December 31, 2016, Duke Energy had \$777 million notional amount of floating-to-fixed swaps outstanding, \$500 million notional amount of fixed-to-floating swaps outstanding and \$400 million forward-starting swaps outstanding. Duke Energy had \$6.3 billion of unhedged long- and short-term floating interest rate exposure at December 31, 2016. The impact of a 100 basis point change in interest rates on pretax income is approximately \$63 million at December 31, 2016. This amount was estimated by considering the impact of the hypothetical interest rates on variable-rate securities outstanding, adjusted for interest rate hedges as of December 31, 2016.

See Note 14, "Derivatives and Hedging," to the Consolidated Financial Statements for additional information about the forward-starting interest rate swaps related to the Piedmont acquisition.

### **Credit Risk**

Credit risk represents the loss that the Duke Energy Registrants would incur if a counterparty fails to perform under its contractual obligations. Where exposed to credit risk, the Duke Energy Registrants analyze the counterparty's financial condition prior to entering into an agreement and monitor exposure on an ongoing basis. The Duke Energy Registrants establish credit limits where appropriate in the context of contractual arrangements and monitor such limits.

To reduce credit exposure, the Duke Energy Registrants seek to include netting provisions with counterparties which permit the offset of receivables and payables with such counterparties. The Duke Energy Registrants also frequently use master agreements with credit support annexes to further mitigate certain credit exposures. The master agreements provide for a counterparty to post cash or letters of credit to the exposed party for exposure in excess of an established threshold. The threshold amount represents a negotiated unsecured credit limit for each party to the agreement, determined in accordance with the Duke Energy Registrants' internal corporate credit practices and standards. Collateral agreements generally also provide that the inability to post collateral is sufficient cause to terminate contracts and liquidate all positions.

The Duke Energy Registrants also obtain cash or letters of credit from certain counterparties to provide credit support outside of collateral agreements, where appropriate, based on a financial analysis of the counterparty and the regulatory or contractual terms and conditions applicable to each transaction. See Note 14 to the Consolidated Financial Statements, "Derivatives and Hedging," for additional information regarding credit risk related to derivative instruments.

The Duke Energy Registrants' principal counterparties for its electric and gas businesses are regional transmission organizations, distribution companies, municipalities, electric cooperatives and utilities located throughout the U.S. The Duke Energy Registrants have concentrations of receivables from such entities throughout these regions. These concentrations of receivables may affect the Duke Energy Registrants' overall credit risk in that risk factors can negatively impact the credit quality of the entire sector.

The Duke Energy Registrants are also subject to credit risk from transactions with their suppliers that involve pre-payments in conjunction with outsourcing arrangements, major construction projects and certain commodity purchases. The Duke Energy Registrants' credit exposure to such suppliers may take the form of increased costs or project delays in the event of nonperformance. The Duke Energy Registrants' frequently require guarantees or letters of credit from suppliers to mitigate this credit risk.

Credit risk associated with the Duke Energy Registrants' service to residential, commercial and industrial customers is generally limited to outstanding accounts receivable. The Duke Energy Registrants mitigate this credit risk by requiring customers to provide a cash deposit, letter of credit or surety bond until a satisfactory payment history is established, subject to the rules and regulations in effect in each retail jurisdiction, at which time the deposit is typically refunded. Charge-offs for retail customers have historically been insignificant to the operations of the Duke Energy Registrants and are typically recovered through retail rates. Management continually monitors customer charge-offs and payment patterns to ensure the adequacy of bad debt reserves. Duke Energy Ohio and Duke Energy Indiana sell certain of their accounts receivable and related collections through Cinergy Receivables Company LLC (CRC), a Duke Energy consolidated variable interest entity. Losses on collection are first absorbed by the equity of CRC and next by the subordinated retained interests held by Duke Energy Ohio, Duke Energy Kentucky and Duke Energy Indiana. See Note 17 to the Consolidated Financial Statements, "Variable Interest Entities."



Duke Energy Carolinas has third-party insurance to cover certain losses related to asbestos-related injuries and damages above an aggregate self-insured retention. Duke Energy Carolinas' cumulative payments began to exceed the self-insurance retention in 2008. Future payments up to the policy limit will be reimbursed by the third-party insurance carrier. The insurance policy limit for potential future insurance recoveries indemnification and medical cost claim payments is \$814 million in excess of the self-insured retention. Receivables for insurance recoveries were \$587 million and \$599 million at December 31, 2016 and 2015, respectively. These amounts are classified in Other within Investments and Other Assets and Receivables on the Consolidated Balance Sheets. Duke Energy Carolinas is not aware of any uncertainties regarding the legal sufficiency of insurance claims. Duke Energy Carolinas believes the insurance recovery asset is probable of recovery as the insurance carrier continues to have a strong financial strength rating.

The Duke Energy Registrants also have credit risk exposure through issuance of performance guarantees, letters of credit and surety bonds on behalf of less than wholly owned entities and third parties. Where the Duke Energy Registrants have issued these guarantees, it is possible that they could be required to perform under these guarantee obligations in the event the obligor under the guarantee fails to perform. Where the Duke Energy Registrants have issued guarantees related to assets or operations that have been disposed of via sale, they attempt to secure indemnification from the buyer against all future performance obligations under the guarantees. See Note 7 to the Consolidated Financial Statements, "Guarantees and Indemnifications," for further information on guarantees issued by the Duke Energy Registrants.

Based on the Duke Energy Registrants' policies for managing credit risk, their exposures and their credit and other reserves, the Duke Energy Registrants do not currently anticipate a materially adverse effect on their consolidated financial position or results of operations as a result of non-performance by any counterparty.

### **Marketable Securities Price Risk**

As described further in Note 15 to the Consolidated Financial Statements, "Investments in Debt and Equity Securities," Duke Energy invests in debt and equity securities as part of various investment portfolios to fund certain obligations. The vast majority of investments in equity securities are within the NDTF and assets of the various pension and other post-retirement benefit plans.

### **Pension Plan Assets**

Duke Energy maintains investments to facilitate funding the costs of providing non-contributory defined benefit retirement and other post-retirement benefit plans. These investments are exposed to price fluctuations in equity markets and changes in interest rates. The equity securities held in these pension plans are diversified to achieve broad market participation and reduce the impact of any single investment, sector or geographic region. Duke Energy has established asset allocation targets for its pension plan holdings, which take into consideration the investment objectives and the risk profile with respect to the trust in which the assets are held. See Note 21 to the Consolidated Financial Statements, "Employee Benefit Plans" for additional information regarding investment strategy of pension plan assets.

A significant decline in the value of plan asset holdings could require Duke Energy to increase funding of its pension plans in future periods, which could adversely affect cash flows in those periods. Additionally, a decline in the fair value of plan assets, absent additional cash contributions to the plan, could increase the amount of pension cost required to be recorded in future periods, which could adversely affect Duke Energy's results of operations in those periods.

### **Nuclear Decommissioning Trust Funds**

As required by the NRC, NCUC, PSCSC and the Florida Public Service Commission (FPSC), subsidiaries of Duke Energy maintain trust funds to fund the costs of nuclear decommissioning. As of December 31, 2016, these funds were invested primarily in domestic and international equity securities, debt securities, cash and cash equivalents and short-term investments. Per the NRC, Internal Revenue Code, NCUC, PSCSC and FPSC requirements, these funds may be used only for activities related to nuclear decommissioning. These investments are exposed to price fluctuations in equity markets and changes in interest rates. Duke Energy actively monitors its portfolios by benchmarking the performance of its investments against certain indices and by maintaining, and periodically reviewing, target allocation percentages for various asset classes.

Accounting for nuclear decommissioning recognizes that costs are recovered through retail and wholesale rates; therefore, fluctuations in investment prices do not materially affect the Consolidated Statements of Operations, as changes in the fair value of these investments are primarily deferred as regulatory assets or regulatory liabilities pursuant to Orders by the NCUC, PSCSC, FPSC and FERC. Earnings or losses of the fund will ultimately impact the amount of costs recovered through retail and wholesale rates. See Note 9 to the Consolidated Financial Statements, "Asset Retirement Obligations" for additional information regarding nuclear decommissioning costs. See Note 15 to the Consolidated Financial Statements, "Investments in Debt and Equity Securities" for additional information regarding NDTF assets.

**OTHER MATTERS****Ratios of Earnings to Fixed Charges**

The Duke Energy Registrants' ratios of earnings to fixed charges, as calculated using SEC guidelines, are included in the table below.

	Years Ended December 31,		
	2016	2015	2014
Duke Energy	2.7	3.1	3.0
Duke Energy Carolinas	4.7	4.7	4.6
Progress Energy	3.0	2.9	2.7
Duke Energy Progress	4.0	3.7	3.5
Duke Energy Florida	4.3	4.3	4.1
Duke Energy Ohio	3.8	3.6	2.1
Duke Energy Indiana	4.1	3.6	4.1

**Environmental Regulations**

The Duke Energy Registrants are subject to federal, state and local regulations regarding air and water quality, hazardous and solid waste disposal and other environmental matters. These regulations can be changed from time to time and result in new obligations of the Duke Energy Registrants.

The following sections outline various proposed and recently enacted regulations that may impact the Duke Energy Registrants. Refer to Note 4 to the Consolidated Financial Statements, "Regulatory Matters," for further information regarding potential plant retirements and regulatory filings related to the Duke Energy Registrants.

**Coal Combustion Residuals**

In April 2015, the EPA published a rule to regulate the disposal of CCR from electric utilities as solid waste. The federal regulation classifies CCR as nonhazardous waste and allows for beneficial use of CCR with some restrictions. The regulation applies to all new and existing landfills, new and existing surface impoundments receiving CCR and existing surface impoundments that are no longer receiving CCR but contain liquid located at stations currently generating electricity (regardless of fuel source). The rule establishes requirements regarding landfill design, structural integrity design and assessment criteria for surface impoundments, groundwater monitoring, protection and remedial procedures and other operational and reporting procedures to ensure the safe disposal and management of CCR. As a result of the EPA rule, Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Ohio and Duke Energy Indiana recorded additional ARO amounts during 2015. Various industry and environmental parties have appealed the EPA's CCR rule in the U.S. Court of Appeals for the District of Columbia (D.C. Circuit Court). On April 18, 2016, the EPA filed a motion with the federal court to settle five issues raised in litigation. On June 14, 2016, the court approved the motion with respect to all of those issues. A decision by the court on the remaining issues is expected in the second quarter of 2017. Duke Energy does not expect a material impact from the settlement or that it will result in additional ARO adjustments.

In addition to the requirements of the federal CCR regulation, CCR landfills and surface impoundments will continue to be independently regulated by most states. Cost recovery for future expenditures will be pursued through the normal ratemaking process with federal and state utility commissions and via wholesale contracts, which permit recovery of necessary and prudently incurred costs associated with Duke Energy's regulated operations. For more information, see Note 9 to the Consolidated Financial Statements, "Asset Retirement Obligations."

**Coal Ash Management Act of 2014**

AROs recorded on the Duke Energy Carolinas and Duke Energy Progress Consolidated Balance Sheets at December 31, 2016, and December 31, 2015, include the legal obligation for closure of coal ash basins and the disposal of related ash as a result of the Coal Ash Act, the EPA CCR rule and other agreements. In January 2016, the NCDEQ published draft risk classifications for sites not specifically delineated by the Coal Ash Act as high risk. These risk rankings were generally determined based on three primary criteria: structural integrity of the impoundments and impacts to surface water and to groundwater. The NCDEQ's draft proposed classifications categorized 12 basins at four sites as intermediate risk and four basins at three sites as low risk. The NCDEQ's draft proposed classifications also categorized nine basins at six sites as "low-to-intermediate" risk, thereby not assigning a definitive risk ranking at that time. On May 18, 2016, the NCDEQ issued new proposed risk classifications, proposing to rank all originally proposed low risk and "low-to-intermediate" risk sites as intermediate.

On July 14, 2016, the former governor of North Carolina signed legislation which amended the Coal Ash Act and required Duke Energy to undertake dam improvement projects and to provide access to a permanent alternative drinking water source to certain residents within a half mile of coal ash basin compliance boundaries and to certain other potentially impacted residents. The new legislation also ranks basins at the H.F. Lee, Cape Fear and Weatherspoon stations as intermediate risk consistent with Duke Energy's previously announced plans to excavate those basins. These specific intermediate risk basins require closure through excavation including a combination of transferring ash to an appropriate engineered landfill or conversion of the ash for beneficial use. Closure of these specific intermediate risk basins is required to be completed no later than August 1, 2028. Upon satisfactory completion of the dam improvement projects and installation of alternative drinking water sources by October 15, 2018, the legislation requires the NCDEQ to reclassify sites proposed as intermediate risk, excluding H.F. Lee, Cape Fear and Weatherspoon, as low risk. In January 2017, NCDEQ issued preliminary approval of Duke Energy's plans for the alternative water sources.

Per the Coal Ash Act, final proposed classifications were to be subject to Coal Ash Management Commission (Coal Ash Commission) approval. In March 2016, the Coal Ash Commission created by the Coal Ash Act was disbanded by the former governor of North Carolina based on a North Carolina Supreme Court ruling regarding the constitutionality of the body. The July 2016 legislation eliminates the Coal Ash Commission and transfers responsibility for ash basin closure oversight to the NCDEQ.

Additionally, the July 2016 legislation requires the installation and operation of three large-scale coal ash beneficiation projects which are expected to produce reprocessed ash for use in the concrete industry. Closure of basins at sites with these beneficiation projects are required to be completed no later than December 31, 2029. On October 5, 2016, Duke Energy announced Buck Steam Station as a first location for one of the beneficiation projects. On December 13, 2016, Duke Energy announced H.F. Lee as the second location. Duke Energy intends to announce the third location by July 1, 2017.

The Coal Ash Act includes a variance procedure for compliance deadlines and other issues surrounding the management of CCR and CCR surface impoundments.

Provisions of the Coal Ash Act prohibit cost recovery in customer rates for unlawful discharge of ash impoundment waters occurring after January 1, 2014. The Coal Ash Act leaves the decision on cost recovery determinations related to closure of ash impoundments to the normal ratemaking processes before utility regulatory commissions. Consistent with the requirements of the Coal Ash Act, Duke Energy has submitted comprehensive site assessments and groundwater corrective plans to NCDEQ and will submit to NCDEQ site-specific coal ash impoundment closure plans in advance of closure. These plans and all associated permits must be approved by NCDEQ before closure work can begin.

For further information on AROs, see Note 9 to the Consolidated Financial Statements, "Asset Retirement Obligations."

#### ***Mercury and Air Toxics Standards***

The final Mercury and Air Toxics Standards (MATS) rule was issued on February 16, 2012. The rule established emission limits for hazardous air pollutants from new and existing coal-fired and oil-fired steam electric generating units (EGUs). The rule required sources to comply with emission limits by April 16, 2015, or by April 16, 2016, with approved extension. Strategies to achieve compliance included installation of new air emission control equipment, development of monitoring processes, fuel switching and acceleration of retirement for some coal-fired EGUs. All of Duke Energy's coal-fired units are in compliance with the emission limits, work practices standards and other requirements of the MATS rule.

#### ***Clean Water Act 316(b)***

The EPA published the final 316(b) cooling water intake structure rule on August 15, 2014, with an effective date of October 14, 2014. The rule applies to 26 of the electric generating facilities the Duke Energy Registrants own and operate. The rule allows for several options to demonstrate compliance and provides flexibility to the state environmental permitting agencies to make determinations on controls, if any, that will be required for cooling water intake structures. Any required intake structure modifications and/or retrofits are expected to be installed in the 2019 to 2022 time frame. Petitions challenging the rule have been filed by several groups. It is unknown when the courts will rule on the petitions. The Duke Energy Registrants cannot predict the outcome of these matters.

#### ***Steam Electric Effluent Limitations Guidelines***

On January 4, 2016, the final Steam Electric Effluent Limitations Guidelines (ELG) rule became effective. The rule establishes new requirements for wastewater streams associated with steam electric power generation and includes more stringent controls for any new coal plants that may be built in the future. Affected facilities must comply between 2018 and 2023, depending on timing of new Clean Water Act (CWA) permits. Most, if not all, of the steam electric generating facilities the Duke Energy Registrants own are likely affected sources. The Duke Energy Registrants are well-positioned to meet the majority of the requirements of the rule due to current efforts to convert to dry ash handling. Petitions challenging the rule have been filed by several groups. On March 16, 2015, Duke Energy Indiana filed its own legal challenge to the rule with the Seventh Circuit Court of Appeals specific to the ELG for wastewater associated rule focused on the limits imposed on integrated gas combined-cycle facilities. All challenges to the rule have been consolidated in the Fifth Circuit Court of Appeals. Opening briefs were submitted on December 5, 2016. Briefing concludes on June 5, 2017, and oral argument has not been scheduled. It is unknown when the courts will rule on the petitions. The Duke Energy Registrants cannot predict the outcome of these matters.

#### ***Estimated Cost and Impacts of Rulemakings***

Duke Energy will incur capital expenditures to comply with the environmental regulations and rules discussed above. The following table provides five-year estimated costs, excluding AFUDC, of new control equipment that may need to be installed on existing power plants primarily to comply with the Coal Ash Act requirements for conversion to dry disposal of bottom ash and fly ash, CWA 316(b) and ELGs through December 31, 2021. The table excludes ash basin closure costs recorded in Asset retirement obligations on the Consolidated Balance Sheets. For more information related to AROs, see Note 9 to the Consolidated Financial Statements.

(in millions)	Five-Year Estimated Costs	
<b>Duke Energy</b>	<b>\$</b>	<b>1,200</b>
Duke Energy Carolinas		530
Progress Energy		325
Duke Energy Progress		260
Duke Energy Florida		65
Duke Energy Ohio		125
Duke Energy Indiana		220

The Duke Energy Registrants also expect to incur increased fuel, purchased power, operation and maintenance and other expenses, in addition to costs for replacement generation for potential coal-fired power plant retirements, as a result of these regulations. Actual compliance costs incurred may be materially different from these estimates due to reasons such as the timing and requirements of EPA regulations and the resolution of legal challenges to the rules. The Duke Energy Registrants intend to seek rate recovery of necessary and prudently incurred costs associated with regulated operations to comply with these regulations.

### ***Cross-State Air Pollution Rule***

On December 3, 2015, the EPA proposed a rule to lower the Cross-State Air Pollution Rule (CSAPR) Phase 2 state ozone season nitrogen oxide (NO<sub>x</sub>) emission budgets for 23 eastern states, including North Carolina, Ohio, Kentucky and Indiana. The EPA also proposed to eliminate the CSAPR Phase 2 ozone season NO<sub>x</sub> budgets for Florida and South Carolina. On September 7, 2016, the EPA finalized a CSAPR update rule that reduces the CSAPR Phase 2 state ozone season NO<sub>x</sub> emission budgets for 22 eastern states, including Ohio, Kentucky and Indiana. In the final CSAPR update rule, the EPA removed Florida, South Carolina and North Carolina from the ozone season NO<sub>x</sub> program. Beginning in 2017, Duke Energy Registrants in these states will not be subject to any CSAPR ozone season NO<sub>x</sub> emission limitations. For the states that remain in the program, the reduced state ozone season NO<sub>x</sub> emission budgets will take effect on May 1, 2017. In Kentucky and Indiana, where Duke Energy Registrants own and operate coal-fired EGUs subject to the final rule requirements, potential near-term responses could include changing unit dispatch to run certain generating units less frequently and/or purchasing NO<sub>x</sub> allowances from the trading market. Longer term, upgrading the performance of existing NO<sub>x</sub> controls is an option.

### ***Carbon Pollution Standards for New, Modified and Reconstructed Power Plants***

On October 23, 2015, the EPA published a final rule in the Federal Register establishing carbon dioxide (CO<sub>2</sub>) emissions limits for new, modified and reconstructed power plants. The requirements for new plants do not apply to any facility that Duke Energy currently has in operation, but would apply to plants that commenced construction after January 8, 2014. The EPA set an emissions standard for coal units of 1,400 pounds of CO<sub>2</sub> per gross MWh, which would require the application of partial carbon capture and storage (CCS) technology for a coal unit to be able to meet the limit. Utility-scale CCS is not currently a demonstrated and commercially available technology for coal-fired EGUs, and therefore the final standard effectively prevents the development of new coal-fired generation. The EPA set a final standard of 1,000 pounds of CO<sub>2</sub> per gross MWh for new natural gas combined-cycle units. Petitions challenging the rule have been filed by several groups. Final briefs in the case were due February 6, 2017. Oral arguments are scheduled for April 2017. The Duke Energy Registrants do not expect the impacts of the final standards will be material to Duke Energy's financial position, results of operations or cash flows.

### ***Clean Power Plan***

On October 23, 2015, the EPA published in the Federal Register the final Clean Power Plan (CPP) rule that regulates CO<sub>2</sub> emissions from existing fossil fuel-fired EGUs. The CPP established CO<sub>2</sub> emission rates and mass cap goals that apply to existing fossil fuel-fired EGUs. Petitions challenging the rule have been filed by several groups and on February 9, 2016, the Supreme Court issued a stay of the final CPP rule, halting implementation of the CPP until legal challenges are resolved. The states in which the Duke Energy Registrants operate have suspended work on the CPP in response to the stay. Oral arguments before 10 of the 11 judges on D.C. Circuit Court were heard on September 27, 2016. The court is expected to decide the case in early 2017.

Compliance with CPP could cause the industry to replace coal-fired generation with natural gas and renewables. Costs to operate coal-fired generation plants continue to grow due to increasing environmental compliance requirements, including ash management costs unrelated to CPP, which may result in the retirement of coal-fired generation plants earlier than the current end of useful lives. If the CPP is ultimately upheld by the courts and implementation goes forward, the Duke Energy Registrants could incur increased fuel, purchased power, operation and maintenance and other costs for replacement generation as a result of this rule. Due to the uncertainties related to the implementation of the CPP, the Duke Energy Registrants cannot predict the outcome of these matters.

### ***Global Climate Change***

The Duke Energy Registrants' greenhouse gas (GHG) emissions consist primarily of CO<sub>2</sub> and result primarily from operating a fleet of coal-fired power plants. In 2016, the Duke Energy Registrants' power plants emitted approximately 107 million tons of CO<sub>2</sub>. Future CO<sub>2</sub> emissions will be influenced by variables that include compliance with new or existing regulations, economic conditions that affect electricity demand and the technologies deployed to generate the electricity necessary to meet the customer demand.

The Duke Energy Registrants have taken actions that have resulted in a reduction of CO<sub>2</sub> emissions over time. Actions have included the retirement of 47 coal-fired EGUs with a combined generating capacity of 5,425 MW. Much of that capacity has been replaced with state-of-the-art highly efficient natural gas-fired generation that produces far fewer CO<sub>2</sub> emissions per unit of electricity generated. Between 2005 and 2016, the Duke Energy Registrants have collectively lowered the CO<sub>2</sub> emissions from their electricity generation by approximately 30 percent, which lowers the exposure to any future mandatory CO<sub>2</sub> emission reduction requirements or carbon tax, whether as a result of federal legislation, the final CPP regulation or other as yet unknown emission reduction requirement. Under any future scenario involving mandatory CO<sub>2</sub> limitations, the Duke Energy Registrants would plan to seek recovery of their compliance costs through appropriate regulatory mechanisms.

The Duke Energy Registrants recognize certain groups associate severe weather events with increasing levels of GHGs in the atmosphere and forecast the possibility these weather events could have a material impact on future results of operations should they occur more frequently and with greater severity. However, the uncertain nature of potential changes in extreme weather events (such as increased frequency, duration and severity), the long period of time over which any potential changes might take place and the inability to predict potential changes with any degree of accuracy, make estimating any potential future financial risk to the Duke Energy Registrants' operations impossible. The Duke Energy Registrants have historically planned and prepared for extreme weather events, such as ice storms, tornadoes, hurricanes, severe thunderstorms, high winds and droughts they occasionally experience.

The Duke Energy Registrants routinely take steps to reduce the potential impact of severe weather events on their electric distribution systems. The Duke Energy Registrants' electric generating facilities are designed to withstand extreme weather events without significant damage. The Duke Energy Registrants maintain an inventory of coal and oil on-site to mitigate the effects of any potential short-term disruption in fuel supply so they can continue to provide customers with an uninterrupted supply of electricity.

**Nuclear Matters**

Following the events at the Fukushima Daiichi nuclear power station in Japan, in March 2011, the NRC formed a task force to conduct a comprehensive review of processes and regulations to determine whether the agency should make additional improvements to the nuclear regulatory system. Subsequently, the NRC targeted a set of improvements designed to enhance accident mitigation, strengthen emergency preparedness and improve efficiency of NRC programs. Pursuant to the findings of the task force, in March 2012, the NRC issued three regulatory orders requiring safety enhancements related to mitigation strategies to respond to extreme natural events resulting in the loss of power at a plant, ensuring reliable hardened containment vents and enhancing spent fuel pool instrumentation. Duke Energy is committed to compliance with all safety enhancements ordered by the NRC, and as of January 2017, Duke Energy actions on two of the three NRC orders are complete. The remaining order is focused only on enhancements to boiling water reactor designs which, for Duke Energy, is unique to Brunswick Steam Electric Plant. Actions associated with this third order will be completed by March 2019. With the NRC's continuing review of this matter, Duke Energy cannot predict to what extent the NRC will impose additional licensing and safety-related requirements or the costs of complying with such requirements. Upon receipt of additional guidance from the NRC and a collaborative industry review, Duke Energy will be able to determine an implementation plan and associated costs. See Item 1A, "Risk Factors," for further discussion of applicable risk factors.

**New Accounting Standards**

See Note 1 to the Consolidated Financial Statements, "Summary of Significant Accounting Policies," for a discussion of the impact of new accounting standards.

**ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

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See "Management's Discussion and Analysis of Results of Operations and Financial Condition – Quantitative and Qualitative Disclosures About Market Risk."

## ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Stockholders of  
Duke Energy Corporation  
Charlotte, North Carolina

We have audited the accompanying consolidated balance sheets of Duke Energy Corporation and subsidiaries (the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of operations, comprehensive income, changes in equity, and cash flows for each of the three years in the period ended December 31, 2016. We also have audited the Company's internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report On Internal Control Over Financial Reporting. Our responsibility is to express an opinion on these financial statements and an opinion on the Company's internal control over financial reporting based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

A company's internal control over financial reporting is a process designed by, or under the supervision of, the company's principal executive and principal financial officers, or persons performing similar functions, and effected by the company's board of directors, management, and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Duke Energy Corporation and subsidiaries as of December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America. Also, in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on the criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

/s/Deloitte & Touche LLP

Charlotte, North Carolina  
February 24, 2017



DUKE ENERGY CORPORATION  
CONSOLIDATED STATEMENTS OF OPERATIONS

(in millions, except per-share amounts)	Years Ended December 31,		
	2016	2015	2014
<b>Operating Revenues</b>			
Regulated electric	\$ 21,221	\$ 21,379	\$ 21,550
Nonregulated electric and other	659	456	386
Regulated natural gas	863	536	573
Total operating revenues	22,743	22,371	22,509
<b>Operating Expenses</b>			
Fuel used in electric generation and purchased power	6,625	7,355	7,732
Cost of natural gas	265	141	185
Operation, maintenance and other	6,085	5,539	5,506
Depreciation and amortization	3,294	3,053	2,969
Property and other taxes	1,142	1,129	1,204
Impairment charges	18	106	81
Total operating expenses	17,429	17,323	17,677
Gains on Sales of Other Assets and Other, net	27	30	10
<b>Operating Income</b>	<b>5,341</b>	<b>5,078</b>	<b>4,842</b>
<b>Other Income and Expenses</b>			
Equity in earnings (losses) of unconsolidated affiliates	(15)	69	130
Other income and expenses, net	324	290	320
Total other income and expenses	309	359	450
<b>Interest Expense</b>	<b>1,916</b>	<b>1,527</b>	<b>1,529</b>
<b>Income From Continuing Operations Before Income Taxes</b>	<b>3,734</b>	<b>3,910</b>	<b>3,763</b>
<b>Income Tax Expense From Continuing Operations</b>	<b>1,156</b>	<b>1,256</b>	<b>1,225</b>
<b>Income From Continuing Operations</b>	<b>2,578</b>	<b>2,654</b>	<b>2,538</b>
<b>(Loss) Income From Discontinued Operations, net of tax</b>	<b>(408)</b>	<b>177</b>	<b>(649)</b>
<b>Net Income</b>	<b>2,170</b>	<b>2,831</b>	<b>1,889</b>
<b>Less: Net Income Attributable to Noncontrolling Interests</b>	<b>18</b>	<b>15</b>	<b>6</b>
<b>Net Income Attributable to Duke Energy Corporation</b>	<b>\$ 2,152</b>	<b>\$ 2,816</b>	<b>\$ 1,883</b>
<b>Earnings Per Share – Basic and Diluted</b>			
Income from continuing operations attributable to Duke Energy Corporation common stockholders			
Basic	\$ 3.71	\$ 3.80	\$ 3.58
Diluted	\$ 3.71	\$ 3.80	\$ 3.58
(Loss) Income from discontinued operations attributable to Duke Energy Corporation common stockholders			
Basic	\$ (0.60)	\$ 0.25	\$ (0.92)
Diluted	\$ (0.60)	\$ 0.25	\$ (0.92)
Net Income attributable to Duke Energy Corporation common stockholders			
Basic	\$ 3.11	\$ 4.05	\$ 2.66
Diluted	\$ 3.11	\$ 4.05	\$ 2.66
Weighted average shares outstanding			
Basic	691	694	707
Diluted	691	694	707

See Notes to Consolidated Financial Statements

DUKE ENERGY CORPORATION  
**CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME**

(in millions)	Years Ended December 31,		
	2016	2015	2014
<b>Net Income</b>	<b>\$ 2,170</b>	<b>\$ 2,831</b>	<b>\$ 1,889</b>
<b>Other Comprehensive Income (Loss), net of tax</b>			
Foreign currency translation adjustments	694	(264)	(124)
Pension and OPEB adjustments	(11)	(13)	4
Net unrealized gains (losses) on cash flow hedges <sup>(a)</sup>	17	—	(26)
Reclassification into earnings from cash flow hedges	13	9	7
Unrealized gains (losses) on available-for-sale securities	2	(6)	3
<b>Other Comprehensive Income (Loss), net of tax</b>	<b>715</b>	<b>(274)</b>	<b>(136)</b>
<b>Comprehensive Income</b>	<b>2,885</b>	<b>2,557</b>	<b>1,753</b>
<b>Less: Comprehensive Income Attributable to Noncontrolling Interests</b>	<b>20</b>	<b>4</b>	<b>14</b>
<b>Comprehensive Income Attributable to Duke Energy Corporation</b>	<b>\$ 2,865</b>	<b>\$ 2,553</b>	<b>\$ 1,739</b>

(a) Net of insignificant tax expense in 2016 and 2015, and \$13 million tax benefit in 2014.

See Notes to Consolidated Financial Statements

DUKE ENERGY CORPORATION  
CONSOLIDATED BALANCE SHEETS

(in millions)	December 31,	
	2016	2015
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 392	\$ 383
Receivables (net of allowance for doubtful accounts of \$14 at 2016 and \$12 at 2015)	751	515
Receivables of VIEs (net of allowance for doubtful accounts of \$54 at 2016 and \$53 at 2015)	1,893	1,748
Inventory	3,522	3,746
Assets held for sale	—	746
Regulatory assets (includes \$50 related to VIEs at 2016)	1,023	877
Other	458	307
Total current assets	8,039	8,322
<b>Investments and Other Assets</b>		
Investments in equity method unconsolidated affiliates	925	499
Nuclear decommissioning trust funds	6,205	5,825
Goodwill	19,425	16,072
Assets held for sale	—	2,413
Other	2,752	2,830
Total investments and other assets	29,307	27,639
<b>Property, Plant and Equipment</b>		
Cost	121,397	109,967
Accumulated depreciation and amortization	(39,406)	(36,736)
Generation facilities to be retired, net	529	548
Net property, plant and equipment	82,520	73,779
<b>Regulatory Assets and Deferred Debits</b>		
Regulatory assets (includes \$1,142 related to VIEs at 2016)	12,878	11,373
Other	17	43
Total regulatory assets and deferred debits	12,895	11,416
<b>Total Assets</b>	<b>\$ 132,761</b>	<b>\$ 121,156</b>
<b>LIABILITIES AND EQUITY</b>		
<b>Current Liabilities</b>		
Accounts payable	\$ 2,994	\$ 2,350
Notes payable and commercial paper	2,487	3,633
Taxes accrued	384	289
Interest accrued	503	412
Current maturities of long-term debt (includes \$260 at 2016 and \$125 at 2015 related to VIEs)	2,319	2,026
Liabilities associated with assets held for sale	—	279
Asset retirement obligations	411	—
Regulatory liabilities	409	400
Other	2,044	2,011
Total current liabilities	11,551	11,400
<b>Long-Term Debt (includes \$3,587 at 2016 and \$2,197 at 2015 related to VIEs)</b>	<b>45,576</b>	<b>36,842</b>
<b>Deferred Credits and Other Liabilities</b>		
Deferred income taxes	14,155	12,548
Investment tax credits	493	472
Accrued pension and other post-retirement benefit costs	1,111	1,088
Liabilities associated with assets held for sale	—	900
Asset retirement obligations	10,200	10,249
Regulatory liabilities	6,881	6,255
Other	1,753	1,631
Total deferred credits and other liabilities	34,593	33,143
<b>Commitments and Contingencies</b>		
<b>Equity</b>		
Common stock, \$0.001 par value, 2 billion shares authorized; 700 million and 688 million shares outstanding at 2016 and 2015, respectively	1	1
Additional paid-in capital	38,741	37,968
Retained earnings	2,384	2,564
Accumulated other comprehensive loss	(93)	(806)
Total Duke Energy Corporation stockholders' equity	41,033	39,727
Noncontrolling interests	8	44
Total equity	41,041	39,771
<b>Total Liabilities and Equity</b>	<b>\$ 132,761</b>	<b>\$ 121,156</b>

See Notes to Consolidated Financial Statements

DUKE ENERGY CORPORATION  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

(in millions)	Years Ended December 31,		
	2016	2015	2014
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>			
Net income	\$ 2,170	\$ 2,831	\$ 1,889
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation, amortization and accretion (including amortization of nuclear fuel)	3,880	3,613	3,507
Equity component of AFUDC	(200)	(164)	(135)
FERC mitigation costs	—	—	(15)
Accrued charitable contributions related to Piedmont merger commitments	93	—	—
Losses (gains) on sales of other assets	477	(48)	(33)
Impairment charges	212	153	915
Deferred income taxes	900	1,244	1,149
Equity in earnings of unconsolidated affiliates	15	(69)	(130)
Accrued pension and other post-retirement benefit costs	21	71	108
Contributions to qualified pension plans	(155)	(302)	—
Payments for asset retirement obligations	(608)	(346)	(68)
(Increase) decrease in			
Net realized and unrealized mark-to-market and hedging transactions	34	(29)	44
Receivables	(391)	359	58
Inventory	272	(237)	(269)
Other current assets	(220)	(65)	(414)
Increase (decrease) in			
Accounts payable	266	(6)	(30)
Taxes accrued	236	(38)	(14)
Other current liabilities	182	168	(201)
Other assets	(186)	(216)	16
Other liabilities	(200)	(243)	209
Net cash provided by operating activities	<b>6,798</b>	<b>6,676</b>	<b>6,586</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>			
Capital expenditures	(7,901)	(6,766)	(5,384)
Investment expenditures	(307)	(263)	(90)
Acquisitions, net of cash acquired	(4,778)	(1,334)	(54)
Purchases of available-for-sale securities	(5,153)	(4,037)	(4,110)
Proceeds from sales and maturities of available-for-sale securities	5,236	4,040	4,133
Proceeds from the sales of discontinued operations and other assets, net of cash divested	1,418	2,968	179
Change in restricted cash	(4)	191	9
Other	(44)	(76)	(56)
Net cash used in investing activities	<b>(11,533)</b>	<b>(5,277)</b>	<b>(5,373)</b>
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>			
Proceeds from the:			
Issuance of long-term debt	9,238	2,955	2,914
Issuance of common stock	731	17	25
Payments for the redemption of long-term debt	(1,923)	(3,029)	(3,037)
Proceeds from the issuance of short-term debt with original maturities greater than 90 days	2,081	379	1,066
Payments for the redemption of short-term debt with original maturities greater than 90 days	(2,166)	(931)	(564)
Notes payable and commercial paper	(1,362)	1,797	1,186
Distributions to noncontrolling interests	(6)	(9)	(65)
Dividends paid	(2,332)	(2,254)	(2,234)
Repurchase of common shares	—	(1,500)	—
Other	9	(3)	31
Net cash provided by (used in) financing activities	<b>4,270</b>	<b>(2,578)</b>	<b>(678)</b>
Changes in cash and cash equivalents included in assets held for sale	474	1,099	(548)
Net increase (decrease) in cash and cash equivalents	9	(80)	(13)
<b>Cash and cash equivalents at beginning of period</b>	<b>383</b>	<b>463</b>	<b>476</b>
<b>Cash and cash equivalents at end of period</b>	<b>\$ 392</b>	<b>\$ 383</b>	<b>\$ 463</b>
<b>Supplemental Disclosures:</b>			
Cash paid for interest, net of amount capitalized	\$ 1,794	\$ 1,607	\$ 1,659
Cash paid for income taxes	229	170	158
Significant non-cash transactions:			
Accrued capital expenditures	1,000	771	664

See Notes to Consolidated Financial Statements

DUKE ENERGY CORPORATION  
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(in millions)	Duke Energy Corporation Stockholders' Accumulated Other Comprehensive Loss										
	Common Stock Shares	Common Stock	Additional Paid-in Capital	Retained Earnings	Foreign Currency Translation Adjustments	Net Losses on Cash Flow Hedges	Net Unrealized Gains (Losses) on Available- for-Sale- Securities	Pension and OPEB Adjustments	Total Duke Energy Corporation Stockholders' Equity	Noncontrolling Interests	Total Equity
<b>Balance at December 31, 2013</b>	706	\$ 1	\$ 39,365	\$ 2,363	\$ (307)	\$ (40)	\$ —	\$ (52)	\$ 41,330	\$ 78	\$ 41,408
Net income	—	—	—	1,883	—	—	—	—	1,883	6	1,889
Other comprehensive (loss) income	—	—	—	—	(132)	(19)	3	4	(144)	8	(136)
Common stock issuances, including dividend reinvestment and employee benefits	1	—	40	—	—	—	—	—	40	—	40
Common stock dividends	—	—	—	(2,234)	—	—	—	—	(2,234)	—	(2,234)
Distributions to noncontrolling interest in subsidiaries	—	—	—	—	—	—	—	—	—	(65)	(65)
Other	—	—	—	—	—	—	—	—	—	(3)	(3)
<b>Balance at December 31, 2014</b>	707	\$ 1	\$ 39,405	\$ 2,012	\$ (439)	\$ (59)	\$ 3	\$ (48)	\$ 40,875	\$ 24	\$ 40,899
Net income	—	—	—	2,816	—	—	—	—	2,816	15	2,831
Other comprehensive (loss) income	—	—	—	—	(253)	9	(6)	(13)	(263)	(11)	(274)
Common stock issuances, including dividend reinvestment and employee benefits	1	—	63	—	—	—	—	—	63	—	63
Stock repurchase	(20)	—	(1,500)	—	—	—	—	—	(1,500)	—	(1,500)
Common stock dividends	—	—	—	(2,254)	—	—	—	—	(2,254)	—	(2,254)
Distributions to noncontrolling interest in subsidiaries	—	—	—	—	—	—	—	—	—	(9)	(9)
Other <sup>(a)</sup>	—	—	—	(10)	—	—	—	—	(10)	25	15
<b>Balance at December 31, 2015</b>	688	\$ 1	\$ 37,968	\$ 2,564	\$ (692)	\$ (50)	\$ (3)	\$ (61)	\$ 39,727	\$ 44	\$ 39,771
Net income	—	—	—	2,152	—	—	—	—	2,152	18	2,170
Other comprehensive income (loss) <sup>(b)</sup>	—	—	—	—	692	30	2	(11)	713	2	715
Common stock issuances, including dividend reinvestment and employee benefits	12	—	773	—	—	—	—	—	773	—	773
Common stock dividends	—	—	—	(2,332)	—	—	—	—	(2,332)	—	(2,332)
Distributions to noncontrolling interests in subsidiaries	—	—	—	—	—	—	—	—	—	(6)	(6)
Other <sup>(c)</sup>	—	—	—	—	—	—	—	—	—	(50)	(50)
<b>Balance at December 31, 2016</b>	700	\$ 1	\$ 38,741	\$ 2,384	\$ —	\$ (20)	\$ (1)	\$ (72)	\$ 41,033	\$ 8	\$ 41,041

- (a) Noncontrolling Interests amount is primarily related to the acquisitions of a majority interest in a provider of energy management systems and services for commercial customers and a solar company.
- (b) Foreign Currency Translation Adjustments amount includes \$620 million of cumulative adjustment realized as a result of the sale of the Latin American generation business. Refer to Note 2 to the Consolidated Financial Statements.
- (c) Noncontrolling Interests amount is primarily related to the sale of the Latin American generation business. Refer to Note 2 to the Consolidated Financial Statements.

See Notes to Consolidated Financial Statements

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors of  
Duke Energy Carolinas, LLC  
Charlotte, North Carolina

We have audited the accompanying consolidated balance sheets of Duke Energy Carolinas, LLC and subsidiaries (the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of operations and comprehensive income, changes in equity, and cash flows for each of the three years in the period ended December 31, 2016. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Duke Energy Carolinas, LLC and subsidiaries at December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America.

/s/Deloitte & Touche LLP

Charlotte, North Carolina  
February 24, 2017

DUKE ENERGY CAROLINAS, LLC  
**CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME**

(in millions)	Years Ended December 31,		
	2016	2015	2014
<b>Operating Revenues</b>	<b>\$ 7,322</b>	<b>\$ 7,229</b>	<b>\$ 7,351</b>
<b>Operating Expenses</b>			
Fuel used in electric generation and purchased power	1,797	1,881	2,133
Operation, maintenance and other	2,106	2,066	1,995
Depreciation and amortization	1,075	1,051	1,009
Property and other taxes	276	269	316
Impairment charges	1	1	3
Total operating expenses	5,255	5,268	5,456
<b>Loss on Sales of Other Assets and Other, net</b>	<b>(5)</b>	<b>(1)</b>	<b>—</b>
<b>Operating Income</b>	<b>2,062</b>	<b>1,960</b>	<b>1,895</b>
<b>Other Income and Expenses, net</b>	<b>162</b>	<b>160</b>	<b>172</b>
<b>Interest Expense</b>	<b>424</b>	<b>412</b>	<b>407</b>
<b>Income Before Income Taxes</b>	<b>1,800</b>	<b>1,708</b>	<b>1,660</b>
<b>Income Tax Expense</b>	<b>634</b>	<b>627</b>	<b>588</b>
<b>Net Income</b>	<b>\$ 1,166</b>	<b>\$ 1,081</b>	<b>\$ 1,072</b>
<b>Other Comprehensive Income, net of tax</b>			
Reclassification into earnings from cash flow hedges	2	1	2
Unrealized gain on available-for-sale securities	—	1	—
<b>Other Comprehensive Income, net of tax</b>	<b>2</b>	<b>2</b>	<b>2</b>
<b>Comprehensive Income</b>	<b>\$ 1,168</b>	<b>\$ 1,083</b>	<b>\$ 1,074</b>

See Notes to Consolidated Financial Statements

DUKE ENERGY CAROLINAS, LLC  
CONSOLIDATED BALANCE SHEETS

(in millions)	December 31,	
	2016	2015
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 14	\$ 13
Receivables (net of allowance for doubtful accounts of \$2 at 2016 and \$3 at 2015)	160	142
Receivables of VIEs (net of allowance for doubtful accounts of \$7 at 2016 and 2015)	645	596
Receivables from affiliated companies	163	107
Notes receivable from affiliated companies	66	163
Inventory	1,055	1,276
Regulatory assets	238	305
Other	37	128
Total current assets	2,378	2,730
<b>Investments and Other Assets</b>		
Nuclear decommissioning trust funds	3,273	3,050
Other	940	999
Total investments and other assets	4,213	4,049
<b>Property, Plant and Equipment</b>		
Cost	41,127	39,398
Accumulated depreciation and amortization	(14,365)	(13,521)
Net property, plant and equipment	26,762	25,877
<b>Regulatory Assets and Deferred Debits</b>		
Regulatory assets	3,159	2,766
Other	3	4
Total regulatory assets and deferred debits	3,162	2,770
<b>Total Assets</b>	<b>\$ 36,515</b>	<b>\$ 35,426</b>
<b>LIABILITIES AND EQUITY</b>		
<b>Current Liabilities</b>		
Accounts payable	\$ 833	\$ 753
Accounts payable to affiliated companies	247	229
Taxes accrued	143	25
Interest accrued	102	95
Current maturities of long-term debt	116	356
Asset retirement obligations	222	—
Regulatory liabilities	161	39
Other	468	519
Total current liabilities	2,292	2,016
<b>Long-Term Debt</b>	<b>9,187</b>	<b>7,711</b>
<b>Long-Term Debt Payable to Affiliated Companies</b>	<b>300</b>	<b>300</b>
<b>Deferred Credits and Other Liabilities</b>		
Deferred income taxes	6,544	6,146
Investment tax credits	203	199
Accrued pension and other post-retirement benefit costs	97	107
Asset retirement obligations	3,673	3,918
Regulatory liabilities	2,840	2,802
Other	607	621
Total deferred credits and other liabilities	13,964	13,793
<b>Commitments and Contingencies</b>		
<b>Equity</b>		
Member's equity	10,781	11,617
Accumulated other comprehensive loss	(9)	(11)
Total equity	10,772	11,606
<b>Total Liabilities and Equity</b>	<b>\$ 36,515</b>	<b>\$ 35,426</b>

See Notes to Consolidated Financial Statements



DUKE ENERGY CAROLINAS, LLC  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

(in millions)	Years Ended December 31,		
	2016	2015	2014
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>			
Net income	\$ 1,166	\$ 1,081	\$ 1,072
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization (including amortization of nuclear fuel)	1,382	1,361	1,273
Equity component of AFUDC	(102)	(96)	(91)
FERC mitigation costs	—	—	3
Accrued charitable contributions related to Piedmont merger commitments	52	—	—
Losses on sales of other assets and other, net	5	1	—
Impairment charges	1	1	—
Deferred income taxes	470	397	376
Accrued pension and other post-retirement benefit costs	4	15	22
Contributions to qualified pension plans	(43)	(91)	—
Payments for asset retirement obligations	(287)	(167)	—
(Increase) decrease in			
Net realized and unrealized mark-to-market and hedging transactions	5	—	—
Receivables	(76)	42	48
Receivables from affiliated companies	(56)	(32)	—
Inventory	215	(157)	(60)
Other current assets	67	(51)	(236)
Increase (decrease) in			
Accounts payable	(85)	(4)	10
Accounts payable to affiliated companies	18	75	(7)
Taxes accrued	187	(128)	(15)
Other current liabilities	63	127	(10)
Other assets	20	76	17
Other liabilities	(30)	(77)	(22)
Net cash provided by operating activities	2,976	2,373	2,380
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>			
Capital expenditures	(2,220)	(1,933)	(1,879)
Purchases of available-for-sale securities	(2,832)	(2,555)	(2,064)
Proceeds from sales and maturities of available-for-sale securities	2,832	2,555	2,044
Notes receivable from affiliated companies	97	(13)	72
Other	(83)	(35)	(18)
Net cash used in investing activities	(2,206)	(1,981)	(1,845)
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>			
Proceeds from the issuance of long-term debt	1,587	516	—
Payments for the redemption of long-term debt	(356)	(506)	(45)
Distributions to parent	(2,000)	(401)	(500)
Other	—	(1)	—
Net cash used in financing activities	(769)	(392)	(545)
Net increase (decrease) in cash and cash equivalents	1	—	(10)
<b>Cash and cash equivalents at beginning of period</b>	13	13	23
<b>Cash and cash equivalents at end of period</b>	\$ 14	\$ 13	\$ 13
<b>Supplemental Disclosures:</b>			
Cash paid for interest, net of amount capitalized	\$ 393	\$ 389	\$ 388
Cash (received from) paid for income taxes	(60)	342	305
<b>Significant non-cash transactions:</b>			
Accrued capital expenditures	347	239	194

See Notes to Consolidated Financial Statements

DUKE ENERGY CAROLINAS, LLC  
**CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY**

(in millions)	Member's Equity	Accumulated Other Comprehensive Loss		Total Equity
		Net Losses on Cash Flow Hedges	Net Losses Available- for-Sale Securities	
<b>Balance at December 31, 2013</b>	\$ 10,365	\$ (14)	\$ (1)	\$ 10,350
Net income	1,072	—	—	1,072
Other comprehensive income	—	2	—	2
Distributions to parent	(500)	—	—	(500)
<b>Balance at December 31, 2014</b>	\$ 10,937	\$ (12)	\$ (1)	\$ 10,924
Net income	1,081	—	—	1,081
Other comprehensive income	—	1	1	2
Distributions to parent	(401)	—	—	(401)
<b>Balance at December 31, 2015</b>	\$ 11,617	\$ (11)	\$ —	\$ 11,606
Net income	1,166	—	—	1,166
Other comprehensive income	—	2	—	2
Distributions to parent	(2,000)	—	—	(2,000)
Other	(2)	—	—	(2)
<b>Balance at December 31, 2016</b>	\$ 10,781	\$ (9)	\$ —	\$ 10,772

See Notes to Consolidated Financial Statements

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors of  
Progress Energy, Inc.  
Charlotte, North Carolina

We have audited the accompanying consolidated balance sheets of Progress Energy, Inc. and subsidiaries (the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of operations and comprehensive income, changes in equity, and cash flows for each of the three years in the period ended December 31, 2016. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Progress Energy, Inc. and subsidiaries at December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America.

/s/Deloitte & Touche LLP

Charlotte, North Carolina  
February 24, 2017

PROGRESS ENERGY, INC.  
**CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME**

(in millions)	Years Ended December 31,		
	2016	2015	2014
<b>Operating Revenues</b>	<b>\$ 9,853</b>	<b>\$ 10,277</b>	<b>\$ 10,166</b>
<b>Operating Expenses</b>			
Fuel used in electric generation and purchased power	3,644	4,224	4,195
Operation, maintenance and other	2,386	2,298	2,335
Depreciation and amortization	1,213	1,116	1,128
Property and other taxes	487	492	517
Impairment charges	7	12	(16)
Total operating expenses	7,737	8,142	8,159
<b>Gains on Sales of Other Assets and Other, net</b>	<b>25</b>	<b>25</b>	<b>11</b>
<b>Operating Income</b>	<b>2,141</b>	<b>2,160</b>	<b>2,018</b>
<b>Other Income and Expenses, net</b>	<b>114</b>	<b>97</b>	<b>77</b>
<b>Interest Expense</b>	<b>689</b>	<b>670</b>	<b>675</b>
<b>Income From Continuing Operations Before Income Taxes</b>	<b>1,566</b>	<b>1,587</b>	<b>1,420</b>
<b>Income Tax Expense From Continuing Operations</b>	<b>527</b>	<b>522</b>	<b>540</b>
<b>Income From Continuing Operations</b>	<b>1,039</b>	<b>1,065</b>	<b>880</b>
<b>Income (Loss) From Discontinued Operations, net of tax</b>	<b>2</b>	<b>(3)</b>	<b>(6)</b>
<b>Net Income</b>	<b>1,041</b>	<b>1,062</b>	<b>874</b>
<b>Less: Net Income Attributable to Noncontrolling Interests</b>	<b>10</b>	<b>11</b>	<b>5</b>
<b>Net Income Attributable to Parent</b>	<b>\$ 1,031</b>	<b>\$ 1,051</b>	<b>\$ 869</b>
<b>Net Income</b>	<b>\$ 1,041</b>	<b>\$ 1,062</b>	<b>\$ 874</b>
<b>Other Comprehensive Income (Loss), net of tax</b>			
Pension and OPEB adjustments	1	(10)	9
Reclassification into earnings from cash flow hedges	8	4	8
Unrealized gains (losses) on investments in available-for-sale securities	1	(1)	1
<b>Other Comprehensive Income (Loss), net of tax</b>	<b>10</b>	<b>(7)</b>	<b>18</b>
<b>Comprehensive Income</b>	<b>1,051</b>	<b>1,055</b>	<b>892</b>
<b>Less: Comprehensive Income Attributable to Noncontrolling Interests</b>	<b>10</b>	<b>11</b>	<b>5</b>
<b>Comprehensive Income Attributable to Parent</b>	<b>\$ 1,041</b>	<b>\$ 1,044</b>	<b>\$ 887</b>

See Notes to Consolidated Financial Statements

PROGRESS ENERGY, INC.  
**CONSOLIDATED BALANCE SHEETS**

(in millions)	December 31,	
	2016	2015
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 46	\$ 44
Receivables (net of allowance for doubtful accounts of \$6 at 2016 and 2015)	114	151
Receivables of VIEs (net of allowance for doubtful accounts of \$7 at 2016 and \$8 at 2015)	692	658
Receivables from affiliated companies	106	375
Notes receivable from affiliated companies	80	—
Inventory	1,717	1,751
Regulatory assets (includes \$50 related to VIEs at 2016)	401	362
Other	148	156
Total current assets	3,304	3,497
<b>Investments and Other Assets</b>		
Nuclear decommissioning trust funds	2,932	2,775
Goodwill	3,655	3,655
Other	852	834
Total investments and other assets	7,439	7,264
<b>Property, Plant and Equipment</b>		
Cost	44,864	42,666
Accumulated depreciation and amortization	(15,212)	(14,867)
Generation facilities to be retired, net	529	548
Net property, plant and equipment	30,181	28,347
<b>Regulatory Assets and Deferred Debits</b>		
Regulatory assets (includes \$1,142 related to VIEs at 2016)	5,722	5,435
Other	4	5
Total regulatory assets and deferred debits	5,726	5,440
<b>Total Assets</b>	<b>\$ 46,650</b>	<b>\$ 44,548</b>
<b>LIABILITIES AND EQUITY</b>		
<b>Current Liabilities</b>		
Accounts payable	\$ 1,003	\$ 722
Accounts payable to affiliated companies	348	311
Notes payable to affiliated companies	729	1,308
Taxes accrued	83	53
Interest accrued	201	195
Current maturities of long-term debt (includes \$62 related to VIEs at 2016)	778	315
Asset retirement obligations	189	—
Regulatory liabilities	189	286
Other	745	891
Total current liabilities	4,265	4,081
<b>Long-Term Debt (includes \$1,741 at 2016 and \$479 at 2015 related to VIEs)</b>	<b>15,590</b>	<b>13,999</b>
<b>Long-Term Debt Payable to Affiliated Companies</b>	<b>1,173</b>	<b>150</b>
<b>Deferred Credits and Other Liabilities</b>		
Deferred income taxes	5,246	4,790
Accrued pension and other post-retirement benefit costs	547	536
Asset retirement obligations	5,286	5,369
Regulatory liabilities	2,395	2,387
Other	341	383
Total deferred credits and other liabilities	13,815	13,465
<b>Commitments and Contingencies</b>		
<b>Equity</b>		
Common stock, \$0.01 par value, 100 shares authorized and outstanding at 2016 and 2015	—	—
Additional paid-in capital	8,094	8,092
Retained earnings	3,764	4,831
Accumulated other comprehensive loss	(38)	(48)
Total Progress Energy, Inc. stockholders' equity	11,820	12,875
Noncontrolling interests	(13)	(22)
Total equity	11,807	12,853
<b>Total Liabilities and Equity</b>	<b>\$ 46,650</b>	<b>\$ 44,548</b>

See Notes to Consolidated Financial Statements

PROGRESS ENERGY, INC.  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

(in millions)	Years Ended December 31,		
	2016	2015	2014
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>			
Net income	\$ 1,041	\$ 1,062	\$ 874
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation, amortization and accretion (including amortization of nuclear fuel)	1,435	1,312	1,313
Equity component of AFUDC	(76)	(54)	(26)
FERC mitigation costs	—	—	(18)
Accrued charitable contributions related to Piedmont merger commitments	32	—	—
Gains on sales of other assets and other, net	(34)	(31)	(6)
Impairment charges	7	12	2
Deferred income taxes	532	714	1,014
Accrued pension and other post-retirement benefit costs	(24)	(5)	27
Contributions to qualified pension plans	(43)	(83)	—
Payments for asset retirement obligations	(270)	(156)	(68)
(Increase) decrease in			
Net realized and unrealized mark-to-market and hedging transactions	42	(6)	12
Receivables	7	105	(31)
Receivables from affiliated companies	211	(316)	(56)
Inventory	35	(67)	(101)
Other current assets	3	553	(934)
Increase (decrease) in			
Accounts payable	242	(193)	6
Accounts payable to affiliated companies	37	108	80
Taxes accrued	15	(63)	(20)
Other current liabilities	(42)	136	(144)
Other assets	(248)	(167)	(14)
Other liabilities	(58)	(112)	56
Net cash provided by operating activities	2,844	2,749	1,966
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>			
Capital expenditures	(3,306)	(2,698)	(1,940)
Acquisitions	(10)	(1,249)	—
Purchases of available-for-sale securities	(2,143)	(1,174)	(1,689)
Proceeds from sales and maturities of available-for-sale securities	2,187	1,211	1,652
Proceeds from insurance	58	—	—
Proceeds from the sale of nuclear fuel	20	102	—
Notes receivable from affiliated companies	(80)	220	(145)
Change in restricted cash	(6)	—	—
Other	47	(34)	(44)
Net cash used in investing activities	(3,233)	(3,622)	(2,166)
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>			
Proceeds from the issuance of long-term debt	2,375	1,186	1,572
Payments for the redemption of long-term debt	(327)	(1,553)	(931)
Notes payable to affiliated companies	444	623	(378)
Distributions to noncontrolling interests	(1)	(4)	(37)
Capital contribution from parent	—	625	—
Dividends to parent	(2,098)	—	—
Other	(2)	(2)	(42)
Net cash provided by financing activities	391	875	184
Net increase (decrease) in cash and cash equivalents	2	2	(16)
<b>Cash and cash equivalents at beginning of period</b>	<b>44</b>	<b>42</b>	<b>58</b>
<b>Cash and cash equivalents at end of period</b>	<b>46</b>	<b>44</b>	<b>42</b>
<b>Supplemental Disclosures:</b>			
Cash paid for interest, net of amount capitalized	\$ 673	\$ 649	\$ 664
Cash (received from) paid for income taxes	(187)	(426)	141
Significant non-cash transactions:			
Accrued capital expenditures	317	329	294

See Notes to Consolidated Financial Statements

PROGRESS ENERGY, INC.  
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(in millions)	Accumulated Other Comprehensive Loss									
	Common Stock	Additional Paid-in Capital	Retained Earnings	Net Losses on Cash Flow Hedges	Net Unrealized Gains on Available-for- Sale Securities	Pension and OPEB Adjustments	Total Progress Energy, Inc. Stockholders' Equity	Noncontrolling Interests	Total Equity	
<b>Balance at December 31, 2013</b>	\$ —	\$ 7,467	\$ 3,452	\$ (43)	\$ —	\$ (16)	\$ 10,860	\$ 4	\$ 10,864	
Net income	—	—	869	—	—	—	869	5	874	
Other comprehensive income	—	—	—	8	1	9	18	—	18	
Distributions to noncontrolling interests	—	—	—	—	—	—	—	(37)	(37)	
Transfer of service company net assets to Duke Energy	—	—	(539)	—	—	—	(539)	—	(539)	
Other	—	—	—	—	—	—	—	(4)	(4)	
<b>Balance at December 31, 2014</b>	\$ —	\$ 7,467	\$ 3,782	\$ (35)	\$ 1	\$ (7)	\$ 11,208	\$ (32)	\$ 11,176	
Net income	—	—	1,051	—	—	—	1,051	11	1,062	
Other comprehensive income (loss)	—	—	—	4	(1)	(10)	(7)	—	(7)	
Distributions to noncontrolling interests	—	—	—	—	—	—	—	(4)	(4)	
Capital contribution from parent	—	625	—	—	—	—	625	—	625	
Other	—	—	(2)	—	—	—	(2)	3	1	
<b>Balance at December 31, 2015</b>	\$ —	\$ 8,092	\$ 4,831	\$ (31)	\$ —	\$ (17)	\$ 12,875	\$ (22)	\$ 12,853	
Net income	—	—	1,031	—	—	—	1,031	10	1,041	
Other comprehensive income	—	—	—	8	1	1	10	—	10	
Distributions to noncontrolling interests	—	—	—	—	—	—	—	(1)	(1)	
Dividends to parent	—	—	(2,098)	—	—	—	(2,098)	—	(2,098)	
Other	—	2	—	—	—	—	2	—	2	
<b>Balance at December 31, 2016</b>	\$ —	\$ 8,094	\$ 3,764	\$ (23)	\$ 1	\$ (16)	\$ 11,820	\$ (13)	\$ 11,807	

See Notes to Consolidated Financial Statements

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors of  
Duke Energy Progress, LLC  
Charlotte, North Carolina

We have audited the accompanying consolidated balance sheets of Duke Energy Progress, LLC and subsidiaries (the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of operations and comprehensive income, changes in equity, and cash flows for each of the three years in the period ended December 31, 2016. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Duke Energy Progress, LLC and subsidiaries at December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America.

/s/Deloitte & Touche LLP

Charlotte, North Carolina  
February 24, 2017



DUKE ENERGY PROGRESS, LLC  
**CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME**

(in millions)	Years Ended December 31,		
	2016	2015	2014
<b>Operating Revenues</b>	<b>\$ 5,277</b>	<b>\$ 5,290</b>	<b>\$ 5,176</b>
<b>Operating Expenses</b>			
Fuel used in electric generation and purchased power	1,830	2,029	2,036
Operation, maintenance and other	1,504	1,452	1,470
Depreciation and amortization	703	643	582
Property and other taxes	156	140	174
Impairment charges	1	5	(18)
Total operating expenses	4,194	4,269	4,244
<b>Gains on Sales of Other Assets and Other, net</b>	<b>3</b>	<b>3</b>	<b>3</b>
<b>Operating Income</b>	<b>1,086</b>	<b>1,024</b>	<b>935</b>
<b>Other Income and Expenses, net</b>	<b>71</b>	<b>71</b>	<b>51</b>
<b>Interest Expense</b>	<b>257</b>	<b>235</b>	<b>234</b>
<b>Income Before Income Taxes</b>	<b>900</b>	<b>860</b>	<b>752</b>
<b>Income Tax Expense</b>	<b>301</b>	<b>294</b>	<b>285</b>
<b>Net Income and Comprehensive Income</b>	<b>\$ 599</b>	<b>\$ 566</b>	<b>\$ 467</b>

See Notes to Consolidated Financial Statements

## PART II

DUKE ENERGY PROGRESS, LLC  
CONSOLIDATED BALANCE SHEETS

(in millions)	December 31,	
	2016	2015
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 11	\$ 15
Receivables (net of allowance for doubtful accounts of \$4 at 2016 and 2015)	51	87
Receivables of VIEs (net of allowance for doubtful accounts of \$5 at 2016 and 2015)	404	349
Receivables from affiliated companies	5	16
Notes receivable from affiliated companies	165	—
Inventory	1,076	1,088
Regulatory assets	188	264
Other	57	121
Total current assets	1,957	1,940
<b>Investments and Other Assets</b>		
Nuclear decommissioning trust funds	2,217	2,035
Other	523	486
Total investments and other assets	2,740	2,521
<b>Property, Plant and Equipment</b>		
Cost	28,419	27,313
Accumulated depreciation and amortization	(10,561)	(10,141)
Generation facilities to be retired, net	529	548
Net property, plant and equipment	18,387	17,720
<b>Regulatory Assets and Deferred Debits</b>		
Regulatory assets	3,243	2,710
Other	2	3
Total regulatory assets and deferred debits	3,245	2,713
<b>Total Assets</b>	<b>\$ 26,329</b>	<b>\$ 24,894</b>
<b>LIABILITIES AND EQUITY</b>		
<b>Current Liabilities</b>		
Accounts payable	\$ 589	\$ 399
Accounts payable to affiliated companies	227	190
Notes payable to affiliated companies	—	209
Taxes accrued	104	15
Interest accrued	102	96
Current maturities of long-term debt	452	2
Asset retirement obligations	189	—
Regulatory liabilities	158	85
Other	365	412
Total current liabilities	2,186	1,408
<b>Long-Term Debt</b>	<b>6,409</b>	<b>6,366</b>
<b>Long-Term Debt Payable to Affiliated Companies</b>	<b>150</b>	<b>150</b>
<b>Deferred Credits and Other Liabilities</b>		
Deferred income taxes	3,323	3,027
Investment tax credits	146	132
Accrued pension and other post-retirement benefit costs	252	262
Asset retirement obligations	4,508	4,567
Regulatory liabilities	1,946	1,878
Other	51	45
Total deferred credits and other liabilities	10,226	9,911
<b>Commitments and Contingencies</b>		
<b>Equity</b>		
<b>Member's Equity</b>	<b>7,358</b>	<b>7,059</b>
<b>Total Liabilities and Equity</b>	<b>\$ 26,329</b>	<b>\$ 24,894</b>

See Notes to Consolidated Financial Statements

DUKE ENERGY PROGRESS, LLC  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

(in millions)	Years Ended December 31,		
	2016	2015	2014
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>			
Net income	\$ 599	566	467
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation, amortization and accretion (including amortization of nuclear fuel)	907	821	761
Equity component of AFUDC	(50)	(47)	(25)
FERC mitigation costs	—	—	(18)
Accrued charitable contributions related to Piedmont merger commitments	32	—	—
Gains on sales of other assets and other, net	(6)	(7)	(3)
Impairment charges	1	5	—
Deferred income taxes	384	354	455
Accrued pension and other post-retirement benefit costs	(32)	(14)	(7)
Contributions to qualified pension plans	(24)	(42)	—
Payments for asset retirement obligations	(212)	(109)	—
(Increase) decrease in			
Net realized and unrealized mark-to-market and hedging transactions	4	(3)	13
Receivables	(17)	43	78
Receivables from affiliated companies	11	(6)	(8)
Inventory	12	(50)	(65)
Other current assets	84	185	(416)
Increase (decrease) in			
Accounts payable	171	(65)	27
Accounts payable to affiliated companies	37	70	17
Taxes accrued	90	(34)	10
Other current liabilities	114	76	(68)
Other assets	(163)	(83)	48
Other liabilities	(10)	(66)	(21)
Net cash provided by operating activities	1,932	1,594	1,245
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>			
Capital expenditures	(1,733)	(1,669)	(1,241)
Asset acquisition	—	(1,249)	—
Purchases of available-for-sale securities	(1,658)	(727)	(499)
Proceeds from sales and maturities of available-for-sale securities	1,615	672	458
Notes receivable from affiliated companies	(165)	237	(237)
Other	26	(30)	(12)
Net cash used in investing activities	(1,915)	(2,766)	(1,531)
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>			
Proceeds from the issuance of long-term debt	505	1,186	1,347
Payments for the redemption of long-term debt	(15)	(991)	(379)
Notes payable to affiliated companies	(209)	359	(462)
Capital contribution from parent	—	626	—
Distributions to parent	(300)	—	—
Dividends to parent	—	—	(225)
Other	(2)	(2)	(7)
Net cash (used in) provided by financing activities	(21)	1,178	274
Net increase (decrease) in cash and cash equivalents	(4)	6	(12)
<b>Cash and cash equivalents at beginning of period</b>	<b>15</b>	<b>9</b>	<b>21</b>
<b>Cash and cash equivalents at end of period</b>	<b>\$ 11</b>	<b>\$ 15</b>	<b>\$ 9</b>
<b>Supplemental Disclosures:</b>			
Cash paid for interest, net of amount capitalized	\$ 248	\$ 218	\$ 220
Cash (received from) paid for income taxes	(287)	(197)	81
<b>Significant non-cash transactions:</b>			
Accrued capital expenditures	147	143	194

See Notes to Consolidated Financial Statements

DUKE ENERGY PROGRESS, LLC  
**CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY**

(in millions)	Common Stock	Retained Earnings	Member's Equity	Total Equity
<b>Balance at December 31, 2013</b>	\$ 2,159	\$ 3,466	\$ —	\$ 5,625
Net income	—	467	—	467
Dividends to parent	—	(225)	—	(225)
<b>Balance at December 31, 2014</b>	\$ 2,159	\$ 3,708	\$ —	\$ 5,867
Net income	—	355	211	566
Transfer to Member's Equity	(2,159)	(4,063)	6,222	—
Capital contribution from parent	—	—	626	626
<b>Balance at December 31, 2015</b>	\$ —	\$ —	\$ 7,059	\$ 7,059
Net income	—	—	599	599
Distribution to Parent	—	—	(300)	(300)
<b>Balance at December 31, 2016</b>	\$ —	\$ —	\$ 7,358	\$ 7,358

See Notes to Consolidated Financial Statements

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors of  
Duke Energy Florida, LLC  
Charlotte, North Carolina

We have audited the accompanying consolidated balance sheets of Duke Energy Florida, LLC and subsidiaries (the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of operations and comprehensive income, changes in equity, and cash flows for each of the three years in the period ended December 31, 2016. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Duke Energy Florida, LLC and subsidiaries at December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America.

/s/Deloitte & Touche LLP

Charlotte, North Carolina  
February 24, 2017

DUKE ENERGY FLORIDA, LLC  
**CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME**

(in millions)	Years Ended December 31,		
	2016	2015	2014
<b>Operating Revenues</b>	<b>\$ 4,568</b>	<b>\$ 4,977</b>	<b>\$ 4,975</b>
<b>Operating Expenses</b>			
Fuel used in electric generation and purchased power	1,814	2,195	2,158
Operation, maintenance and other	865	835	850
Depreciation and amortization	509	473	545
Property and other taxes	333	352	343
Impairment charges	6	7	2
Total operating expenses	3,527	3,862	3,898
<b>Gains on Sales of Other Assets and Other, net</b>	<b>—</b>	<b>—</b>	<b>1</b>
<b>Operating Income</b>	<b>1,041</b>	<b>1,115</b>	<b>1,078</b>
<b>Other Income and Expenses, net</b>	<b>44</b>	<b>24</b>	<b>20</b>
<b>Interest Expense</b>	<b>212</b>	<b>198</b>	<b>201</b>
<b>Income Before Income Taxes</b>	<b>873</b>	<b>941</b>	<b>897</b>
<b>Income Tax Expense</b>	<b>322</b>	<b>342</b>	<b>349</b>
<b>Net Income</b>	<b>\$ 551</b>	<b>\$ 599</b>	<b>\$ 548</b>
<b>Other Comprehensive Income, net of tax</b>			
Net unrealized gain on available-for-sale securities	1	—	—
Reclassification into earnings from cash flow hedges	—	—	1
<b>Other Comprehensive Income, net of tax</b>	<b>1</b>	<b>—</b>	<b>1</b>
<b>Comprehensive Income</b>	<b>\$ 552</b>	<b>\$ 599</b>	<b>\$ 549</b>

See Notes to Consolidated Financial Statements

DUKE ENERGY FLORIDA, LLC  
CONSOLIDATED BALANCE SHEETS

(in millions)	December 31,	
	2016	2015
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 16	\$ 8
Receivables (net of allowance for doubtful accounts of \$2 at 2016 and 2015)	61	60
Receivables of VIEs (net of allowance for doubtful accounts of \$2 and 2016 and \$3 at 2015)	288	308
Receivables from affiliated companies	5	84
Inventory	641	663
Regulatory assets (includes \$50 related to VIEs at 2016)	213	98
Other (includes \$53 related to VIEs at 2016)	125	21
Total current assets	1,349	1,242
<b>Investments and Other Assets</b>		
Nuclear decommissioning trust funds	715	740
Other	276	292
Total investments and other assets	991	1,032
<b>Property, Plant and Equipment</b>		
Cost	16,434	15,343
Accumulated depreciation and amortization	(4,644)	(4,720)
Net property, plant and equipment	11,790	10,623
<b>Regulatory Assets and Deferred Debits</b>		
Regulatory assets (includes \$1,142 related to VIEs at 2016)	2,480	2,725
Other	2	2
Total regulatory assets and deferred debits	2,482	2,727
<b>Total Assets</b>	<b>\$ 16,612</b>	<b>\$ 15,624</b>
<b>LIABILITIES AND EQUITY</b>		
<b>Current Liabilities</b>		
Accounts payable	\$ 413	\$ 322
Accounts payable to affiliated companies	125	116
Notes payable to affiliated companies	297	813
Taxes accrued	33	132
Interest accrued	49	43
Current maturities of long-term debt (includes \$62 related to VIEs at 2016)	326	13
Regulatory liabilities	31	200
Other	352	452
Total current liabilities	1,626	2,091
<b>Long-Term Debt (includes \$1,442 at 2016 and \$225 at 2015 related to VIEs)</b>	<b>5,799</b>	<b>4,253</b>
<b>Deferred Credits and Other Liabilities</b>		
Deferred income taxes	2,694	2,460
Accrued pension and other post-retirement benefit costs	262	242
Asset retirement obligations	778	802
Regulatory liabilities	448	509
Other	105	146
Total deferred credits and other liabilities	4,287	4,159
<b>Commitments and Contingencies</b>		
<b>Equity</b>		
Member's equity	4,899	5,121
Accumulated other comprehensive income	1	—
Total equity	4,900	5,121
<b>Total Liabilities and Equity</b>	<b>\$ 16,612</b>	<b>\$ 15,624</b>

See Notes to Consolidated Financial Statements

DUKE ENERGY FLORIDA, LLC  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

(in millions)	Years Ended December 31,		
	2016	2015	2014
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>			
Net income	\$ 551	\$ 599	\$ 548
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation, amortization and accretion	516	480	550
Equity component of AFUDC	(26)	(7)	—
Gains on sales of other assets and other, net	—	—	(1)
Impairment charges	6	7	2
Deferred income taxes	224	348	400
Accrued pension and other post-retirement benefit costs	2	5	29
Contributions to qualified pension plans	(20)	(40)	—
Payments for asset retirement obligations	(58)	(47)	(68)
(Increase) decrease in			
Net realized and unrealized mark-to-market and hedging transactions	38	(3)	(9)
Receivables	23	61	(33)
Receivables from affiliated companies	21	(44)	(37)
Inventory	23	(17)	(36)
Other current assets	(133)	116	(269)
Increase (decrease) in			
Accounts payable	71	(127)	18
Accounts payable to affiliated companies	9	46	32
Taxes accrued	(117)	67	(31)
Other current liabilities	(149)	57	(80)
Other assets	(84)	(84)	(59)
Other liabilities	(53)	(44)	10
Net cash provided by operating activities	844	1,373	966
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>			
Capital expenditures	(1,573)	(1,029)	(699)
Acquisitions	(10)	—	—
Purchases of available-for-sale securities	(485)	(447)	(1,189)
Proceeds from sales and maturities of available-for-sale securities	572	538	1,195
Insurance proceeds	58	—	—
Proceeds from the sale of nuclear fuel	20	102	—
Change in restricted cash	(6)	—	—
Other	21	(3)	(31)
Net cash used in investing activities	(1,403)	(839)	(724)
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>			
Proceeds from the issuance of long-term debt	1,870	—	225
Payments for the redemption of long-term debt	(12)	(562)	(252)
Notes payable to affiliated companies	(516)	729	(97)
Dividends to parent	—	(350)	(124)
Distribution to parent	(775)	(350)	—
Other	—	(1)	(2)
Net cash provided by (used in) financing activities	567	(534)	(250)
Net increase (decrease) in cash and cash equivalents	8	—	(8)
<b>Cash and cash equivalents at beginning of period</b>	<b>8</b>	<b>8</b>	<b>16</b>
<b>Cash and cash equivalents at end of period</b>	<b>\$ 16</b>	<b>\$ 8</b>	<b>\$ 8</b>
<b>Supplemental Disclosures:</b>			
Cash paid for interest, net of amount capitalized	\$ 208	\$ 205	\$ 203
Cash paid for (received from) income taxes	216	(229)	59
Significant non-cash transactions:			
Accrued capital expenditures	170	186	100

See Notes to Consolidated Financial Statements



DUKE ENERGY FLORIDA, LLC  
**CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY**

(in millions)	Accumulated Other Comprehensive Income						Total Equity
	Common Stock	Retained Earnings	Member's Equity	Net Unrealized Gains on Available-for-Sale Securities	Net Gains on Cash Flow Hedges		
<b>Balance at December 31, 2013</b>	\$ 1,762	\$ 3,036	\$ —	\$ —	\$ (1)	\$	4,797
Net income	—	548	—	—	—	—	548
Other comprehensive income	—	—	—	—	1	—	1
Dividend to parent	—	(124)	—	—	—	—	(124)
<b>Balance at December 31, 2014</b>	\$ 1,762	\$ 3,460	\$ —	\$ —	\$ —	\$	5,222
Net income	—	351	248	—	—	—	599
Transfer to Member's Equity	(1,762)	(3,461)	5,223	—	—	—	—
Dividends to parent	—	(350)	—	—	—	—	(350)
Distribution to parent	—	—	(350)	—	—	—	(350)
<b>Balance at December 31, 2015</b>	\$ —	\$ —	\$ 5,121	\$ —	\$ —	\$	5,121
Net income	—	—	551	—	—	—	551
Other comprehensive income	—	—	—	1	—	—	1
Distribution to parent	—	—	(775)	—	—	—	(775)
Other	—	—	2	—	—	—	2
<b>Balance at December 31, 2016</b>	\$ —	\$ —	\$ 4,899	\$ 1	\$ —	\$	4,900

See Notes to Consolidated Financial Statements

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors of  
Duke Energy Ohio, Inc.  
Charlotte, North Carolina

We have audited the accompanying consolidated balance sheets of Duke Energy Ohio, Inc. and subsidiaries (the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of operations and comprehensive income, changes in equity, and cash flows for each of the three years in the period ended December 31, 2016. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Duke Energy Ohio, Inc. and subsidiaries at December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America.

/s/Deloitte & Touche LLP

Charlotte, North Carolina  
February 24, 2017

DUKE ENERGY OHIO, INC.  
**CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME**

(in millions)	Years Ended December 31,		
	2016	2015	2014
<b>Operating Revenues</b>			
Regulated electric	\$ 1,410	\$ 1,331	\$ 1,316
Nonregulated electric and other	31	33	19
Regulated natural gas	503	541	578
Total operating revenues	1,944	1,905	1,913
<b>Operating Expenses</b>			
Fuel used in electric generation and purchased power – regulated	442	446	459
Fuel used in electric generation and purchased power – nonregulated	51	47	25
Cost of natural gas	103	141	185
Operation, maintenance and other	512	495	516
Depreciation and amortization	233	227	214
Property and other taxes	258	254	234
Impairment charges	—	—	94
Total operating expenses	1,599	1,610	1,727
Gains on Sales of Other Assets and Other, net	2	8	1
Operating Income	347	303	187
Other Income and Expenses, net	9	6	10
Interest Expense	86	79	86
Income From Continuing Operations Before Income Taxes	270	230	111
Income Tax Expense From Continuing Operations	78	81	43
Income From Continuing Operations	192	149	68
Income (Loss) From Discontinued Operations, net of tax	36	23	(563)
Net Income (Loss) and Comprehensive Income (Loss)	\$ 228	\$ 172	\$ (495)

See Notes to Consolidated Financial Statements

DUKE ENERGY OHIO, INC.  
**CONSOLIDATED BALANCE SHEETS**

(in millions)	December 31,	
	2016	2015
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 13	\$ 14
Receivables (net of allowance for doubtful accounts of \$2 at 2016 and 2015)	71	66
Receivables from affiliated companies	129	84
Notes receivable from affiliated companies	94	—
Inventory	137	105
Regulatory assets	37	36
Other	37	110
Total current assets	518	415
<b>Investments and Other Assets</b>		
Goodwill	920	920
Other	21	20
Total investments and other assets	941	940
<b>Property, Plant and Equipment</b>		
Cost	8,126	7,750
Accumulated depreciation and amortization	(2,579)	(2,507)
Net property, plant and equipment	5,547	5,243
<b>Regulatory Assets and Deferred Debits</b>		
Regulatory assets	520	497
Other	2	2
Total regulatory assets and deferred debits	522	499
<b>Total Assets</b>	<b>\$ 7,528</b>	<b>\$ 7,097</b>
<b>LIABILITIES AND EQUITY</b>		
<b>Current Liabilities</b>		
Accounts payable	\$ 282	\$ 207
Accounts payable to affiliated companies	63	53
Notes payable to affiliated companies	16	103
Taxes accrued	178	171
Interest accrued	19	18
Current maturities of long-term debt	1	106
Regulatory liabilities	21	12
Other	91	153
Total current liabilities	671	823
<b>Long-Term Debt</b>	<b>1,858</b>	<b>1,467</b>
<b>Long-Term Debt Payable to Affiliated Companies</b>	<b>25</b>	<b>25</b>
<b>Deferred Credits and Other Liabilities</b>		
Deferred income taxes	1,443	1,407
Accrued pension and other post-retirement benefit costs	56	56
Asset retirement obligations	77	125
Regulatory liabilities	236	245
Other	166	165
Total deferred credits and other liabilities	1,978	1,998
<b>Commitments and Contingencies</b>		
<b>Equity</b>		
Common stock, \$8.50 par value, 120,000,000 shares authorized; 89,663,086 shares outstanding at 2016 and 2015	762	762
Additional paid-in capital	2,695	2,720
Accumulated deficit	(461)	(698)
Total equity	2,996	2,784
<b>Total Liabilities and Equity</b>	<b>\$ 7,528</b>	<b>\$ 7,097</b>

See Notes to Consolidated Financial Statements

DUKE ENERGY OHIO, INC.  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

(in millions)	Years Ended December 31,		
	2016	2015	2014
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>			
Net income (loss)	\$ 228	\$ 172	\$ (495)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation, amortization and accretion	237	230	258
Equity component of AFUDC	(6)	(3)	(4)
Gains on sales of other assets and other, net	(2)	(8)	(1)
Impairment charges	—	40	941
Deferred income taxes	55	206	(219)
Accrued pension and other post-retirement benefit costs	6	9	8
Contributions to qualified pension plans	(5)	(8)	—
Payments for asset retirement obligations	(5)	(4)	—
(Increase) decrease in			
Net realized and unrealized mark-to-market and hedging transactions	(2)	(10)	27
Receivables	(4)	23	(56)
Receivables from affiliated companies	(36)	23	14
Inventory	(32)	—	8
Other current assets	79	—	(5)
Increase (decrease) in			
Accounts payable	19	(1)	27
Accounts payable to affiliated companies	10	(21)	(3)
Taxes accrued	3	(21)	(9)
Other current liabilities	(54)	88	27
Other assets	(35)	25	(4)
Other liabilities	(31)	(73)	(33)
Net cash provided by operating activities	425	667	481
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>			
Capital expenditures	(476)	(399)	(322)
Notes receivable from affiliated companies	(94)	145	(88)
Other	(30)	(15)	(12)
Net cash used in investing activities	(600)	(269)	(422)
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>			
Proceeds from the issuance of long-term debt	341	—	—
Payments for the redemption of long-term debt	(53)	(157)	(449)
Notes payable to affiliated companies	(87)	(95)	473
Dividends to parent	(25)	(150)	(100)
Other	(2)	(2)	1
Net cash provided by (used in) financing activities	174	(404)	(75)
Net decrease in cash and cash equivalents	(1)	(6)	(16)
<b>Cash and cash equivalents at beginning of period</b>	<b>14</b>	<b>20</b>	<b>36</b>
<b>Cash and cash equivalents at end of period</b>	<b>13</b>	<b>14</b>	<b>20</b>
<b>Supplemental Disclosures:</b>			
Cash paid for interest, net of amount capitalized	\$ 81	\$ 76	\$ 76
Cash (received from) paid for income taxes	(46)	410	(5)
Significant non-cash transactions:			
Accrued capital expenditures	83	20	24
Distribution of membership interest of Duke Energy SAM, LLC to parent	—	1,912	—

See Notes to Consolidated Financial Statements

DUKE ENERGY OHIO, INC.  
**CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY**

(in millions)	Common Stock	Additional Paid-in Capital	Accumulated Deficit	Total Equity
<b>Balance at December 31, 2013</b>	\$ 762	\$ 4,882	\$ (375)	\$ 5,269
Net loss	—	—	(495)	(495)
Dividends to parent	—	(100)	—	(100)
<b>Balance at December 31, 2014</b>	\$ 762	\$ 4,782	\$ (870)	\$ 4,674
Net income	—	—	172	172
Dividends to parent	—	(150)	—	(150)
Distribution of membership interest of Duke Energy SAM, LLC to parent	—	(1,912)	—	(1,912)
<b>Balance at December 31, 2015</b>	\$ 762	\$ 2,720	\$ (698)	\$ 2,784
Net income	—	—	228	228
Contribution from parent	—	—	9	9
Dividends to parent	—	(25)	—	(25)
<b>Balance at December 31, 2016</b>	\$ 762	\$ 2,695	\$ (461)	\$ 2,996

See Notes to Consolidated Financial Statements

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors of  
Duke Energy Indiana, LLC  
Charlotte, North Carolina

We have audited the accompanying consolidated balance sheets of Duke Energy Indiana, LLC and subsidiary (the "Company") as of December 31, 2016 and 2015, and the related consolidated statements of operations and comprehensive income, changes in equity, and cash flows for each of the three years in the period ended December 31, 2016. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Duke Energy Indiana, LLC and subsidiary at December 31, 2016 and 2015, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2016, in conformity with accounting principles generally accepted in the United States of America.

/s/Deloitte & Touche LLP

Charlotte, North Carolina  
February 24, 2017

DUKE ENERGY INDIANA, LLC  
**CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE INCOME**

(in millions)	Years Ended December 31,		
	2016	2015	2014
<b>Operating Revenues</b>	<b>\$ 2,958</b>	<b>\$ 2,890</b>	<b>\$ 3,175</b>
<b>Operating Expenses</b>			
Fuel used in electric generation and purchased power	909	982	1,259
Operation, maintenance and other	723	682	670
Depreciation and amortization	496	434	413
Property and other taxes	58	61	128
Impairment charges	8	88	—
Total operating expenses	2,194	2,247	2,470
<b>Gains on Sales of Other Assets and Other, net</b>	<b>1</b>	<b>1</b>	<b>—</b>
<b>Operating Income</b>	<b>765</b>	<b>644</b>	<b>705</b>
<b>Other Income and Expenses, net</b>	<b>22</b>	<b>11</b>	<b>22</b>
<b>Interest Expense</b>	<b>181</b>	<b>176</b>	<b>171</b>
<b>Income Before Income Taxes</b>	<b>606</b>	<b>479</b>	<b>556</b>
<b>Income Tax Expense</b>	<b>225</b>	<b>163</b>	<b>197</b>
<b>Net Income</b>	<b>\$ 381</b>	<b>\$ 316</b>	<b>\$ 359</b>
<b>Other Comprehensive Loss, net of tax</b>			
Reclassification into earnings from cash flow hedges	(1)	(2)	—
<b>Comprehensive Income</b>	<b>\$ 380</b>	<b>\$ 314</b>	<b>\$ 359</b>

See Notes to Consolidated Financial Statements



DUKE ENERGY INDIANA, LLC  
**CONSOLIDATED BALANCE SHEETS**

(in millions)	December 31,	
	2016	2015
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 17	\$ 9
Receivables (net of allowance for doubtful accounts of \$1 at 2016 and 2015)	105	96
Receivables from affiliated companies	114	71
Notes receivable from affiliated companies	86	83
Inventory	504	570
Regulatory assets	149	102
Other	45	15
Total current assets	1,020	946
<b>Investments and Other Assets</b>	145	212
<b>Property, Plant and Equipment</b>		
Cost	14,241	14,007
Accumulated depreciation and amortization	(4,317)	(4,484)
Net property, plant and equipment	9,924	9,523
<b>Regulatory Assets and Deferred Debits</b>		
Regulatory assets	1,073	716
Other	2	2
Total regulatory assets and deferred debits	1,075	718
<b>Total Assets</b>	\$ 12,164	\$ 11,399
<b>LIABILITIES AND EQUITY</b>		
<b>Current Liabilities</b>		
Accounts payable	\$ 263	\$ 189
Accounts payable to affiliated companies	74	83
Taxes accrued	31	89
Interest accrued	61	56
Current maturities of long-term debt	3	547
Regulatory liabilities	40	62
Other	93	97
Total current liabilities	565	1,123
<b>Long-Term Debt</b>	3,633	3,071
<b>Long-Term Debt Payable to Affiliated Companies</b>	150	150
<b>Deferred Credits and Other Liabilities</b>		
Deferred income taxes	1,900	1,657
Investment tax credits	137	138
Accrued pension and other post-retirement benefit costs	71	80
Asset retirement obligations	866	525
Regulatory liabilities	748	754
Other	27	65
Total deferred credits and other liabilities	3,749	3,219
<b>Commitments and Contingencies</b>		
<b>Equity</b>		
Member's equity	4,067	—
Common Stock, no par; \$0.01 stated value, 60,000,000 shares authorized; 53,913,701 shares outstanding at 2015	—	1
Additional paid-in capital	—	1,384
Retained earnings	—	2,450
Accumulated other comprehensive income	—	1
Total equity	4,067	3,836
<b>Total Liabilities and Equity</b>	\$ 12,164	\$ 11,399

See Notes to Consolidated Financial Statements

DUKE ENERGY INDIANA, LLC  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**

(in millions)	Years Ended December 31,		
	2016	2015	2014
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>			
Net income	\$ 381	\$ 316	\$ 359
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	499	439	416
Equity component of AFUDC	(16)	(11)	(14)
Gains on sales of other assets and other, net	—	(1)	—
Impairment charges	8	88	—
Deferred income taxes	213	262	308
Accrued pension and other post-retirement benefit costs	8	13	16
Contributions to qualified pension plans	(9)	(19)	—
Payments for asset retirement obligations	(46)	(19)	—
(Increase) decrease in			
Receivables	(2)	(7)	(35)
Receivables from affiliated companies	(43)	44	36
Inventory	66	(21)	(103)
Other current assets	(67)	90	(8)
Increase (decrease) in			
Accounts payable	8	33	(41)
Accounts payable to affiliated companies	(9)	25	2
Taxes accrued	(4)	35	(32)
Other current liabilities	(81)	26	5
Other assets	(27)	(82)	(21)
Other liabilities	(8)	(35)	17
Net cash provided by operating activities	871	1,176	905
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>			
Capital expenditures	(755)	(690)	(625)
Purchases of available-for-sale securities	(14)	(9)	(20)
Proceeds from sales and maturities of available-for-sale securities	11	11	16
Proceeds from the sales of other assets	—	17	—
Notes receivable from affiliated companies	(3)	(83)	96
Other	32	(17)	4
Net cash used in investing activities	(729)	(771)	(529)
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>			
Proceeds from the issuance of long-term debt	494	—	—
Payments for the redemption of long-term debt	(478)	(5)	(5)
Notes payable to affiliated companies	—	(71)	71
Dividends to parent	—	(326)	(450)
Distributions to parent	(149)	—	—
Other	(1)	—	(1)
Net cash used in financing activities	(134)	(402)	(385)
Net increase (decrease) in cash and cash equivalents	8	3	(9)
<b>Cash and cash equivalents at beginning of period</b>	<b>9</b>	<b>6</b>	<b>15</b>
<b>Cash and cash equivalents at end of period</b>	<b>\$ 17</b>	<b>\$ 9</b>	<b>\$ 6</b>
<b>Supplemental Disclosures:</b>			
Cash paid for interest, net of amount capitalized	\$ 171	\$ 175	\$ 169
Cash received from income taxes	(7)	(253)	(61)
<b>Significant non-cash transactions:</b>			
Accrued capital expenditures	99	64	87

See Notes to Consolidated Financial Statements

DUKE ENERGY INDIANA, LLC  
**CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY**

(in millions)	Common Stock	Additional Paid-in Capital	Retained Earnings	Member's Equity	Accumulated Other Comprehensive Income		Total Equity
					Net Gains on Cash Flow Hedges		
<b>Balance at December 31, 2013</b>	\$ 1	\$ 1,384	\$ 2,551	\$ —	\$ 3		\$ 3,939
Net income	—	—	359	—	—		359
Dividends to parent	—	—	(450)	—	—		(450)
<b>Balance at December 31, 2014</b>	\$ 1	\$ 1,384	\$ 2,460	\$ —	\$ 3		\$ 3,848
Net income	—	—	316	—	—		316
Other comprehensive loss	—	—	—	—	(2)		(2)
Dividends to parent	—	—	(326)	—	—		(326)
<b>Balance at December 31, 2015</b>	\$ 1	\$ 1,384	\$ 2,450	\$ —	\$ 1		\$ 3,836
Net income	—	—	—	381	—		381
Other comprehensive loss	—	—	—	—	(1)		(1)
Distributions to parent	—	—	—	(149)	—		(149)
Transfer to Member's Equity	(1)	(1,384)	(2,450)	3,835	—		—
<b>Balance at December 31, 2016</b>	\$ —	\$ —	\$ —	\$ 4,067	\$ —		\$ 4,067

See Notes to Consolidated Financial Statements

DUKE ENERGY CORPORATION – DUKE ENERGY CAROLINAS, LLC – PROGRESS ENERGY, INC. –  
DUKE ENERGY PROGRESS, LLC – DUKE ENERGY FLORIDA, LLC – DUKE ENERGY OHIO, INC. – DUKE ENERGY INDIANA, LLC  
**Combined Notes To Consolidated Financial Statements**  
For the Years Ended December 31, 2016, 2015 and 2014

## Index to Combined Notes To Consolidated Financial Statements

The notes to the consolidated financial statements are a combined presentation. The following table indicates the registrants to which the notes apply.

Registrant	Applicable Notes																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Duke Energy Corporation	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Duke Energy Carolinas, LLC	•		•	•	•	•		•	•	•	•		•	•	•	•	•		•	•	•	•	•	•	•
Progress Energy, Inc.	•	•	•	•	•	•	•	•	•	•			•	•	•	•	•		•	•	•	•	•	•	•
Duke Energy Progress, LLC	•	•	•	•	•	•			•	•	•		•	•	•	•	•		•	•	•	•	•	•	•
Duke Energy Florida, LLC	•		•	•	•	•	•	•	•	•	•		•	•	•	•	•		•	•	•	•	•	•	•
Duke Energy Ohio, Inc.	•	•	•	•	•	•		•	•	•	•		•	•		•	•		•	•	•	•	•	•	•
Duke Energy Indiana, LLC	•		•	•	•	•		•	•	•	•		•	•	•	•	•		•	•	•	•	•	•	•

Tables within the notes may not sum across due to (i) Progress Energy's consolidation of Duke Energy Progress, Duke Energy Florida and other subsidiaries that are not registrants, (ii) Piedmont, a subsidiary registrant acquired on October 3, 2016, which is consolidated within Duke Energy but not separately stated in the combined presentation and (iii) other subsidiaries that are not registrants but included in the consolidated Duke Energy balances.

## 1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

### Nature of Operations and Basis of Consolidation

Duke Energy Corporation (collectively with its subsidiaries, Duke Energy) is an energy company headquartered in Charlotte, North Carolina, subject to regulation by the Federal Energy Regulatory Commission (FERC). Duke Energy operates in the United States (U.S.) primarily through its direct and indirect subsidiaries. Certain Duke Energy subsidiaries are also subsidiary registrants, including Duke Energy Carolinas, LLC (Duke Energy Carolinas); Progress Energy, Inc. (Progress Energy); Duke Energy Progress, LLC (Duke Energy Progress); Duke Energy Florida, LLC (Duke Energy Florida); Duke Energy Ohio, Inc. (Duke Energy Ohio); and Duke Energy Indiana, LLC (Duke Energy Indiana). On October 3, 2016, Duke Energy acquired Piedmont Natural Gas Company, Inc. (Piedmont) which also became a wholly owned subsidiary and subsidiary registrant of Duke Energy. Duke Energy's consolidated financial statements include Piedmont's results of operations and cash flow activity subsequent to the acquisition. See Note 2 for additional information regarding the acquisition. When discussing Duke Energy's consolidated financial information, it necessarily includes the results of its seven separate subsidiary registrants (collectively referred to as the Subsidiary Registrants), which along with Duke Energy, are collectively referred to as the Duke Energy Registrants (Duke Energy Registrants).

In October 2016, Duke Energy completed the acquisition of Piedmont, an energy services company whose principal business is the distribution of natural gas, for a total cash purchase price of \$5.0 billion. The acquisition provides a foundation for establishing a broader strategic natural gas infrastructure platform within Duke Energy to complement the existing natural gas pipeline investments and the natural gas business located in the Midwest. For additional information on the details of this transaction including purchase price allocation and acquisition financing, see Note 2. Piedmont continues to maintain reporting requirements as a Securities and Exchange Commission (SEC) registrant.

In December 2016, Duke Energy completed an exit of the Latin American market to focus on its domestic regulated business, which was further bolstered by the acquisition of Piedmont. The sale of the International Energy business segment, excluding an equity method investment in National Methanol Company (NMC), was completed through two transactions including a sale of assets in Brazil to China Three Gorges (Luxembourg) Energy S.à.r.l. (CTG) and a sale of Duke Energy's remaining Latin American assets in Peru, Chile, Ecuador, Guatemala, El Salvador and Argentina to ISQ Enerlam Aggregator, L.P. and Enerlam (UK) Holding Ltd. (I Squared) (collectively, the International Disposal Group). For additional information on the sale of International Energy see Note 2.

The information in these combined notes relates to each of the Duke Energy Registrants, excluding Piedmont, as noted in the Index to Combined Notes to Consolidated Financial Statements. However, none of the registrants make any representation as to information related solely to Duke Energy or the Subsidiary Registrants of Duke Energy other than itself.

These Consolidated Financial Statements include, after eliminating intercompany transactions and balances, the accounts of the Duke Energy Registrants and subsidiaries where the respective Duke Energy Registrants have control. These Consolidated Financial Statements also reflect the Duke Energy Registrants' proportionate share of certain jointly owned generation and transmission facilities.

Duke Energy Carolinas is a regulated public utility primarily engaged in the generation, transmission, distribution and sale of electricity in portions of North Carolina and South Carolina. Duke Energy Carolinas is subject to the regulatory provisions of the North Carolina Utilities Commission (NCUC), Public Service Commission of South Carolina (PSCSC), U.S. Nuclear Regulatory Commission (NRC) and FERC. Substantially all of Duke Energy Carolinas' operations qualify for regulatory accounting.

Progress Energy is a public utility holding company headquartered in Raleigh, North Carolina, subject to regulation by the FERC. Progress Energy conducts operations through its wholly owned subsidiaries, Duke Energy Progress and Duke Energy Florida. Substantially all of Progress Energy's operations qualify for regulatory accounting.

DUKE ENERGY CORPORATION – DUKE ENERGY CAROLINAS, LLC – PROGRESS ENERGY, INC. –  
DUKE ENERGY PROGRESS, LLC – DUKE ENERGY FLORIDA, LLC – DUKE ENERGY OHIO, INC. – DUKE ENERGY INDIANA, LLC  
**Combined Notes To Consolidated Financial Statements – (Continued)**

Duke Energy Progress is a regulated public utility primarily engaged in the generation, transmission, distribution and sale of electricity in portions of North Carolina and South Carolina. Duke Energy Progress is subject to the regulatory provisions of the NCUC, PSCSC, NRC and FERC. Substantially all of Duke Energy Progress' operations qualify for regulatory accounting.

Duke Energy Florida is a regulated public utility primarily engaged in the generation, transmission, distribution and sale of electricity in portions of Florida. Duke Energy Florida is subject to the regulatory provisions of the Florida Public Service Commission (FPSC), NRC and FERC. Substantially all of Duke Energy Florida's operations qualify for regulatory accounting.

Duke Energy Ohio is a regulated public utility primarily engaged in the transmission and distribution of electricity in portions of Ohio and Kentucky, the generation and sale of electricity in portions of Kentucky and the transportation and sale of natural gas in portions of Ohio and Kentucky. Duke Energy Ohio also conducts competitive auctions for retail electricity supply in Ohio whereby recovery of the energy price is from retail customers and recorded in Operating Revenues on the Consolidated Statements of Operations and Comprehensive Income. Operations in Kentucky are conducted through its wholly owned subsidiary, Duke Energy Kentucky, Inc. (Duke Energy Kentucky). References herein to Duke Energy Ohio include Duke Energy Ohio and its subsidiaries, unless otherwise noted. Duke Energy Ohio is subject to the regulatory provisions of the Public Utilities Commission of Ohio (PUCO), Kentucky Public Service Commission (KPSC) and FERC. On April 2, 2015, Duke Energy completed the sale of its nonregulated Midwest generation business, which sold power into wholesale energy markets, to a subsidiary of Dynegy Inc. (Dynegy). For further information about the sale of the Midwest Generation business, refer to Note 2 "Acquisitions and Dispositions." Substantially all of Duke Energy Ohio's operations that remain after the sale qualify for regulatory accounting.

Duke Energy Indiana is a regulated public utility primarily engaged in the generation, transmission, distribution and sale of electricity in portions of Indiana. Duke Energy Indiana is subject to the regulatory provisions of the Indiana Utility Regulatory Commission (IURC) and FERC. Substantially all of Duke Energy Indiana's operations qualify for regulatory accounting. On January 1, 2016, Duke Energy Indiana, an Indiana corporation, converted into an Indiana limited liability company.

Piedmont is a regulated public utility primarily engaged in the distribution of natural gas in portions of North Carolina, South Carolina and Tennessee. Piedmont is invested in joint venture businesses including regulated interstate natural gas transportation and storage and intrastate natural gas transportation businesses. Piedmont is subject to the regulatory provisions of the NCUC, PSCSC, Tennessee Regulatory Authority (TRA) and FERC. Substantially all of Piedmont's operations qualify for regulatory accounting.

Certain prior year amounts have been reclassified to conform to the current year presentation.

#### Other Current Assets and Liabilities

The following table provides a description of amounts included in Other within Current Assets or Current Liabilities that exceed 5 percent of total Current Assets or Current Liabilities on the Duke Energy Registrants' Consolidated Balance Sheets at either December 31, 2016 or 2015.

(in millions)	Location	December 31,	
		2016	2015
<b>Duke Energy</b>			
Accrued compensation	Current Liabilities	\$ 765	\$ 619
<b>Duke Energy Carolinas</b>			
Accrued compensation	Current Liabilities	\$ 248	\$ 213
Collateral liabilities	Current Liabilities	155	141
<b>Progress Energy</b>			
Income taxes receivable	Current Assets	\$ 19	\$ 129
Customer deposits	Current Liabilities	363	373
Derivative liabilities	Current Liabilities	1	201
<b>Duke Energy Progress</b>			
Income taxes receivable	Current Assets	\$ 16	\$ 111
Customer deposits	Current Liabilities	141	141
Accrued compensation	Current Liabilities	135	108
Derivative liabilities	Current Liabilities	—	76
<b>Duke Energy Florida</b>			
Customer deposits	Current Liabilities	\$ 222	\$ 232
Derivative liabilities	Current Liabilities	1	125
<b>Duke Energy Ohio</b>			
Income taxes receivable	Current Assets	\$ 16	\$ 59
Other receivable	Current Assets	—	33
Accrued litigation reserve	Current Liabilities	4	80
Collateral liabilities	Current Liabilities	62	48
<b>Duke Energy Indiana</b>			
Collateral liabilities	Current Liabilities	\$ 44	\$ 44

DUKE ENERGY CORPORATION – DUKE ENERGY CAROLINAS, LLC – PROGRESS ENERGY, INC. –  
DUKE ENERGY PROGRESS, LLC – DUKE ENERGY FLORIDA, LLC – DUKE ENERGY OHIO, INC. – DUKE ENERGY INDIANA, LLC  
**Combined Notes To Consolidated Financial Statements – (Continued)**

**Discontinued Operations**

The results of operations of the International Disposal Group and Duke Energy Ohio's nonregulated Midwest Generation business and Duke Energy Retail Sales, LLC (collectively, Midwest Generation Disposal Group) have been classified as Discontinued Operations on Duke Energy's Consolidated Statements of Operations. Duke Energy has elected to present cash flows of discontinued operations combined with cash flows of continuing operations. Unless otherwise noted, the notes to these consolidated financial statements exclude amounts related to discontinued operations for all periods presented and assets held for sale (AHFS) and liabilities associated with AHFS as of December 31, 2015. See Note 2 for additional information.

**Amounts Attributable to Controlling Interests**

Duke Energy's amount of (Loss) Income from Discontinued Operations, net of tax presented on the Consolidated Statements of Operations includes amounts attributable to noncontrolling interest. The following table presents Net Income Attributable to Duke Energy Corporation for continuing operations and discontinued operations.

(in millions)	Year ended December 31,		
	2016	2015	2014
Income from Continuing Operations	\$ 2,578	\$ 2,654	\$ 2,538
Income from Continuing Operations Attributable to Noncontrolling Interests	7	9	5
Income from Continuing Operations Attributable to Duke Energy Corporation	\$ 2,571	\$ 2,645	\$ 2,533
(Loss) Income From Discontinued Operations, net of tax	\$ (408)	\$ 177	\$ (649)
Income from Discontinued Operations Attributable to Noncontrolling Interests, net of tax	11	6	1
(Loss) Income From Discontinued Operations Attributable to Duke Energy Corporation, net of tax	\$ (419)	\$ 171	\$ (650)
Net Income	\$ 2,170	\$ 2,831	\$ 1,889
Net Income Attributable to Noncontrolling Interests	18	15	6
Net Income Attributable to Duke Energy Corporation	\$ 2,152	\$ 2,816	\$ 1,883

**Significant Accounting Policies****Use of Estimates**

In preparing financial statements that conform to generally accepted accounting principles (GAAP) in the U.S., the Duke Energy Registrants must make estimates and assumptions that affect the reported amounts of assets and liabilities, the reported amounts of revenues and expenses and the disclosure of contingent assets and liabilities at the date of the financial statements. Actual results could differ from those estimates.

**Regulatory Accounting**

The majority of the Duke Energy Registrants' operations are subject to price regulation for the sale of electricity and natural gas by state utility commissions or FERC. When prices are set on the basis of specific costs of the regulated operations and an effective franchise is in place such that sufficient natural gas or electric services can be sold to recover those costs, the Duke Energy Registrants apply regulatory accounting. Regulatory accounting changes the timing of the recognition of costs or revenues relative to a company that does not apply regulatory accounting. As a result, Regulatory assets and Regulatory liabilities are recognized on the Consolidated Balance Sheets. Regulatory assets and liabilities are amortized consistent with the treatment of the related cost in the ratemaking process. See Note 4 for further information.

Regulatory accounting rules also require recognition of a disallowance (also called "impairment") loss if it becomes probable that part of the cost of a plant under construction (or a recently completed plant or an abandoned plant) will be disallowed for ratemaking purposes and a reasonable estimate of the amount of the disallowance can be made. Other disallowances can require judgments on allowed future rate recovery.

When it becomes probable that regulated generation, transmission or distribution assets will be abandoned, the cost of the asset is removed from plant in service. The value that may be retained as a regulatory asset on the balance sheet for the abandoned property is dependent upon amounts that may be recovered through regulated rates, including any return. As such, an impairment charge could be partially or fully offset by the establishment of a regulatory asset if rate recovery is probable. The impairment for a disallowance of costs for regulated plants under construction, recently completed or abandoned is based on discounted cash flows.

**Regulated Fuel and Purchased Gas Adjustment Clauses**

The Duke Energy Registrants utilize cost-tracking mechanisms, commonly referred to as fuel adjustment clauses or purchased gas adjustment clauses (PGA). These clauses allow for the recovery of fuel and fuel-related costs, portions of purchased power, natural gas costs and hedging costs through surcharges on customer rates. The difference between the costs incurred and the surcharge revenues is recorded either as an adjustment to Operating Revenues, Operating Expenses – Fuel used in electric generation or Operating Expenses – Cost of natural gas on the Consolidated Statements of Operations, with an off-setting impact on regulatory assets or liabilities.

**Cash and Cash Equivalents**

All highly liquid investments with maturities of three months or less at the date of acquisition are considered cash equivalents.

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**Restricted Cash**

The Duke Energy Registrants have restricted cash related primarily to collateral assets, escrow deposits and variable interest entities (VIEs). Restricted cash balances are reflected in Other within Current Assets and in Other within Investments and Other Assets on the Consolidated Balance Sheets. At December 31, 2016 and 2015, Duke Energy had restricted cash totaling \$137 million and \$98 million, respectively.

**Inventory**

Inventory is used for operations and is recorded primarily using the average cost method. Inventory related to regulated operations is valued at historical cost. Inventory related to nonregulated operations is valued at the lower of cost or market. Materials and supplies are recorded as inventory when purchased and subsequently charged to expense or capitalized to property, plant and equipment when installed. Reserves are established for excess and obsolete inventory. Inventory reserves were not material at December 31, 2016 and 2015. The components of inventory are presented in the tables below.

(in millions)	December 31, 2016						
	Duke		Duke		Duke	Duke	Duke
	Energy	Carolinas	Progress	Energy	Progress	Florida	Ohio
Materials and supplies	\$ 2,374	\$ 767	\$ 1,167	\$ 813	\$ 354	\$ 84	\$ 312
Coal	774	251	314	148	166	19	190
Natural gas, oil and other	374	37	236	115	121	34	2
Total inventory	\$ 3,522	\$ 1,055	\$ 1,717	\$ 1,076	\$ 641	\$ 137	\$ 504

(in millions)	December 31, 2015						
	Duke		Duke		Duke	Duke	Duke
	Energy	Carolinas	Progress	Energy	Progress	Florida	Ohio
Materials and supplies	\$ 2,343	\$ 785	\$ 1,133	\$ 776	\$ 357	\$ 81	\$ 301
Coal	1,105	451	370	192	178	16	267
Natural gas, oil and other	298	40	248	120	128	8	2
Total inventory	\$ 3,746	\$ 1,276	\$ 1,751	\$ 1,088	\$ 663	\$ 105	\$ 570

**Investments in Debt and Equity Securities**

The Duke Energy Registrants classify investments into two categories – trading and available-for-sale. Both categories are recorded at fair value on the Consolidated Balance Sheets. Realized and unrealized gains and losses on trading securities are included in earnings. For certain investments of regulated operations, such as the Nuclear Decommissioning Trust Fund (NDTF), realized and unrealized gains and losses (including any other-than-temporary impairments (OTTIs)) on available-for-sale securities are recorded as a regulatory asset or liability. Otherwise, unrealized gains and losses are included in Accumulated Other Comprehensive Income (AOCI), unless other-than-temporarily impaired. OTTIs for equity securities and the credit loss portion of debt securities of nonregulated operations are included in earnings. Investments in debt and equity securities are classified as either current or noncurrent based on management's intent and ability to sell these securities, taking into consideration current market liquidity. See Note 15 for further information.

**Goodwill and Intangible Assets****Goodwill**

Duke Energy, Progress Energy and Duke Energy Ohio perform annual goodwill impairment tests as of August 31 each year at the reporting unit level, which is determined to be an operating segment or one level below. Duke Energy, Progress Energy and Duke Energy Ohio update these tests between annual tests if events or circumstances occur that would more likely than not reduce the fair value of a reporting unit below its carrying value.

**Intangible Assets**

Intangible assets are included in Other in Investments and Other Assets on the Consolidated Balance Sheets. Generally, intangible assets are amortized using an amortization method that reflects the pattern in which the economic benefits of the intangible asset are consumed or on a straight-line basis if that pattern is not readily determinable. Amortization of intangibles is reflected in Depreciation and amortization on the Consolidated Statements of Operations. Intangible assets are subject to impairment testing and if impaired, the carrying value is accordingly reduced.

Emission allowances permit the holder of the allowance to emit certain gaseous byproducts of fossil fuel combustion, including sulfur dioxide (SO<sub>2</sub>) and nitrogen oxide. Allowances are issued by the U.S. Environmental Protection Agency (EPA) at zero cost and may also be bought and sold via third-party transactions. Allowances allocated to or acquired by the Duke Energy Registrants are held primarily for consumption. Carrying amounts for emission allowances are based on the cost to acquire the allowances or, in the case of a business combination, on the fair value assigned in the allocation of the purchase price of the acquired business. Emission allowances are expensed to Fuel used in electric generation and purchased power on the Consolidated Statements of Operations.



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Renewable energy certificates are used to measure compliance with renewable energy standards and are held primarily for consumption. See Note 11 for further information.

### Long-Lived Asset Impairments

The Duke Energy Registrants evaluate long-lived assets, excluding goodwill, for impairment when circumstances indicate the carrying value of those assets may not be recoverable. An impairment exists when a long-lived asset's carrying value exceeds the estimated undiscounted cash flows expected to result from the use and eventual disposition of the asset. The estimated cash flows may be based on alternative expected outcomes that are probability weighted. If the carrying value of the long-lived asset is not recoverable based on these estimated future undiscounted cash flows, the carrying value of the asset is written-down to its then-current estimated fair value and an impairment charge is recognized.

The Duke Energy Registrants assess fair value of long-lived assets using various methods, including recent comparable third-party sales, internally developed discounted cash flow analysis and analysis from outside advisors. Significant changes in commodity prices, the condition of an asset or management's interest in selling the asset are generally viewed as triggering events to reassess cash flows.

### Property, Plant and Equipment

Property, plant and equipment are stated at the lower of depreciated historical cost net of any disallowances or fair value, if impaired. The Duke Energy Registrants capitalize all construction-related direct labor and material costs, as well as indirect construction costs such as general engineering, taxes and financing costs. See "Allowance for Funds Used During Construction (AFUDC) and Interest Capitalized" for information on capitalized financing costs. Costs of renewals and betterments that extend the useful life of property, plant and equipment are also capitalized. The cost of repairs, replacements and major maintenance projects, which do not extend the useful life or increase the expected output of the asset, are expensed as incurred. Depreciation is generally computed over the estimated useful life of the asset using the composite straight-line method. Depreciation studies are conducted periodically to update composite rates and are approved by state utility commissions and/or the FERC when required. The composite weighted average depreciation rates, excluding nuclear fuel, are included in the table that follows.

	Years Ended December 31,		
	2016	2015	2014
Duke Energy	2.8%	2.9%	2.8%
Duke Energy Carolinas	2.8%	2.8%	2.7%
Progress Energy	2.7%	2.6%	2.5%
Duke Energy Progress	2.6%	2.6%	2.5%
Duke Energy Florida	2.8%	2.7%	2.7%
Duke Energy Ohio	2.6%	2.7%	2.3%
Duke Energy Indiana	3.1%	3.0%	3.0%

In general, when the Duke Energy Registrants retire regulated property, plant and equipment, the original cost plus the cost of retirement, less salvage value, is charged to accumulated depreciation. However, when it becomes probable the asset will be retired substantially in advance of its original expected useful life or is abandoned, the cost of the asset and the corresponding accumulated depreciation is recognized as a separate asset. If the asset is still in operation, the net amount is classified as Generation facilities to be retired, net on the Consolidated Balance Sheets. If the asset is no longer operating, the net amount is classified in Regulatory Assets on the Consolidated Balance Sheets. When it becomes probable that meters or other regulated mass utility assets will be abandoned, the cost of the asset and accumulated depreciation is reclassified to regulatory assets for amounts recoverable in rates. The carrying value of the asset is based on historical cost if the Duke Energy Registrants are allowed to recover the remaining net book value and a return equal to at least the incremental borrowing rate. If not, an impairment is recognized to the extent the net book value of the asset exceeds the present value of future revenues discounted at the incremental borrowing rate.

When the Duke Energy Registrants sell entire regulated operating units, or retire or sell nonregulated properties, the original cost and accumulated depreciation and amortization balances are removed from Property, Plant and Equipment on the Consolidated Balance Sheets. Any gain or loss is recorded in earnings, unless otherwise required by the applicable regulatory body.

See Note 10 for further information.

### Nuclear Fuel

Nuclear fuel is classified as Property, Plant and Equipment on the Consolidated Balance Sheets, except for Duke Energy Florida. Nuclear fuel amounts at Duke Energy Florida were reclassified to Regulatory assets pursuant to a settlement among Duke Energy Florida, the Florida Office of Public Counsel (Florida OPC) and other customer advocates (the 2013 Settlement). Portions of the nuclear fuel balances that were under contract for sale were subsequently moved to Other within Current Assets and Other within Investments and Other Assets on the Consolidated Balance Sheets.

Nuclear fuel in the front-end fuel processing phase is considered work in progress and not amortized until placed in service. Amortization of nuclear fuel is included within Fuel used in electric generation and purchased power on the Consolidated Statements of Operations. Amortization is recorded using the units-of-production method.



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### Allowance for Funds Used During Construction and Interest Capitalized

For regulated operations, the debt and equity costs of financing the construction of property, plant and equipment are reflected as AFUDC and capitalized as a component of the cost of property, plant and equipment. AFUDC equity is reported on the Consolidated Statements of Operations as non-cash income in Other income and expenses, net. AFUDC debt is reported as a non-cash offset to Interest Expense. After construction is completed, the Duke Energy Registrants are permitted to recover these costs through their inclusion in rate base and the corresponding subsequent depreciation or amortization of those regulated assets.

AFUDC equity, a permanent difference for income taxes, reduces the effective tax rate (ETR) when capitalized and increases the ETR when depreciated or amortized. See Note 22 for additional information.

For nonregulated operations, interest is capitalized during the construction phase with an offsetting non-cash credit to Interest Expense on the Consolidated Statements of Operations.

### Asset Retirement Obligations

Asset retirement obligations (AROs) are recognized for legal obligations associated with the retirement of property, plant and equipment. Substantially all AROs are related to regulated operations. When recording an ARO, the present value of the projected liability is recognized in the period in which it is incurred, if a reasonable estimate of fair value can be made. The liability is accreted over time. For operating plants, the present value of the liability is added to the cost of the associated asset and depreciated over the remaining life of the asset. For retired plants, the present value of the liability is recorded as a regulatory asset unless determined not to be recoverable.

The present value of the initial obligation and subsequent updates are based on discounted cash flows, which include estimates regarding timing of future cash flows, selection of discount rates and cost escalation rates, among other factors. These estimates are subject to change. Depreciation expense is adjusted prospectively for any changes to the carrying amount of the associated asset. The Duke Energy Registrants receive amounts to fund the cost of the ARO for regulated operations through a combination of regulated revenues and earnings on the NDTF. As a result, amounts recovered in regulated revenues, earnings on the NDTF, accretion expense and depreciation of the associated asset are netted and deferred as a regulatory asset or liability.

Obligations for nuclear decommissioning are based on site-specific cost studies. Duke Energy Carolinas and Duke Energy Progress assume prompt dismantlement of the nuclear facilities after operations are ceased. Duke Energy Florida assumes Crystal River Unit 3 Nuclear Plant (Crystal River Unit 3) will be placed into a safe storage configuration until eventual dismantlement is completed by 2074. Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida also assume that spent fuel will be stored on-site until such time that it can be transferred to a yet to be built U.S. Department of Energy (DOE) facility.

Obligations for closure of ash basins are based upon discounted cash flows of estimated costs for site-specific plans, if known, or probability weightings of the potential closure methods if the closure plans are under development and multiple closure options are being considered and evaluated on a site-by-site basis. See Note 9 for additional information.

### Revenue Recognition and Unbilled Revenue

Revenues on sales of electricity and natural gas are recognized when service is provided or the product is delivered. Unbilled revenues are recognized by applying customer billing rates to the estimated volumes of energy or natural gas delivered but not yet billed. Unbilled revenues can vary significantly from period to period as a result of seasonality, weather, customer usage patterns, customer mix, average price in effect for customer classes, timing of rendering customer bills and meter reading schedules.

Unbilled revenues are included within Receivables and Restricted receivables of VIEs on the Consolidated Balance Sheets as shown in the following table.

(in millions)	December 31,	
	2016	2015
Duke Energy	\$ 831	\$ 677
Duke Energy Carolinas	313	283
Progress Energy	161	172
Duke Energy Progress	102	102
Duke Energy Florida	59	70
Duke Energy Ohio	2	3
Duke Energy Indiana	32	31

Additionally, Duke Energy Ohio and Duke Energy Indiana sell, on a revolving basis, nearly all of their retail accounts receivable, including receivables for unbilled revenues, to an affiliate, Cinergy Receivables Company LLC (CRC) and account for the transfers of receivables as sales. Accordingly, the receivables sold are not reflected on the Consolidated Balance Sheets of Duke Energy Ohio and Duke Energy Indiana. See Note 17 for further information. These receivables for unbilled revenues are shown in the table below.

(in millions)	December 31,	
	2016	2015
Duke Energy Ohio	\$ 97	\$ 71
Duke Energy Indiana	123	97

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**Allowance for Doubtful Accounts**

Allowances for doubtful accounts are presented in the following table.

(in millions)	December 31,		
	2016	2015	2014
<b>Allowance for Doubtful Accounts</b>			
Duke Energy	\$ 14	\$ 12	\$ 14
Duke Energy Carolinas	2	3	3
Progress Energy	6	6	8
Duke Energy Progress	4	4	7
Duke Energy Florida	2	2	2
Duke Energy Ohio	2	2	2
Duke Energy Indiana	1	1	1
<b>Allowance for Doubtful Accounts – VIEs</b>			
Duke Energy	\$ 54	\$ 53	\$ 51
Duke Energy Carolinas	7	7	6
Progress Energy	7	8	8
Duke Energy Progress	5	5	5
Duke Energy Florida	2	3	3

**Derivatives and Hedging**

Derivative and non-derivative instruments may be used in connection with commodity price and interest rate activities, including swaps, futures, forwards and options. All derivative instruments, except those that qualify for the normal purchase/normal sale (NPNS) exception, are recorded on the Consolidated Balance Sheets at fair value. Qualifying derivative instruments may be designated as either cash flow hedges or fair value hedges. Other derivative instruments (undesignated contracts) either have not been designated or do not qualify as hedges. The effective portion of the change in the fair value of cash flow hedges is recorded in AOCI. The effective portion of the change in the fair value of a fair value hedge is offset in net income by changes in the hedged item. For activity subject to regulatory accounting, gains and losses on derivative contracts are reflected as regulatory assets or liabilities and not as other comprehensive income or current period income. As a result, changes in fair value of these derivatives have no immediate earnings impact.

Formal documentation, including transaction type and risk management strategy, is maintained for all contracts accounted for as a hedge. At inception and at least every three months thereafter, the hedge contract is assessed to see if it is highly effective in offsetting changes in cash flows or fair values of hedged items.

See Note 14 for further information.

**Captive Insurance Reserves**

Duke Energy has captive insurance subsidiaries that provide coverage, on an indemnity basis, to the Subsidiary Registrants as well as certain third parties, on a limited basis, for various business risks and losses, such as property, workers' compensation and general liability. Liabilities include provisions for estimated losses incurred but not yet reported (IBNR), as well as estimated provisions for known claims. IBNR reserve estimates are primarily based upon historical loss experience, industry data and other actuarial assumptions. Reserve estimates are adjusted in future periods as actual losses differ from experience.

Duke Energy, through its captive insurance entities, also has reinsurance coverage with third parties for certain losses above a per occurrence and/or aggregate retention. Receivables for reinsurance coverage are recognized when realization is deemed probable.

**Unamortized Debt Premium, Discount and Expense**

Premiums, discounts and expenses incurred with the issuance of outstanding long-term debt are amortized over the term of the debt issue. The gain or loss on extinguishment associated with refinancing higher-cost debt obligations in the regulated operations is amortized. Amortization expense is recorded as Interest Expense in the Consolidated Statements of Operations and is reflected as Depreciation, amortization and accretion within Net cash provided by operating activities on the Consolidated Statements of Cash Flows.

Premiums, discounts and expenses are presented as an adjustment to the carrying value of the debt amount and included in Long-Term Debt on the Consolidated Balance Sheets presented.

**Loss Contingencies and Environmental Liabilities**

Contingent losses are recorded when it is probable a loss has occurred and can be reasonably estimated. When a range of the probable loss exists and no amount within the range is a better estimate than any other amount, the minimum amount in the range is recorded. Unless otherwise required by GAAP, legal fees are expensed as incurred.

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Environmental liabilities are recorded on an undiscounted basis when environmental remediation or other liabilities become probable and can be reasonably estimated. Environmental expenditures related to past operations that do not generate current or future revenues are expensed. Environmental expenditures related to operations that generate current or future revenues are expensed or capitalized, as appropriate. Certain environmental expenditures receive regulatory accounting treatment and are recorded as regulatory assets.

See Notes 4 and 5 for further information.

#### **Pension and Other Post-Retirement Benefit Plans**

Duke Energy maintains qualified, non-qualified and other post-retirement benefit plans. Eligible employees of the Subsidiary Registrants participate in the respective qualified, non-qualified and other post-retirement benefit plans and the Subsidiary Registrants are allocated their proportionate share of benefit costs. See Note 21 for further information, including significant accounting policies associated with these plans.

#### **Severance and Special Termination Benefits**

Duke Energy has a severance plan under which, in general, the longer a terminated employee worked prior to termination the greater the amount of severance benefits. A liability for involuntary severance is recorded once an involuntary severance plan is committed to by management if involuntary severances are probable and can be reasonably estimated. For involuntary severance benefits incremental to its ongoing severance plan benefits, the fair value of the obligation is expensed at the communication date if there are no future service requirements or over the required future service period. From time to time, Duke Energy offers special termination benefits under voluntary severance programs. Special termination benefits are recorded immediately upon employee acceptance absent a significant retention period. Otherwise, the cost is recorded over the remaining service period. Employee acceptance of voluntary severance benefits is determined by management based on the facts and circumstances of the benefits being offered. See Note 19 for further information.

#### **Guarantees**

Liabilities are recognized at the time of issuance or material modification of a guarantee for the estimated fair value of the obligation it assumes. Fair value is estimated using a probability-weighted approach. The obligation is reduced over the term of the guarantee or related contract in a systematic and rational method as risk is reduced. Any additional contingent loss for guarantee contracts subsequent to the initial recognition of a liability is accounted for and recognized at the time a loss is probable and can be reasonably estimated. See Note 7 for further information.

#### **Stock-Based Compensation**

Stock-based compensation represents costs related to stock-based awards granted to employees and Duke Energy Board of Directors (Board of Directors) members. Duke Energy recognizes stock-based compensation based upon the estimated fair value of awards, net of estimated forfeitures at the date of issuance. The recognition period for these costs begins at either the applicable service inception date or grant date and continues throughout the requisite service period. Compensation cost is recognized as expense or capitalized as a component of property, plant and equipment. See Note 20 for further information.

#### **Income Taxes**

Duke Energy and its subsidiaries file a consolidated federal income tax return and other state and foreign jurisdictional returns. The Subsidiary Registrants entered into a tax-sharing agreement with Duke Energy. Income taxes recorded represent amounts the Subsidiary Registrants would incur as separate C-Corporations. Deferred income taxes have been provided for temporary differences between GAAP and tax bases of assets and liabilities because the differences create taxable or tax-deductible amounts for future periods. Investment tax credits (ITCs) associated with regulated operations are deferred and amortized as a reduction of income tax expense over the estimated useful lives of the related properties.

Positions taken or expected to be taken on tax returns, including the decision to exclude certain income or transactions from a return, are recognized in the financial statements when it is more likely than not the tax position can be sustained based solely on the technical merits of the position. The largest amount of tax benefit that is greater than 50 percent likely of being effectively settled is recorded. Management considers a tax position effectively settled when: (i) the taxing authority has completed its examination procedures, including all appeals and administrative reviews; (ii) the Duke Energy Registrants do not intend to appeal or litigate the tax position included in the completed examination; and (iii) it is remote that the taxing authority would examine or re-examine the tax position. The amount of a tax return position that is not recognized in the financial statements is disclosed as an unrecognized tax benefit. If these unrecognized tax benefits are later recognized, then there will be a decrease in income tax expense or a reclassification between deferred and current taxes payable. If the portion of tax benefits that has been recognized changes and those tax benefits are subsequently unrecognized, then the previously recognized tax benefits may impact the financial statements through increasing income tax expense or a reclassification between deferred and current taxes payable. Changes in assumptions on tax benefits may also impact interest expense or interest income and may result in the recognition of tax penalties.

Tax-related interest and penalties are recorded in Interest Expense and Other Income and Expenses, net in the Consolidated Statements of Operations.

See Note 22 for further information.

#### **Accounting for Renewable Energy Tax Credits and Cash Grants**

When Duke Energy receives ITCs or cash grants on wind or solar facilities, it reduces the basis of the property recorded on the Consolidated Balance Sheets by the amount of the ITC or cash grant and, therefore, the ITC or grant benefit is ultimately recognized in the statement of operations through reduced depreciation expense. Additionally, certain tax credits and government grants result in an initial tax depreciable base in excess of the book carrying value by an amount equal to one half of the ITC or government grant. Deferred tax benefits are recorded as a reduction to income tax expense in the period that the basis difference is created.

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**Excise Taxes**

Certain excise taxes levied by state or local governments are required to be paid even if not collected from the customer. These taxes are recognized on a gross basis. Otherwise, the taxes are accounted for net. Excise taxes accounted for on a gross basis as both operating revenues and property and other taxes in the Consolidated Statements of Operations were as follows.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Duke Energy	\$ 362	\$ 396	\$ 498
Duke Energy Carolinas	31	31	94
Progress Energy	213	229	263
Duke Energy Progress	18	16	56
Duke Energy Florida	195	213	207
Duke Energy Ohio	100	102	103
Duke Energy Indiana	17	34	38

On July 23, 2013, North Carolina House Bill 998, or the North Carolina Tax Simplification and Rate Reduction Act (HB 998) was signed into law. HB 998 repealed the utility franchise tax effective July 1, 2014. The utility franchise tax was a 3.22 percent gross receipts tax on sales of electricity. The result of this change in law is an annual reduction in excise taxes of approximately \$160 million for Duke Energy Carolinas and approximately \$110 million for Duke Energy Progress. HB 998 also increases sales tax on electricity from 3 percent to 7 percent effective July 1, 2014. HB 998 requires the NCUC to adjust retail electric rates for the elimination of the utility franchise tax, changes due to the increase in sales tax on electricity and the resulting change in liability of utility companies under the general franchise tax.

**Dividend Restrictions and Unappropriated Retained Earnings**

Duke Energy does not have any legal, regulatory or other restrictions on paying common stock dividends to shareholders. However, as further described in Note 4, due to conditions established by regulators in conjunction with merger transaction approvals, Duke Energy Carolinas, Duke Energy Progress, Duke Energy Ohio, Duke Energy Indiana and Piedmont have restrictions on paying dividends or otherwise advancing funds to Duke Energy. At December 31, 2016 and 2015, an insignificant amount of Duke Energy's consolidated Retained earnings balance represents undistributed earnings of equity method investments.

**New Accounting Standards**

The following new accounting standards have been issued, but have not yet been adopted by the Duke Energy Registrants, as of December 31, 2016.

**Goodwill Impairment.** In January 2017, the Financial Accounting Standards Board (FASB) issued revised guidance for subsequent measurement of goodwill. Under the updated guidance, a company will recognize an impairment to goodwill for the amount by which a reporting unit's carrying value exceeds the reporting unit's fair value, not to exceed the amount of goodwill allocated to that reporting unit. Duke Energy is unable to determine the future impact of adopting this guidance.

For Duke Energy, this guidance is effective for interim and annual periods beginning January 1, 2020, but may be early adopted for interim or annual goodwill tests performed on testing dates after January 1, 2017. The guidance will be applied on a prospective basis.

**Revenue from Contracts with Customers.** In May 2014, the FASB issued revised accounting guidance for revenue recognition from contracts with customers. The core principle of this guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The amendments in this update also require disclosure of sufficient information to allow users to understand the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers.

Most of Duke Energy's revenue is expected to be in scope of the new guidance. The majority of our sales, including energy provided to residential customers, are from tariff offerings that provide natural gas or electricity without a defined contractual term ('at-will'). For such arrangements, Duke Energy expects that the revenue from contracts with customers will be equivalent to the electricity or natural gas supplied and billed in that period (including estimated billings). As such, Duke Energy does not expect that there will be a significant shift in the timing or pattern of revenue recognition for such sales. The evaluation of other revenue streams is ongoing, including long-term contracts with industrial customers and long-term purchase power agreements (PPA).

Duke Energy continues to evaluate what information would be most useful for users of the financial statements, including information already provided in disclosures outside of the financial statement footnotes. These additional disclosures could include the disaggregation of revenues by geographic location, type of service, customer class or by duration of contract ('at-will' versus contracted revenue). Revenues from contracts with customers, revenue recognized under regulated operations accounting and revenue from lease accounting will also be disclosed.

Duke Energy intends to use the modified retrospective method of adoption effective January 1, 2018. This method results in a cumulative change effect that will be recorded as an adjustment to retained earnings as of January 1, 2018, as if the standard had always been in effect. Disclosures for 2018 will include a comparison to what would have been reported for 2018 under the current revenue recognition rules in order to assist financial statement users in understanding how revenue recognition has changed as a result of this standard and to facilitate comparability with prior year reported results, which are not restated under the modified retrospective approach.

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**Leases.** In February 2016, the FASB issued revised accounting guidance for leases. The core principle of this guidance is that a lessee should recognize the assets and liabilities that arise from leases on the balance sheet.

For Duke Energy, this guidance is effective for interim and annual periods beginning January 1, 2019, although it can be early adopted. The guidance is applied using a modified retrospective approach. Duke Energy is currently evaluating the financial statement impact of adopting this standard. Other than an expected increase in assets and liabilities, the ultimate impact of the new standard has not yet been determined. Significant system enhancements may be required to facilitate the identification, tracking and reporting of potential leases based upon requirements of the new lease standard.

**Stock-Based Compensation and Income Taxes.** In March 2016, the FASB issued revised accounting guidance for stock-based compensation and the associated income taxes. This standard changes certain aspects of accounting for stock-based payment awards to employees including the accounting for income taxes, statutory tax withholding requirements, as well as classification on the Consolidated Statements of Cash Flows. The primary future impact to the Duke Energy Registrants is expected to be a small increase in the volatility of income tax expense. This guidance will be adopted prospectively, retrospectively, or using a modified retrospective approach depending on the item changed for the period beginning January 1, 2017.

**Statement of Cash Flows.** In November 2016, the FASB issued revised accounting guidance to reduce diversity in practice for the presentation and classification of restricted cash on the statement of cash flows. Under the updated guidance, restricted cash and restricted cash equivalents will be included within beginning-of-period and end-of-period cash and cash equivalents on the statement of cash flows.

For Duke Energy, this guidance is effective for the interim and annual periods beginning January 1, 2018, although it can be early adopted. The guidance will be applied using a retrospective transition method to each period presented. Upon adoption by Duke Energy, the revised guidance will result in a change in total cash, cash equivalents and amounts generally described as restricted cash or restricted cash equivalents explained when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. Prior to adoption, the Duke Energy Registrants reflect changes in restricted cash within Cash Flows from Investing Activities on the Consolidated Statement of Cash Flows.

**Financial Instruments Classification and Measurement.** In January 2016, the FASB issued revised accounting guidance for the classification and measurement of financial instruments. Changes in the fair value of all equity securities will be required to be recorded in net income. Current GAAP allows some changes in fair value for available-for-sale equity securities to be recorded in AOCI. Additional disclosures will be required to present separately the financial assets and financial liabilities by measurement category and form of financial asset. An entity's equity investments that are accounted for under the equity method of accounting are not included within the scope of the new guidance.

For Duke Energy, the revised accounting guidance is effective for interim and annual periods beginning January 1, 2018, by recording a cumulative change effect that will be recorded as an adjustment to retained earnings as of January 1, 2018. This guidance is expected to have minimal impact on the Duke Energy Registrant's Consolidated Statements of Operations and Comprehensive Income as changes in the fair value of most of the Duke Energy Registrants' available-for-sale equity securities are deferred as regulatory assets or liabilities pursuant to accounting guidance for regulated operations.

## 2. ACQUISITIONS AND DISPOSITIONS

### ACQUISITIONS

The Duke Energy Registrants consolidate assets and liabilities from acquisitions as of the purchase date and include earnings from acquisitions in consolidated earnings after the purchase date.

#### Acquisition of Piedmont Natural Gas

On October 3, 2016, Duke Energy acquired all outstanding common stock of Piedmont for a total cash purchase price of \$5.0 billion and assumed Piedmont's existing long-term debt, which had an estimated fair value of approximately \$2.0 billion at the time of the acquisition. Piedmont is a North Carolina corporation primarily engaged in regulated natural gas distribution to residential, commercial, industrial and power generation customers in portions of North Carolina, South Carolina and Tennessee. Piedmont is also invested in joint-venture, energy-related businesses, including regulated interstate natural gas transportation and storage and regulated intrastate natural gas transportation. The acquisition provides a foundation for Duke Energy to establish a broader, long-term strategic natural gas infrastructure platform to complement its existing natural gas pipeline investments and regulated natural gas business in the Midwest. In connection with the closing of the acquisition, Piedmont became a wholly owned subsidiary of Duke Energy.

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**Preliminary Purchase Price Allocation**

The preliminary purchase price allocation of the Piedmont acquisition is estimated as follows:

<b>(in millions)</b>	
Current assets	\$ 497
Property, plant and equipment, net	4,714
Goodwill	3,353
Other long-term assets	804
<b>Total assets</b>	<b>9,368</b>
Current liabilities, including current maturities of long-term debt	576
Long-term liabilities	1,790
Long-term debt	2,002
<b>Total liabilities</b>	<b>4,368</b>
<b>Total purchase price</b>	<b>\$ 5,000</b>

The fair value of Piedmont's assets and liabilities were determined based on significant estimates and assumptions that are judgmental in nature, including projected future cash flows (including timing); discount rates reflecting risk inherent in the future cash flows and market prices of long-term debt. The preliminary amounts are subject to revision to the extent that additional information is obtained about the facts and circumstances that existed as of the acquisition date.

The majority of Piedmont's operations are subject to the rate-setting authority of the NCUC, the PSCSC and the TRA and are accounted for pursuant to accounting guidance for regulated operations. The rate-setting and cost recovery provisions currently in place for Piedmont's regulated operations provide revenues derived from costs, including a return on investment of assets and liabilities included in rate base. Thus, the fair value of Piedmont's assets and liabilities subject to these rate-setting provisions approximates the pre-acquisition carrying values and does not reflect any net valuation adjustments.

The significant assets and liabilities for which valuation adjustments were reflected within the purchase price allocation include the acquired equity method investments and long-term debt. The difference between the preliminary fair value and the pre-merger carrying values of long-term debt for regulated operations was recorded as a regulatory asset.

The excess of the purchase price over the estimated fair value of Piedmont's assets and liabilities on the acquisition date was recorded as goodwill. The goodwill reflects the value paid by Duke Energy primarily for establishing a broader, long-term strategic natural gas infrastructure platform, an improved risk profile and expected synergies resulting from the combined entities. See Note 11 for information related to the allocation of goodwill to Duke Energy's reporting units.

**Accounting Charges Related to the Acquisition**

Duke Energy incurred pretax non-recurring transaction and integration costs associated with the acquisition of \$439 million and \$9 million for the years ended December 31, 2016 and 2015, respectively. Amounts recorded on the Consolidated Statements of Operations in 2016 include:

- Interest expense of \$234 million related to the acquisition financing, including realized losses on forward-starting interest rate swaps of \$190 million. See Note 14 for additional information on the swaps.
- Charges of \$104 million related to commitments made in conjunction with the transaction, including charitable contributions and a one-time bill credit to Piedmont customers. \$10 million was recorded as a reduction in Operating Revenues, with the remaining \$94 million recorded within Operation, maintenance and other.
- Other transaction and integration costs of \$101 million recorded to Operation, maintenance and other, including professional fees and severance.

**Pro Forma Financial Information**

The following unaudited pro forma financial information reflects the combined results of operations of Duke Energy and Piedmont as if the merger had occurred as of January 1, 2015. The pro forma financial information does not include potential cost savings, intercompany revenues, Piedmont's earnings from a certain equity method investment sold immediately prior to the merger or non-recurring transaction and integration costs incurred by Duke Energy and Piedmont. The after-tax non-recurring transaction and integration costs incurred by Duke Energy and Piedmont were \$279 million and \$19 million for the years ended December 31, 2016 and 2015, respectively.

This information has been presented for illustrative purposes only and is not necessarily indicative of the consolidated results of operations that would have been achieved or the future consolidated results of operations of Duke Energy.

<b>(in millions)</b>	<b>Years Ended December 31,</b>	
	<b>2016</b>	<b>2015</b>
Operating Revenues	\$ 23,504	\$ 23,570
Net Income Attributable to Duke Energy Corporation	2,442	2,877

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**Piedmont's Earnings**

Piedmont's revenues and net income included in Duke Energy's Consolidated Statements of Operations for the year ended December 31, 2016, were \$367 million and \$20 million, respectively. Piedmont's revenues and net income for the year ended December 31, 2016 include the impact of non-recurring transaction costs of \$10 million and \$46 million, respectively.

**Acquisition Related Financings and Other Matters**

Duke Energy financed the Piedmont acquisition with a combination of debt and equity issuances and other cash sources, including:

- \$3.75 billion of long-term debt issued in August 2016.
- \$750 million borrowed under the \$1.5 billion short-term loan facility in September 2016, which was repaid in December 2016.
- 10.6 million shares of common stock issued in October 2016 for net cash proceeds of approximately \$723 million.

The \$4.9 billion senior unsecured bridge financing facility (Bridge Facility) with Barclays Capital, Inc. (Barclays) was terminated following the issuance of the long-term debt. For additional information related to the debt and equity issuances, see Notes 6 and 18, respectively. For additional information regarding Duke Energy's and Piedmont's joint investment in Atlantic Coast Pipeline, LLC (ACP), see Note 4.

**Purchase of NCEMPA's Generation**

On July 31, 2015, Duke Energy Progress completed the purchase of North Carolina Eastern Municipal Power Agency's (NCEMPA) ownership interests in certain generating assets, fuel and spare parts inventory jointly owned with and operated by Duke Energy Progress for approximately \$1.25 billion. This purchase was accounted for as an asset acquisition. The purchase resulted in the acquisition of a total of approximately 700 megawatts (MW) of generating capacity at Brunswick Nuclear Plant (Brunswick), Shearon Harris Nuclear Plant (Harris), Mayo Steam Plant and Roxboro Steam Plant. In connection with this transaction, Duke Energy Progress and NCEMPA entered into a 30-year wholesale power agreement, whereby Duke Energy Progress will sell power to NCEMPA to continue to meet the needs of NCEMPA customers.

The purchase price exceeded the historical carrying value of the acquired assets by \$350 million, which was recognized as an acquisition adjustment and recorded in property, plant and equipment. Duke Energy Progress established a rider in North Carolina to recover the costs to acquire, operate and maintain interests in the assets purchased as allocated to its North Carolina retail operations, including the purchase acquisition adjustment, and included the purchase acquisition adjustment in wholesale power formula rates.

Duke Energy Progress received an order from the PSCSC to defer recovery of the South Carolina retail allocated costs of the asset purchased until Duke Energy Progress' next general rate case, which was filed in July 2016. In October 2016, Duke Energy Progress, the Office of Regulatory Staff (ORS) and intervenors entered into a settlement agreement that provides for recovery of the historical carrying value of the South Carolina allocated purchased costs of the transaction. The settlement agreement was approved by the PSCSC in December 2016. See Note 4 for additional information on the South Carolina rate case.

The ownership interests in generating assets acquired are subject to rate-setting authority of the FERC, NCUC and PSCSC and accordingly, the assets are recorded at historical cost. The assets acquired are presented in the following table.

<b>(in millions)</b>	
Inventory	\$ 56
Net property, plant and equipment	845
<b>Total assets</b>	<b>901</b>
Acquisition adjustment, recorded within property, plant and equipment	350
<b>Total purchase price</b>	<b>\$ 1,251</b>

In connection with the acquisition, Duke Energy Progress acquired NCEMPA's NDTF assets of \$287 million and assumed AROs of \$204 million associated with NCEMPA's interest in the generation assets. The NDTF and the AROs are subject to regulatory accounting treatment.

**DISPOSITIONS**

The following table summarizes the (Loss) Income from Discontinued Operations, net of tax recorded on Duke Energy's Consolidated Statements of Operations:

<b>(in millions)</b>	<b>Years Ended December 31,</b>		
	<b>2016</b>	<b>2015</b>	<b>2014</b>
International Energy Disposal Group	\$ (534)	\$ 157	\$ (73)
Midwest Generation Disposal Group	36	33	(524)
Other <sup>(a)</sup>	90	(13)	(52)
<b>(Loss) Income from Discontinued Operations, net of tax</b>	<b>\$ (408)</b>	<b>\$ 177</b>	<b>\$ (649)</b>

- (a) Relates to previously sold businesses not related to the Disposal Groups. The amount for 2016 represents an income tax benefit resulting from immaterial out of period deferred tax liability adjustments. The amounts for 2015 and 2014 include indemnifications provided for certain legal, tax and environmental matters and foreign currency translation adjustments.



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**Sale of International Energy**

In February 2016, Duke Energy announced it had initiated a process to divest its International Energy businesses, excluding the equity method investment in NMC (the International Disposal Group), and in October 2016, announced it had entered into two separate purchase and sale agreements to execute the divestiture. Both sales closed in December of 2016, resulting in available cash proceeds of \$1.9 billion, excluding transaction costs. Proceeds were primarily used to reduce Duke Energy holding company debt. Existing favorable tax attributes result in no immediate U.S. federal-level cash tax impacts. Details of each transaction are as follows:

- On December 20, 2016, Duke Energy closed on the sale of its ownership interests in businesses in Argentina, Chile, Ecuador, El Salvador, Guatemala and Peru to I Squared Capital. The assets sold included approximately 2,230 MW of hydroelectric and natural gas generation capacity, transmission infrastructure and natural gas processing facilities. I Squared Capital purchased the businesses for an enterprise value of \$1.2 billion.
- On December 29, 2016, Duke Energy closed on the sale of its Brazilian business, which included approximately 2,090 MW of hydroelectric generation capacity, to CTG for an enterprise value of \$1.2 billion. With the closing of the CTG deal, Duke Energy finalized its exit from the Latin American market.

**Assets Held For Sale and Discontinued Operations**

As a result of the transactions, the International Disposal Group was classified as held for sale and as discontinued operations in the fourth quarter of 2016. Interest expense directly associated with the International Disposal Group was allocated to discontinued operations. No interest from corporate level debt was allocated to discontinued operations.

The following table presents the carrying values of the major classes of Assets held for sale and Liabilities associated with assets held for sale included in the Consolidated Balance Sheets. As a result of Duke Energy closing both transactions in December 2016, there are no Assets held for sale or Liabilities associated with assets held for sale as of December 31, 2016.

(in millions)	December 31, 2015
<b>Current assets held for sale</b>	
Cash and cash equivalents	\$ 474
Receivables, net	188
Inventory	65
Other	19
Total current assets held for sale	746
<b>Noncurrent assets held for sale</b>	
<b>Property, Plant and Equipment</b>	
Cost	2,859
Accumulated depreciation and amortization	(930)
Net property, plant and equipment	1,929
Goodwill	271
Other	213
Total noncurrent assets held for sale	2,413
<b>Total assets held for sale</b>	<b>\$ 3,159</b>
<b>Current liabilities associated with assets held for sale</b>	
Accounts payable	\$ 51
Taxes accrued	60
Current maturities of long-term debt	48
Other	120
Total current liabilities associated with assets held for sale	279
<b>Noncurrent liabilities associated with assets held for sale</b>	
Long-Term Debt	653
Deferred income taxes	157
Other	90
Total noncurrent liabilities associated with assets held for sale	900
<b>Total liabilities associated with assets held for sale</b>	<b>\$ 1,179</b>

The value of goodwill increased by \$7 million from December 31, 2015 through the date of sale as a result of changes in foreign currency exchange rates. At the time of the disposition, the International Disposal Group included goodwill of \$278 million.



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The following table presents the results of the International Disposal Group which are included in (Loss) Income from Discontinued Operations, net of tax in Duke Energy's Consolidated Statements of Operations.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Operating Revenues	\$ 988	\$ 1,088	\$ 1,417
Fuel used in electric generation and purchased power	227	306	486
Cost of natural gas	43	53	63
Operation, maintenance and other	341	334	352
Depreciation and amortization <sup>(a)</sup>	62	92	97
Property and other taxes	15	7	9
Impairment charges <sup>(b)</sup>	194	13	—
(Loss) Gains on Sales of Other Assets and Other, net	(3)	6	6
Other Income and Expenses, net	58	23	47
Interest Expense	82	85	93
Pretax loss on disposal <sup>(c)</sup>	(514)	—	—
(Loss) Income before income taxes <sup>(d)</sup>	(435)	227	370
Income tax expense <sup>(e)(f)</sup>	99	70	443
(Loss) Income from discontinued operations of the International Disposal Group	\$ (534)	\$ 157	\$ (73)

- (a) Upon meeting the criteria for assets held for sale, beginning in the fourth quarter of 2016 depreciation expense was ceased.
- (b) In conjunction with the advancements of marketing efforts during 2016, Duke Energy performed recoverability tests of the long-lived asset groups of International Energy. As a result, Duke Energy determined the carrying value of certain assets in Central America was not fully recoverable and recorded a pretax impairment charge of \$194 million. The charge represents the excess of carrying value over the estimated fair value of the assets, which was based on a Level 3 Fair Value measurement that was primarily determined from the income approach using discounted cash flows but also considered market information obtained in 2016.
- (c) The pretax loss on disposal includes the recognition of cumulative foreign currency translation losses of \$620 million as of the disposal date. See the Consolidated Statements of Changes in Equity for additional information.
- (d) Pretax (Loss) Income attributable to Duke Energy Corporation was \$(445) million, \$221 million and \$360 million for the years ended December 31, 2016, 2015 and 2014, respectively.
- (e) 2016 amount includes \$126 million of income tax expense on the disposal, which primarily reflects in-country taxes incurred as a result of the sale. The after-tax loss on disposal was \$640 million.
- (f) 2016 amount includes an income tax benefit of \$95 million and 2014 amount includes an income tax charge of \$373 million related to historical undistributed foreign earnings. See Note 22, "Income Taxes," for additional information.

Duke Energy has elected not to separately disclose discontinued operations on the Consolidated Statements of Cash Flows. The following table summarizes Duke Energy's cash flows from discontinued operations related to the International Disposal Group.

(in millions)	Years Ended December 31,		
	2016	2015	2014
<b>Cash flows provided by (used in):</b>			
Operating activities	\$ 204	\$ 248	\$ 339
Investing activities	(434)	177	111

#### Other Sale Related Matters

Duke Energy will provide transition services to CTG and I Squared for a period not to extend beyond March 2017 and September 2017, respectively. In addition, Duke Energy will reimburse CTG and I Squared for all tax obligations arising from the period preceding consummation on the transactions, totaling approximately \$78 million. Duke Energy has not recorded any other liabilities, contingent liabilities or indemnifications related to the International Disposal Group.

#### Midwest Generation Exit

Duke Energy, through indirect subsidiaries, completed the sale of the Midwest Generation Disposal Group to a subsidiary of Dynegy on April 2, 2015, for approximately \$2.8 billion in cash. The nonregulated Midwest generation business included generation facilities with approximately 5,900 MW of owned capacity located in Ohio, Pennsylvania and Illinois. On April 1, 2015, prior to the sale, Duke Energy Ohio distributed its indirect ownership interest in the nonregulated Midwest generation business to a subsidiary of Duke Energy Corporation.

Duke Energy utilized a revolving credit agreement (RCA) to support the operations of the nonregulated Midwest generation business. Duke Energy Ohio had a power purchase agreement with the Midwest Generation Disposal Group for a portion of its standard service offer (SSO) supply requirement. The agreement and the SSO expired in May 2015.

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The results of operations of the Midwest Generation Disposal Group prior to the date of sale are classified as discontinued operations in the accompanying Consolidated Statements of Operations. Interest expense associated with the RCA was allocated to discontinued operations. No other interest expense related to corporate level debt was allocated to discontinued operations. Certain immaterial costs that were eliminated as a result of the sale remained in continuing operations. The following table summarizes the Midwest Generation Disposal Group activity recorded within discontinued operations.

(in millions)	Duke Energy			Duke Energy Ohio		
	Years Ended December 31,			Years Ended December 31,		
	2016	2015	2014	2016	2015	2014
Operating Revenues	\$ —	\$ 543	\$ 1,748	\$ —	\$ 412	\$ 1,299
Pretax Loss on disposal <sup>(a)</sup>	—	(45)	(929)	—	(52)	(959)
Income (loss) before income taxes <sup>(b)</sup>	\$ —	\$ 59	\$ (818)	\$ —	\$ 44	\$ (863)
Income tax (benefit) expense <sup>(c)</sup>	(36)	26	(294)	(36)	21	(300)
Income (loss) from discontinued operations	\$ 36	\$ 33	\$ (524)	\$ 36	\$ 23	\$ (563)

- (a) The Loss on disposal includes impairments recorded to adjust the carrying amount of the assets to the estimated fair value of the business, based on the selling price to Dynegy less cost to sell.
- (b) 2015 amounts include the impact of an \$81 million charge for the settlement agreement reached in a lawsuit related to the Midwest Generation Disposal Group. Refer to Note 5 for further information about the lawsuit.
- (c) 2016 amounts result from immaterial out of period deferred tax liability adjustments.

### 3. BUSINESS SEGMENTS

Duke Energy evaluates segment performance based on segment income. Segment income is defined as income from continuing operations net of income attributable to noncontrolling interests. Segment income, as discussed below, includes intercompany revenues and expenses that are eliminated in the Consolidated Financial Statements. Certain governance costs are allocated to each segment. In addition, direct interest expense and income taxes are included in segment income.

Operating segments are determined based on information used by the chief operating decision-maker in deciding how to allocate resources and evaluate the performance of the business.

Products and services are sold between affiliate companies and reportable segments of Duke Energy at cost. Segment assets as presented in the tables that follow exclude all intercompany assets.

#### Duke Energy

Due to the Piedmont acquisition and the sale of International Energy in the fourth quarter of 2016, Duke Energy's segment structure has been realigned to include the following segments: Electric Utilities and Infrastructure, Gas Utilities and Infrastructure and Commercial Renewables. Prior period information has been recast to conform to the current segment structure. See Note 2 for further information on the Piedmont and International Energy transactions.

Electric Utilities and Infrastructure includes Duke Energy's regulated electric utilities in the Carolinas, Florida and the Midwest. The regulated electric utilities conduct operations through the Subsidiary Registrants that are substantially all regulated and, accordingly, qualify for regulatory accounting treatment. Electric Utilities and Infrastructure also includes Duke Energy's commercial electric transmission infrastructure investments.

Gas Utilities and Infrastructure contains Piedmont, Duke Energy's natural gas local distribution companies in Ohio and Kentucky, and Duke Energy's natural gas storage and pipeline investments. Gas Utilities and Infrastructure's operations are substantially all regulated and, accordingly, qualify for regulatory accounting treatment.

Commercial Renewables is primarily comprised of nonregulated utility scale wind and solar generation assets located throughout the U.S.

In December 2016, Duke Energy closed on the sale of the International Disposal Group, which includes the former International Energy business segment, excluding the equity method investment in NMC. Results of the International Disposal Group are presented within Discontinued Operations for all periods and results of NMC are presented within Other for all periods, as described below. See Note 2, "Acquisitions and Dispositions" for additional information related to the sale.

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The remainder of Duke Energy's operations is presented as Other, which is primarily comprised of unallocated corporate interest expense, unallocated corporate costs, contributions to the Duke Energy Foundation and the operations of Duke Energy's wholly owned captive insurance subsidiary, Bison Insurance Company Limited (Bison). As discussed above, Other also includes Duke Energy's 25 percent interest in NMC, a large regional producer of methyl tertiary butyl ether (MTBE) located in Saudi Arabia. The investment in NMC is accounted for under the equity method of accounting.

Year Ended December 31, 2016							
(in millions)	Electric Utilities and Infrastructure	Gas Utilities and Infrastructure	Commercial Renewables	Total Reportable Segments	Other	Eliminations	Total
Unaffiliated Revenues	\$ 21,336	\$ 875	\$ 484	\$ 22,695	\$ 48	\$ —	\$ 22,743
Intersegment Revenues	30	26	—	56	69	(125)	—
<b>Total Revenues</b>	<b>\$ 21,366</b>	<b>\$ 901</b>	<b>\$ 484</b>	<b>\$ 22,751</b>	<b>\$ 117</b>	<b>\$ (125)</b>	<b>\$ 22,743</b>
Interest Expense	\$ 1,136	\$ 46	\$ 53	\$ 1,235	\$ 693	\$ (12)	\$ 1,916
Depreciation and amortization	2,897	115	130	3,142	152	—	3,294
Equity in earnings (losses) of unconsolidated affiliates <sup>(a)</sup>	5	19	(82)	(58)	43	—	(15)
Income tax expense (benefit)	1,672	90	(160)	1,602	(446)	—	1,156
Segment income (loss) <sup>(b)(c)</sup>	3,040	152	23	3,215	(645)	1	2,571
Add back noncontrolling interest component							7
Loss from discontinued operations, net of tax <sup>(d)</sup>							(408)
<b>Net income</b>							<b>\$ 2,170</b>
Capital investments expenditures and acquisitions <sup>(e)</sup>	\$ 6,649	\$ 5,519	\$ 857	\$ 13,025	\$ 190	\$ —	\$ 13,215
Segment assets	114,993	10,760	4,377	130,130	2,443	188	132,761

- (a) Commercial Renewables includes a pretax impairment charge of \$71 million. See Note 12 for additional information.
- (b) Other includes \$329 million of after-tax costs to achieve mergers. Refer to Note 2 for additional information on costs related to the Piedmont merger.
- (c) Other includes after-tax charges of \$57 million related to cost savings initiatives. Refer to Note 19 for further information.
- (d) Includes a loss on sale of the International Disposal Group. Refer to Note 2 for further information.
- (e) Other includes \$26 million of capital investments expenditures related to the International Disposal Group. Gas Utilities and Infrastructure includes the Piedmont acquisition of \$5 billion. Refer to Note 2 for more information on the Piedmont acquisition.

Year Ended December 31, 2015							
(in millions)	Electric Utilities and Infrastructure	Gas Utilities and Infrastructure	Commercial Renewables	Total Reportable Segments	Other	Eliminations	Total
Unaffiliated Revenues	\$ 21,489	\$ 536	\$ 286	\$ 22,311	\$ 60	\$ —	\$ 22,371
Intersegment Revenues	32	5	—	37	75	(112)	—
<b>Total Revenues</b>	<b>\$ 21,521</b>	<b>\$ 541</b>	<b>\$ 286</b>	<b>\$ 22,348</b>	<b>\$ 135</b>	<b>\$ (112)</b>	<b>\$ 22,371</b>
Interest Expense	\$ 1,074	\$ 25	\$ 44	\$ 1,143	\$ 393	\$ (9)	\$ 1,527
Depreciation and amortization	2,735	79	104	2,918	135	—	3,053
Equity in earnings (losses) of unconsolidated affiliates	(2)	1	(6)	(7)	76	—	69
Income tax expense (benefit)	1,602	44	(128)	1,518	(262)	—	1,256
Segment income (loss) <sup>(a)(b)(c)</sup>	2,819	73	52	2,944	(299)	—	2,645
Add back noncontrolling interest component							9
Income from discontinued operations, net of tax <sup>(d)</sup>							177
<b>Net income</b>							<b>\$ 2,831</b>
Capital investments expenditures and acquisitions <sup>(e)</sup>	\$ 6,852	\$ 234	\$ 1,019	\$ 8,105	\$ 258	\$ —	\$ 8,363
Segment assets <sup>(f)</sup>	109,097	2,637	3,861	115,595	5,373	188	121,156

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- (a) Electric Utilities and Infrastructure includes an after-tax charge of \$58 million related to the Edwardsport settlement. Refer to Note 4 for further information.
- (b) Other includes \$60 million of after-tax costs to achieve mergers.
- (c) Other includes after-tax charges of \$77 million related to cost savings initiatives. Refer to Note 19 for further information.
- (d) Includes the impact of a settlement agreement reached in a lawsuit related to the Midwest Generation Disposal Group. Refer to Note 5 for further information related to the lawsuit and Note 2 for further information on discontinued operations.
- (e) Other includes capital investment expenditures of \$45 million related to the International Disposal Group.
- (f) Other includes Assets Held for Sale balances related to the International Disposal Group. Refer to Note 2 for further information.

(in millions)	Year Ended December 31, 2014							Total
	Electric Utilities and Infrastructure	Gas Utilities and Infrastructure	Commercial Renewables	Total Reportable Segments	Other	Eliminations		
Unaffiliated Revenues	\$ 21,655	\$ 573	\$ 235	\$ 22,463	\$ 46	\$ —	\$ 22,509	
Intersegment Revenues	36	5	1	42	70	(112)	—	
<b>Total Revenues</b>	<b>\$ 21,691</b>	<b>\$ 578</b>	<b>\$ 236</b>	<b>\$ 22,505</b>	<b>\$ 116</b>	<b>\$ (112)</b>	<b>\$ 22,509</b>	
Interest Expense	\$ 1,057	\$ 37	\$ 50	\$ 1,144	\$ 409	\$ (24)	\$ 1,529	
Depreciation and amortization	2,686	73	90	2,849	120	—	2,969	
Equity in earnings (losses) of unconsolidated affiliates	(1)	—	8	7	123	—	130	
Income tax expense (benefit)	1,582	45	(88)	1,539	(314)	—	1,225	
Segment income (loss) <sup>(a)(b)</sup>	2,714	80	53	2,847	(332)	18	2,533	
Add back noncontrolling interest component							5	
Loss from discontinued operations, net of tax <sup>(c)</sup>							(649)	
<b>Net income</b>							<b>\$ 1,889</b>	
Capital investments expenditures and acquisitions <sup>(d)</sup>	\$ 4,642	\$ 121	\$ 514	\$ 5,277	\$ 251	\$ —	\$ 5,528	
Segment assets <sup>(e)</sup>	104,119	2,512	2,981	109,612	10,755	190	120,557	

- (a) Other includes a \$94 million pretax impairment charge related to Ohio Valley Electric Corporation (OVEC) and costs to achieve mergers.
- (b) Electric Utilities and Infrastructure includes pretax charges of \$102 million related to the criminal investigation of the Dan River coal ash spill. See Note 5 for additional information.
- (c) Includes an impairment of the Midwest Generation Disposal Group. Refer to Note 2 for further information.
- (d) Other includes \$67 million of capital investments expenditures and acquisitions of the International Disposal Group.
- (e) Other includes Assets Held for Sale balances related to the International Disposal Group and Midwest Generation Disposal Group. Refer to Note 2 for further information.

### Geographical Information

For the years ended December 31, 2016, 2015 and 2014, all assets and revenues are within the U.S.

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**Products and Services**

The following table summarizes revenues of the reportable segments by type.

(in millions)	Retail Electric	Wholesale Electric	Retail Natural Gas	Other	Total Revenues
<b>2016</b>					
Electric Utilities and Infrastructure	\$ 18,338	\$ 2,095	\$ —	\$ 933	\$ 21,366
Gas Utilities and Infrastructure	—	—	871	30	901
Commercial Renewables	—	303	—	181	484
Total Reportable Segments	\$ 18,338	\$ 2,398	\$ 871	\$ 1,144	\$ 22,751
<b>2015</b>					
Electric Utilities and Infrastructure	\$ 18,695	\$ 2,014	\$ —	\$ 812	\$ 21,521
Gas Utilities and Infrastructure	—	—	546	(5)	541
Commercial Renewables	—	245	—	41	286
Total Reportable Segments	\$ 18,695	\$ 2,259	\$ 546	\$ 848	\$ 22,348
<b>2014</b>					
Electric Utilities and Infrastructure	\$ 19,007	\$ 1,879	\$ —	\$ 805	\$ 21,691
Gas Utilities and Infrastructure	—	—	571	7	578
Commercial Renewables	—	236	—	—	236
Total Reportable Segments	\$ 19,007	\$ 2,115	\$ 571	\$ 812	\$ 22,505

**Duke Energy Ohio**

Duke Energy Ohio has two reportable operating segments, Electric Utilities and Infrastructure and Gas Utilities and Infrastructure.

Electric Utilities and Infrastructure transmits and distributes electricity in portions of Ohio and generates, distributes and sells electricity in portions of Kentucky. Gas Utilities and Infrastructure transports and sells natural gas in portions of Ohio and northern Kentucky. It conducts operations primarily through Duke Energy Ohio and its wholly owned subsidiary, Duke Energy Kentucky.

Other is primarily comprised of governance costs allocated by its parent, Duke Energy, and revenues and expenses related to Duke Energy Ohio's contractual arrangement to buy power from OVEC's power plants. For additional information on related party transactions refer to Note 13. All of Duke Energy Ohio's revenues are generated domestically and its long-lived assets are all in the U.S.

(in millions)	Year Ended December 31, 2016					
	Electric Utilities and Infrastructure	Gas Utilities and Infrastructure	Total Reportable Segments	Other	Eliminations	Total
Total revenues	\$ 1,410	\$ 503	\$ 1,913	\$ 31	\$ —	\$ 1,944
Interest expense	\$ 58	\$ 27	\$ 85	\$ 1	\$ —	\$ 86
Depreciation and amortization	151	80	231	2	—	233
Income tax expense (benefit)	55	44	99	(21)	—	78
Segment income (loss)	154	77	231	(39)	—	192
Income from discontinued operations, net of tax						36
Net income						\$ 228
Capital expenditures	\$ 322	\$ 154	\$ 476	\$ —	\$ —	\$ 476
Segment assets	4,782	2,696	7,478	62	(12)	7,528

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(in millions)	Year Ended December 31, 2015					
	Electric Utilities and Infrastructure	Gas Utilities and Infrastructure	Total Reportable Segments	Other	Eliminations	Total
Total revenues	\$ 1,331	\$ 541	\$ 1,872	\$ 33	\$ —	\$ 1,905
Interest expense	\$ 53	\$ 25	\$ 78	\$ 1	\$ —	\$ 79
Depreciation and amortization	147	79	226	1	—	227
Income tax expense (benefit)	59	45	104	(23)	—	81
Segment income (loss)	118	73	191	(41)	(1)	149
Income from discontinued operations, net of tax						23
Net income						\$ 172
Capital expenditures	\$ 264	\$ 135	\$ 399	\$ —	\$ —	\$ 399
Segment assets	4,534	2,516	7,050	56	(9)	7,097

(in millions)	Year Ended December 31, 2014					
	Electric Utilities and Infrastructure	Gas Utilities and Infrastructure	Total Reportable Segments	Other	Eliminations	Total
Total revenues	\$ 1,317	\$ 578	\$ 1,895	\$ 19	\$ (1)	\$ 1,913
Interest expense	\$ 43	\$ 37	\$ 80	\$ 5	\$ 1	\$ 86
Depreciation and amortization	138	73	211	3	—	214
Income tax expense (benefit)	71	45	116	(73)	—	43
Segment income (loss) <sup>(a)</sup>	122	80	202	(133)	(1)	68
Loss from discontinued operations, net of tax <sup>(b)</sup>						(563)
Net loss						\$ (495)
Capital expenditures	\$ 193	\$ 107	\$ 300	\$ 22	\$ —	\$ 322
Segment assets <sup>(c)</sup>	4,428	2,487	6,915	3,321	(243)	9,993

(a) Other includes a \$94 million pretax impairment charge related to OVEC.

(b) Includes an impairment of the Midwest Generation Disposal Group. Refer to Note 2 for further information.

(c) Other includes Assets Held for Sale balances related to the Midwest Generation Disposal Group. Refer to Note 2 for further information.

**DUKE ENERGY CAROLINAS, PROGRESS ENERGY, DUKE ENERGY PROGRESS, DUKE ENERGY FLORIDA AND DUKE ENERGY INDIANA**

The remaining Subsidiary Registrants each have one reportable operating segment, Electric Utilities and Infrastructure, which generates, transmits, distributes and sells electricity. The remainder of each company's operations is classified as Other. While not considered a reportable segment for any of these companies, Other consists of certain unallocated corporate costs. Other for Progress Energy also includes interest expense on corporate debt instruments of \$221 million, \$240 million and \$241 million for the years ended December 31, 2016, 2015 and 2014. The following table summarizes the net loss for Other for each of these entities.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Duke Energy Carolinas	\$ (104)	\$ (95)	\$ (79)
Progress Energy	(200)	(159)	(190)
Duke Energy Progress	(56)	(32)	(31)
Duke Energy Florida	(23)	(16)	(19)
Duke Energy Indiana	(13)	(10)	(11)

The assets of Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Florida and Duke Energy Indiana are substantially all included within the Electric Utilities and Infrastructure segment at December 31, 2016, 2015 and 2014.

## 4. REGULATORY MATTERS

### REGULATORY ASSETS AND LIABILITIES

The Duke Energy Registrants record regulatory assets and liabilities that result from the ratemaking process. See Note 1 for further information.

The following tables present the regulatory assets and liabilities recorded on the Consolidated Balance Sheets.

(in millions)	December 31, 2016						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
<b>Regulatory Assets</b>							
AROs – coal ash	\$ 3,761	\$ 1,536	\$ 1,830	\$ 1,822	\$ 8	\$ 12	\$ 276
AROs – nuclear and other	684	9	569	275	294	—	—
Accrued pension and OPEB	2,387	481	882	423	458	135	222
Retired generation facilities	534	39	422	165	257	—	73
Debt fair value adjustment	1,313	—	—	—	—	—	—
Net regulatory asset related to income taxes	894	484	231	7	224	63	119
Storm cost deferrals	153	—	148	148	—	5	—
Nuclear asset securitized balance, net	1,193	—	1,193	—	1,193	—	—
Hedge costs and other deferrals	217	93	91	66	25	7	26
Derivatives – gas supply contracts	187	—	—	—	—	—	—
Demand side management (DSM)/Energy efficiency (EE)	407	122	278	263	15	6	—
Grid Modernization	65	—	—	—	—	65	—
Vacation accrual	196	76	38	38	—	4	10
Deferred fuel and purchased power	156	—	111	24	87	5	40
Nuclear deferral	226	92	134	38	96	—	—
Post-in-service carrying costs and deferred operating expenses	413	70	42	42	—	20	281
Gasification services agreement buyout	8	—	—	—	—	—	8
Transmission expansion obligation	71	—	—	—	—	71	—
Manufactured gas plant (MGP)	99	—	—	—	—	99	—
Advanced metering infrastructure	218	172	—	—	—	—	46
NCEMPA deferrals	51	—	51	51	—	—	—
East Bend deferrals	32	—	—	—	—	32	—
Other	636	223	103	69	36	33	121
<b>Total regulatory assets</b>	<b>13,901</b>	<b>3,397</b>	<b>6,123</b>	<b>3,431</b>	<b>2,693</b>	<b>557</b>	<b>1,222</b>
Less: current portion	1,023	238	401	188	213	37	149
<b>Total noncurrent regulatory assets</b>	<b>\$ 12,878</b>	<b>\$ 3,159</b>	<b>\$ 5,722</b>	<b>\$ 3,243</b>	<b>\$ 2,480</b>	<b>\$ 520</b>	<b>\$ 1,073</b>

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(in millions)	December 31, 2016						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	<b>Regulatory Liabilities</b>						
Costs of removal	\$ 6,074	\$ 2,476	\$ 2,198	\$ 1,840	\$ 358	\$ 212	\$ 660
Amounts to be refunded to customers	45	—	—	—	—	—	45
Storm reserve	83	22	60	—	60	1	—
Accrued pension and OPEB	174	46	—	—	—	19	72
Deferred fuel and purchased power	192	105	81	64	17	6	—
Other	722	352	245	200	44	19	11
Total regulatory liabilities	7,290	3,001	2,584	2,104	479	257	788
Less: current portion	409	161	189	158	31	21	40
Total noncurrent regulatory liabilities	\$ 6,881	\$ 2,840	\$ 2,395	\$ 1,946	\$ 448	\$ 236	\$ 748

(in millions)	December 31, 2015						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	<b>Regulatory Assets</b>						
AROs – coal ash	\$ 2,555	\$ 1,120	\$ 1,394	\$ 1,386	\$ 8	\$ 4	\$ 37
AROs – nuclear and other	838	104	487	195	292	—	—
Accrued pension and OPEB	2,151	479	807	366	441	139	220
Retired generation facilities	509	49	409	179	230	—	51
Debt fair value adjustment	1,191	—	—	—	—	—	—
Net regulatory asset related to income taxes	1,075	564	318	106	212	55	120
Nuclear asset securitizable balance, net	1,237	—	1,237	—	1,237	—	—
Hedge costs and other deferrals	571	127	410	171	239	7	27
DSM/EE	340	80	250	237	13	10	—
Grid Modernization	68	—	—	—	—	68	—
Vacation accrual	192	79	38	38	—	5	10
Deferred fuel and purchased power	151	21	129	93	36	1	—
Nuclear deferral	245	107	138	62	76	—	—
Post-in-service carrying costs and deferred operating expenses	383	97	38	38	—	21	227
Gasification services agreement buyout	32	—	—	—	—	—	32
Transmission expansion obligation	72	—	—	—	—	72	—
MGP	104	—	—	—	—	104	—
NCEMPA deferrals	21	—	21	21	—	—	—
East Bend deferrals	16	—	—	—	—	16	—
Other	499	244	121	82	39	31	94
Total regulatory assets	12,250	3,071	5,797	2,974	2,823	533	818
Less: current portion	877	305	362	264	98	36	102
Total noncurrent regulatory assets	\$ 11,373	\$ 2,766	\$ 5,435	\$ 2,710	\$ 2,725	\$ 497	\$ 716



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(in millions)	December 31, 2015						
	Duke	Duke	Progress	Duke	Duke	Duke	Duke
	Energy	Energy	Energy	Energy	Energy	Energy	Energy
	Energy	Carolinas	Energy	Progress	Florida	Ohio	Indiana
<b>Regulatory Liabilities</b>							
Costs of removal	\$ 5,329	\$ 2,413	\$ 2,078	\$ 1,725	\$ 353	\$ 222	\$ 616
Amounts to be refunded to customers	71	—	—	—	—	—	71
Storm reserve	150	24	125	—	125	1	—
Accrued pension and OPEB	288	68	51	25	26	21	83
Deferred fuel and purchased power	311	55	255	58	197	1	—
Other	506	281	164	155	8	12	46
Total regulatory liabilities	6,655	2,841	2,673	1,963	709	257	816
Less: current portion	400	39	286	85	200	12	62
Total noncurrent regulatory liabilities	\$ 6,255	\$ 2,802	\$ 2,387	\$ 1,878	\$ 509	\$ 245	\$ 754

Descriptions of regulatory assets and liabilities, summarized in the tables above, as well as their recovery and amortization periods follow. Items are excluded from rate base unless otherwise noted.

**AROs – coal ash.** Represents regulatory assets including deferred depreciation and accretion related to the legal obligation to close ash basins. The costs are deferred until recovery treatment has been determined. The recovery period for these costs has yet to be established. Duke Energy Carolinas, Duke Energy Progress and Duke Energy Ohio earn a debt return on their expenditures. See Notes 1 and 9 for additional information.

**AROs – nuclear and other.** Represents regulatory assets, including deferred depreciation and accretion, related to legal obligations associated with the future retirement of property, plant and equipment, excluding amounts related to coal ash. The AROs relate primarily to decommissioning nuclear power facilities. The amounts also include certain deferred gains on NDTF investments. The recovery period for costs related to nuclear facilities runs through the decommissioning period of each nuclear unit, the latest of which is currently estimated to be 2086. See Notes 1 and 9 for additional information.

**Accrued pension and OPEB.** Accrued pension and other post-retirement benefit obligations (OPEB) represent regulatory assets and liabilities related to each of the Duke Energy Registrants' respective shares of unrecognized actuarial gains and losses and unrecognized prior service cost and credit attributable to Duke Energy's pension plans and OPEB plans. The regulatory asset or liability is amortized with the recognition of actuarial gains and losses and prior service cost and credit to net periodic benefit costs for pension and OPEB plans. The accrued pension and OPEB regulatory asset is expected to be recovered primarily over average remaining service periods of active employees covered by the benefit plans, which is approximately 9 years. See Note 21 for additional detail.

**Retired generation facilities.** Duke Energy Carolinas earns a return on the outstanding retail balance with recovery periods ranging from one to six years. Duke Energy Progress earns a return on the outstanding balance with recovery over a period of 10 years beginning in 2013 for retail purposes and over the longer of 10 years or the previously estimated planned retirement date for wholesale purposes. Duke Energy Indiana earns a return on the outstanding balances and the costs are included in rate base. Duke Energy Indiana's recovery period will be determined in the next general rate case. Duke Energy Florida earns a full return on a portion of the regulatory asset related to the retired nuclear plant currently recovered in the nuclear cost recovery clause (NCRC), with the remaining portion earning a reduced return. Duke Energy Florida's recovery period varies.

**Debt fair value adjustment.** Purchase accounting adjustments recorded to state the carrying value of Progress Energy and Piedmont at fair value in connection with the 2012 and 2016 mergers, respectively. Amount is amortized over the life of the related debt.

**Net regulatory asset related to income taxes.** Regulatory assets principally associated with the depreciation and recovery of AFUDC equity. Amounts have no impact on rate base as regulatory assets are offset by deferred tax liabilities. The recovery period is over the life of the associated assets. Amounts for all registrants include regulatory liabilities related to the gross up of federal ITCs. Amounts for Duke Energy, Duke Energy Carolinas, Progress Energy and Duke Energy Progress include regulatory liabilities related to the change in the North Carolina corporate tax rate discussed in Note 22.

**Storm cost deferrals.** Represents deferred incremental costs incurred related to extraordinary weather-related events, primarily damage resulting from Hurricane Matthew in the fourth quarter of 2016. The recovery period is unknown.

**Nuclear asset securitizable balance, net.** Represents the balance associated with Crystal River Unit 3 retirement approved for recovery by the FPSC on September 15, 2015, and the upfront financing costs securitized in 2016 with issuance of the associated bonds. The regulatory asset balance is net of the AFUDC equity portion. The recovery period is through 2036.

**Hedge costs and other deferrals.** Amounts relate to unrealized gains and losses on derivatives recorded as a regulatory asset or liability, respectively, until the contracts are settled. The recovery period varies for these costs and currently extends to 2048.

**Derivatives – gas supply contracts held for utility operations.** Represents costs for certain long-dated, fixed quantity forward gas supply contracts which are recoverable through Piedmont's PGA clauses.

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**DSM/EE.** The recovery period varies for these costs, with some currently unknown. Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida are required to pay interest on the outstanding liability balance. Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida collect a return on DSM/EE investments.

**Grid Modernization.** Duke Energy Ohio amounts represent deferred depreciation and operating expenses as well as carrying costs on the portion of capital expenditures placed in service but not yet reflected in retail rates as plant in service. Recovery period is generally one year for depreciation and operating expenses. Recovery for post-in-service carrying costs is over the life of the assets. Duke Energy Ohio is earning a return on these costs.

**Vacation accrual.** Generally recovered within one year. Duke Energy Carolinas earns a return on the North Carolina balance.

**Deferred fuel and purchased power.** Represents certain energy-related costs that are recoverable or refundable as approved by the applicable regulatory body. Duke Energy Florida amount includes capacity costs. Duke Energy Florida earns a return on the retail portion of under-recovered costs. Duke Energy Ohio earns a return on under-recovered costs. Duke Energy Florida and Duke Energy Ohio pay interest on over-recovered costs. Duke Energy Carolinas and Duke Energy Progress amounts include certain purchased power costs in both North Carolina and South Carolina and costs of distributed energy resource programs in South Carolina. Duke Energy Carolinas and Duke Energy Progress pay interest on over-recovered costs in North Carolina. Recovery period is generally over one year. Duke Energy Indiana recovery period is quarterly.

**Nuclear deferral.** Includes (i) amounts related to levelizing nuclear plant outage costs at Duke Energy Carolinas and Duke Energy Progress in North Carolina and South Carolina, which allows for the recognition of nuclear outage expenses over the refueling cycle rather than when the outage occurs, resulting in the deferral of operations and maintenance costs associated with refueling and (ii) certain deferred preconstruction and carrying costs at Duke Energy Florida as approved by the FPSC, primarily associated with the Levy nuclear project (Levy), with a final true-up to be filed by May 2017.

**Post-in-service carrying costs and deferred operating expenses.** Represents deferred depreciation and operating expenses as well as carrying costs on the portion of capital expenditures placed in service but not yet reflected in retail rates as plant in service. Duke Energy Carolinas, Duke Energy Progress, Duke Energy Ohio and Duke Energy Indiana earn a return on the outstanding balance. For Duke Energy Ohio and Duke Energy Indiana, some amounts are included in rate base. Recovery is over various lives and the latest recovery period is 2083.

**Gasification services agreement buyout.** The IURC authorized Duke Energy Indiana to recover costs incurred to buyout a gasification services agreement, including carrying costs through 2017. Duke Energy Indiana earns a return on this balance.

**Transmission expansion obligation.** Represents transmission expansion obligations related to Duke Energy Ohio's withdrawal from Midcontinent Independent System Operator, Inc. (MISO).

**MGP.** Represents remediation costs incurred at former MGP sites and the deferral of costs to be incurred at the East End and West End sites through 2019. Costs incurred between 2008 and 2012 are recovered through an approved MGP rider. Recovery of costs incurred after 2012 has been requested but is pending approval from the PUCO. Duke Energy Ohio does not earn a return on these costs.

**Advanced metering infrastructure (AMI).** Duke Energy Carolinas amount represents deferred costs related to the installation of AMI meters and remaining net book value of non-AMI meters to be replaced. Duke Energy Carolinas earns a return on a portion of the costs and the recovery period varies. Duke Energy Indiana amount represents expected future recovery of net book value of electromechanical meters that have been replaced with AMI meters. Duke Energy Indiana expects to recover this asset over a six-year period and the meters will remain in rate base until the next general rate case.

**NCEMPA deferrals.** Represents retail allocated cost deferrals and returns associated with the additional ownership interest in assets acquired from NCEMPA discussed in Note 2. The North Carolina retail allocated costs are generally being recovered over a period of time between three years and the remaining life of the assets purchased through a rider that became effective on December 1, 2015. The South Carolina retail allocated costs will be amortized over an average of 24 years beginning January 2017 are earning a return.

**East Bend deferrals.** Represents both deferred operating expenses and deferred depreciation as well as carrying costs on the portion of East Bend Generating Station (East Bend) that was acquired from Dayton Power and Light and that had been previously operated as a jointly owned facility. Recovery will not commence until resolution of the next electric rate case in Kentucky. Duke Energy Ohio is earning a return on these deferred costs.

**Costs of removal.** Represents funds received from customers to cover the future removal of property, plant and equipment from retired or abandoned sites as property is retired. Also includes certain deferred gains on NDTF investments.

**Amounts to be refunded to customers.** Represents required rate reductions to retail customers by the applicable regulatory body. The period of refund for Duke Energy Indiana is through 2018.

**Storm reserve.** Duke Energy Carolinas and Duke Energy Florida are allowed to petition the PSCSC and FPSC, respectively, to seek recovery of incremental or allowable costs incurred for named storms. Funds are used to offset future incurred costs.

#### **RESTRICTIONS ON THE ABILITY OF CERTAIN SUBSIDIARIES TO MAKE DIVIDENDS, ADVANCES AND LOANS TO DUKE ENERGY**

As a condition to the approval of merger transactions, the NCUC, PSCSC, PUCO, KPSC and IURC imposed conditions on the ability of Duke Energy Carolinas, Duke Energy Progress, Duke Energy Ohio, Duke Energy Kentucky, Duke Energy Indiana and Piedmont to transfer funds to Duke Energy through loans or advances, as well as restricted amounts available to pay dividends to Duke Energy. Certain subsidiaries may transfer funds to Duke Energy Corporation Holding Company (the parent) by obtaining approval of the respective state regulatory commissions. These conditions imposed restrictions on the ability of the public utility subsidiaries to pay cash dividends as discussed below.

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Duke Energy Progress and Duke Energy Florida also have restrictions imposed by their first mortgage bond indentures and Articles of Incorporation which, in certain circumstances, limit their ability to make cash dividends or distributions on common stock. Amounts restricted as a result of these provisions were not material at December 31, 2016.

Additionally, certain other subsidiaries of Duke Energy have restrictions on their ability to dividend, loan or advance funds to Duke Energy due to specific legal or regulatory restrictions, including, but not limited to, minimum working capital and tangible net worth requirements.

The restrictions discussed below were less than 25 percent of Duke Energy's net assets at December 31, 2016.

**Duke Energy Carolinas**

Duke Energy Carolinas must limit cumulative distributions subsequent to mergers to (i) the amount of retained earnings on the day prior to the closing of the mergers, plus (ii) any future earnings recorded.

**Duke Energy Progress**

Duke Energy Progress must limit cumulative distributions subsequent to the mergers between Duke Energy and Progress Energy and Duke Energy and Piedmont to (i) the amount of retained earnings on the day prior to the closing of the respective mergers, plus (ii) any future earnings recorded.

**Duke Energy Ohio**

Duke Energy Ohio will not declare and pay dividends out of capital or unearned surplus without the prior authorization of the PUCO. Duke Energy Ohio received FERC and PUCO approval to pay dividends from its equity accounts that are reflective of the amount that it would have in its retained earnings account had push-down accounting for the Cinergy Corp. (Cinergy) merger not been applied to Duke Energy Ohio's balance sheet. The conditions include a commitment from Duke Energy Ohio that equity, adjusted to remove the impacts of push-down accounting, will not fall below 30 percent of total capital.

Duke Energy Kentucky is required to pay dividends solely out of retained earnings and to maintain a minimum of 35 percent equity in its capital structure.

**Duke Energy Indiana**

Duke Energy Indiana must limit cumulative distributions subsequent to the merger between Duke Energy and Cinergy to (i) the amount of retained earnings on the day prior to the closing of the merger, plus (ii) any future earnings recorded. In addition, Duke Energy Indiana will not declare and pay dividends out of capital or unearned surplus without prior authorization of the IURC.

**Piedmont**

Piedmont must limit cumulative distributions subsequent to the acquisition of Piedmont by Duke Energy to (i) the amount of retained earnings on the day prior to the closing of the merger, plus (ii) any future earnings recorded.

**RATE RELATED INFORMATION**

The NCUC, PSCSC, FPSC, IURC, PUCO, TRA and KPSC approve rates for retail electric and natural gas services within their states. The FERC approves rates for electric sales to wholesale customers served under cost-based rates (excluding Ohio and Indiana), as well as sales of transmission service. The FERC also regulates certification and siting of new interstate natural gas pipeline projects.

**Duke Energy Carolinas and Duke Energy Progress**

***Ash Basin Closure Costs Deferral***

On July 13, 2016, in response to a joint petition of Duke Energy Carolinas and Duke Energy Progress, the PSCSC issued an accounting order for the deferment into a regulatory account of certain costs incurred in connection with federal and state environmental remediation requirements related to the permanent closure of ash basins and other ash storage units at coal-fired generating facilities that have provided or are providing generation to customers located in South Carolina. The decision allows for ash basin closure expenses to be partially offset with excess regulatory liability amounts from the deferral of nuclear decommissioning costs that are collected from South Carolina retail customers and for Duke Energy Progress to partially offset incurred ash basin closure costs with costs of removal amounts collected from customers. The PSCSC's ruling does not change retail rates or the tariff amounts and does not limit the ability of interested parties to challenge the reasonableness of expenditures in subsequent proceedings. In connection with Duke Energy Progress' base rate case filed in July 2016, in December 2016, the PSCSC approved recovery of coal ash costs incurred from January 1, 2015, through June 30, 2016, over a 15-year period and ongoing deferral of future ash basin closure costs incurred from July 1, 2016, until its next base rate case in South Carolina.

On December 30, 2016, Duke Energy Carolinas and Duke Energy Progress filed a joint petition with the NCUC seeking an accounting order authorizing deferral of certain costs incurred in connection with federal and state environmental remediation requirements related to the permanent closure of ash basins and other ash storage units at coal-fired generating facilities that have provided or are providing generation to customers located in North Carolina. Initial comments are due by March 1, 2017, and reply comments are due by March 29, 2017. Duke Energy Carolinas and Duke Energy Progress cannot predict the outcome of this matter.

***FERC Transmission Return on Equity Complaints***

On January 7, 2016, a group of transmission service customers filed a complaint with FERC that the rate of return on equity of 10.2 percent in Duke Energy Carolinas' transmission formula rates is excessive and should be reduced to no higher than 8.49 percent, effective upon the complaint date. On the same date, a similar complaint was filed with FERC claiming that the rate of return on equity of 10.8 percent in Duke Energy Progress' transmission formula rates is excessive and should be reduced to no higher than 8.49 percent, effective upon the complaint date. On April 21, 2016, FERC issued an order which consolidated the cases, set a refund effective date of January 7, 2016, and set the consolidated case for settlement and hearing. On June 14, 2016, Duke Energy Carolinas and Duke Energy Progress reached a settlement agreement in principle to reduce the return on equity for both companies to 10 percent. On November 21, 2016, the FERC approved the settlement agreement resolving the complaints. The Impact on results of operations, cash flows and the financial position of Duke Energy Carolinas and Duke Energy Progress will not be material.

**Duke Energy Carolinas*****Advanced Metering Infrastructure Deferral***

On July 12, 2016, the PSCSC issued an accounting order for Duke Energy Carolinas to defer the financial effects of depreciation expense incurred for the installation of AMI meters, the carrying costs on the investment at its weighted average cost of capital (WACC) and the carrying costs on the deferred costs at its WACC not to exceed \$45 million. The decision also allows Duke Energy Carolinas to continue to depreciate the non-AMI meters to be replaced. Current retail rates will not change as a result of the decision and the ability of interested parties to challenge the reasonableness of expenditures in subsequent proceedings is not limited.

***William States Lee Combined Cycle Facility***

On April 9, 2014, the PSCSC granted Duke Energy Carolinas and North Carolina Electric Membership Corporation (NCEMC) a Certificate of Environmental Compatibility and Public Convenience and Necessity (CECPCN) for the construction and operation of a 750 MW combined-cycle natural gas-fired generating plant at Duke Energy Carolinas' existing William States Lee Generating Station in Anderson, South Carolina. Duke Energy Carolinas began construction in July 2015 and estimates a cost to build of \$600 million for its share of the facility, including AFUDC. The project is expected to be commercially available in late 2017. NCEMC will own approximately 13 percent of the project. On July 3, 2014, the South Carolina Coastal Conservation League (SCCL) and Southern Alliance for Clean Energy (SACE) jointly filed a Notice of Appeal with the Court of Appeals of South Carolina (S.C. Court of Appeals) seeking the court's review of the PSCSC's decision, claiming the PSCSC did not properly consider a request related to a proposed solar facility prior to granting approval of the CECPCN. The S.C. Court of Appeals affirmed the PSCSC's decision on February 10, 2016, and on March 24, 2016, denied a request for rehearing filed by SCCL and SACE. On April 21, 2016, SCCL and SACE petitioned the South Carolina Supreme Court for review of the S.C. Court of Appeals decision. Duke Energy Carolinas filed its response on June 13, 2016, and SCCL and SACE filed a reply on June 23, 2016. On September 6, 2016, the Small Business Chamber of Commerce filed a motion for permission to file a brief supporting the environmental intervenors' position. On September 22, 2016, the South Carolina Supreme Court granted permission for the brief and allowed Duke Energy Carolinas an opportunity to file a response, which was filed on October 3, 2016. Duke Energy Carolinas cannot predict the outcome of this matter.

***William States Lee III Nuclear Station***

In December 2007, Duke Energy Carolinas applied to the NRC for combined operating licenses (COLs) for two Westinghouse AP1000 reactors for the proposed William States Lee III Nuclear Station to be located at a site in Cherokee County, South Carolina. The NCUC and PSCSC have concurred with the prudence of Duke Energy Carolinas incurring certain project development and preconstruction costs through several separately issued orders, although full cost recovery is not guaranteed. In December 2016, the NRC issued a COL for each reactor. As of December 31, 2016, Duke Energy Carolinas has incurred approximately \$520 million of costs, including AFUDC, related to the project. These project costs are included in Net property, plant and equipment on Duke Energy Carolinas' Consolidated Balance Sheets. Duke Energy Carolinas is not required to build the nuclear reactors as result of the COLs being issued.

**Duke Energy Progress*****Storm Cost Deferral Filings***

On December 16, 2016, Duke Energy Progress filed a petition with the NCUC requesting an accounting order to defer certain costs incurred in connection with response to Hurricane Matthew and other significant storms in 2016. Current estimated incremental operation and maintenance and capital costs total approximately \$140 million. Additional costs could be incurred in 2017 related to storms in the fourth quarter of 2016. Duke Energy Progress proposes to true-up the total costs quarterly through August 2017. Duke Energy Progress cannot predict the outcome of this matter.

On December 16, 2016, Duke Energy Progress filed a petition with the PSCSC requesting an accounting order to defer certain costs incurred related to repairs and restoration of service following Hurricane Matthew. Estimated total restoration costs are approximately \$60 million. Actual total costs would be true-up quarterly through 2017. In January 2017, the PSCSC approved the deferral request and issued an accounting order.

**South Carolina Rate Case**

On July 1, 2016, Duke Energy Progress filed an application with the PSCSC requesting an average 14.5 percent increase in retail revenues. The requested rate change would increase annual revenues by approximately \$79 million, with a rate of return on equity of 10.75 percent. The increase is designed to recover the cost of investment in new generation infrastructure, environmental expenditures including allocated historical ash basin closure costs and increased nuclear operating costs. Duke Energy Progress has requested new rates to be effective January 1, 2017. On October 19, 2016, Duke Energy Progress, the ORS and intervenors entered into a settlement agreement that was filed with the PSCSC on the same day. Terms of the settlement agreement include an approximate \$56 million increase in revenues over a two-year period. An increase of approximately \$38 million in revenues was effective January 1, 2017, and an additional increase of approximately \$18.5 million in revenues will be effective January 1, 2018. Duke Energy Progress will amortize approximately \$18.5 million from the cost of removal reserve in 2017. Other settlement terms include a rate of return on equity of 10.1 percent, recovery of coal ash costs incurred from January 1, 2015, through June 30, 2016, over a 15-year period and ongoing deferral of allocated ash basin closure costs from July 1, 2016, until the next base rate case. The settlement also provides that Duke Energy Progress will not seek an increase in rates in South Carolina to occur prior to 2019, with limited exceptions. In December 2016, the PSCSC approved the settlement and issued an approval order.

**Western Carolinas Modernization Plan**

On November 4, 2015, in response to community feedback, Duke Energy Progress announced a revised Western Carolinas Modernization Plan with an estimated cost of \$1.1 billion. The revised plan includes retirement of the existing Asheville coal-fired plant, the construction of two 280 MW combined-cycle natural gas plants having dual fuel capability, with the option to build a third natural gas simple cycle unit in 2023 based upon the outcome of initiatives to reduce the region's power demand. The revised plan includes upgrades to existing transmission lines and substations, but eliminates the need for a new transmission line and a new substation associated with the project in South Carolina. The revised plan has the same overall project cost as the original plan and the plans to install solar generation remain unchanged. Duke Energy Progress has also proposed to add a pilot battery storage project. These investments will be made within the next seven years. Duke Energy Progress is also working with the local natural gas distribution company to upgrade an existing natural gas pipeline to serve the natural gas plant. The plan requires various approvals including regulatory approvals in North Carolina.

Duke Energy Progress filed for a Certificate of Public Convenience and Necessity (CPCN) with the NCUC for the new natural gas units on January 15, 2016. On March 28, 2016, the NCUC issued an order approving the CPCN for the new combined-cycle natural gas plants, but denying the CPCN for the contingent simple cycle unit without prejudice to Duke Energy Progress to refile for approval in the future. Site preparation activities are underway and construction of these plants is scheduled to begin in early 2017. The plants are expected to be in service by late 2019. Duke Energy Progress plans to file for future approvals related to the proposed solar generation and pilot battery storage project.

On May 27, 2016, N.C. Waste Awareness and Reduction Network (NC WARN) and The Climate Times filed a notice of appeal from the CPCN order to the N.C. Court of Appeals. On May 31, 2016, Duke Energy Progress filed a motion to dismiss the notice of appeal with the NCUC due to NC WARN's and The Climate Times' failure to post a required appeal bond. After a series of filings, an NCUC order, petitions to the N.C. Court of Appeals and an evidentiary hearing, on July 8, 2016, the NCUC issued an order setting NC WARN's and The Climate Times' appeal bond at \$98 million. On July 28, 2016, NC WARN and The Climate Times filed a notice of appeal and exceptions from the NCUC's July 8, 2016, appeal bond order. On August 2, 2016, the NCUC granted Duke Energy Progress' motion to dismiss NC WARN's and The Climate Times' notice of appeal from the CPCN order due to failure to post the requisite bond. On August 18, 2016, NC WARN and The Climate Times filed a petition with the N.C. Court of Appeals seeking appellate review of the NCUC's CPCN order, the July 8, 2016, appeal bond order and the August 2, 2016, order dismissing their notice of appeal, which the N.C. Court of Appeals denied on September 6, 2016. On September 19, 2016, the NCUC granted Duke Energy Progress' motion to dismiss NC WARN's and The Climate Times' subsequent appeal of the second bond order dated July 28, 2016, and NC WARN's and The Climate Times' subsequent appeal of the CPCN order and dismissal order dated August 18, 2016. On October 17, 2016, NC WARN and The Climate Times filed another petition for review with the N.C. Court of Appeals asking the court to reverse the CPCN order, the second bond order and the dismissal of their first and second notices of appeal as to the CPCN order. On November 3, 2016, the N.C. Court of Appeals denied NC WARN's and The Climate Times' petition for review. All appeals have been concluded.

The carrying value of the 376 MW Asheville coal-fired plant, including associated ash basin closure costs, of \$492 million and \$548 million are included in Generation facilities to be retired, net on Duke Energy Progress' Consolidated Balance Sheets as of December 31, 2016 and 2015, respectively.

**Shearon Harris Nuclear Plant Expansion**

In 2006, Duke Energy Progress selected a site at Harris to evaluate for possible future nuclear expansion. On February 19, 2008, Duke Energy Progress filed its COL application with the NRC for two Westinghouse AP1000 reactors at Harris, which the NRC docketed for review. On May 2, 2013, Duke Energy Progress filed a letter with the NRC requesting the NRC to suspend its review activities associated with the COL at the Harris site. The NCUC and PSCSC have approved deferral for \$48 million of retail costs which are recorded in Regulatory assets on Duke Energy Progress' Consolidated Balance Sheets. On November 17, 2016, the FERC approved Duke Energy Progress' rate recovery request filing for the wholesale ratepayers' share of the abandonment costs, including a debt only return to be recovered through revised formula rates and amortized over a 15-year period beginning May 1, 2014.

**Duke Energy Florida*****Hines Chiller Uprate Project***

On May 20, 2016, Duke Energy Florida filed a petition seeking approval to include in base rates the revenue requirement for a Chiller Uprate Project (Uprate Project) at the Hines Energy Complex (Hines). Duke Energy Florida proposed to complete the Uprate Project in two phases: Phase one to include work on Hines units 1-3 and common equipment, to be placed in service during October 2016; and Phase two work on Hines Unit 4 to be placed in service during January 2017. The final combined construction cost estimate for both phases of approximately \$150 million is below the cost estimate provided during the need determination proceeding. Duke Energy Florida estimated an annual retail revenue requirement for Phase one and Phase two of approximately \$17 million and \$3 million, respectively. On August 29, 2016, the FPSC approved the Phase one revenue requirement to be effective in customer rates in November 2016. However, Duke Energy Florida made filings with the FPSC in October 2016 to remove the Uprate Project from customer rates because a portion of the common equipment required for either phase to be considered in service was not completed as expected. Duke Energy Florida filed for recovery of the costs associated with the Uprate Project in February 2017. Duke Energy Florida cannot predict the outcome of this matter.

***Citrus County Combined Cycle Facility***

On October 2, 2014, the FPSC granted Duke Energy Florida a Determination of Need for the construction of a 1,640 MW combined-cycle natural gas plant in Citrus County, Florida. On May 5, 2015, the Florida Department of Environmental Protection approved Duke Energy Florida's Site Certification Application. The project has received all required permits and approvals and construction began in October 2015. The facility is expected to be commercially available in 2018 at an estimated cost of \$1.5 billion, including AFUDC.

***Purchase of Osprey Energy Center***

In December 2014, Duke Energy Florida and Osprey Energy Center, LLC, a wholly owned subsidiary of Calpine Corporation (Calpine), entered into an Asset Purchase and Sale Agreement for the purchase of a 599 MW combined-cycle natural gas plant in Auburndale, Florida (Osprey Plant acquisition) for approximately \$166 million. On August 2, 2016, Duke Energy Florida filed a petition seeking approval to include in base rates the revenue requirements for the Osprey Plant acquisition to be included in customer bills beginning in February 2017. Duke Energy Florida estimated the retail revenue requirements for the Osprey acquisition to be approximately \$48 million. On November 1, 2016, the FPSC approved the petition to include the revenue requirements in base rates. Closing of the acquisition occurred on January 3, 2017.

Duke Energy Florida received a Civil Investigative Demand from the Department of Justice (DOJ) related to alleged violation of the waiting period for the Hart-Scott-Rodino Antitrust Improvements Act of 1976. The DOJ alleged Duke Energy Florida assumed operational control of the Osprey Plant before the waiting period expiration on February 27, 2015. On January 17, 2017, Duke Energy Florida entered into a stipulation agreement to settle with the DOJ for \$600,000 without admission of liability. On January 18, 2017, the DOJ filed a complaint and the stipulation in the U.S. District Court for the District of Columbia. The stipulation is subject to court approval. Duke Energy recorded a reserve in the fourth quarter of 2016.

***FPSC Settlement Agreements***

On February 22, 2012, the FPSC approved a settlement agreement (the 2012 Settlement) among Duke Energy Florida, the Florida OPC and other customer advocates. The 2012 Settlement was to continue through the last billing cycle of December 2016. On October 17, 2013, the FPSC approved a settlement agreement (the 2013 Settlement) between Duke Energy Florida, Florida OPC and other customer advocates. The 2013 Settlement replaces and supplants the 2012 Settlement and substantially resolves issues related to (i) Crystal River Unit 3, (ii) Levy, (iii) Crystal River 1 and 2 coal units and (iv) future generation needs in Florida. Refer to the remaining sections below for further discussion of these settlement agreements.

***Crystal River Unit 3***

In December 2014, the FPSC approved Duke Energy Florida's decision to construct an independent spent fuel storage installation (ISFSI) for the retired Crystal River Unit 3 nuclear plant and approved Duke Energy Florida's request to defer amortization of the ISFSI pending resolution of litigation against the federal government as a result of the Department of Energy's breach of its obligation to accept spent nuclear fuel. The return rate is based on the currently approved AFUDC rate with a return on equity of 7.35 percent, or 70 percent of the currently approved 10.5 percent. The return rate is subject to change if the return on equity changes in the future. In September 2016, the FPSC approved an amendment to the 2013 Settlement authorizing recovery of the ISFSI through the Capacity Cost Recovery Clause. Through December 31, 2016, Duke Energy Florida has deferred approximately \$93 million for recovery associated with building the ISFSI.

The regulatory asset associated with the original Crystal River Unit 3 power uprate project will continue to be recovered through the NCRC over an estimated seven years period that began in 2013 with a remaining uncollected balance of \$128 million at December 31, 2016.

***Crystal River Unit 3 Regulatory Asset***

On May 22, 2015, Duke Energy Florida petitioned the FPSC for approval to include in base rates the revenue requirement for the projected \$1.298 billion Crystal River Unit 3 regulatory asset as authorized by the 2013 Revised and Restated Stipulation and Settlement Agreement (2013 Agreement). On September 15, 2015, the FPSC approved Duke Energy Florida's motion for approval of a settlement agreement with intervenors to reduce the value of the projected Crystal River Unit 3 regulatory asset to be recovered to \$1.283 billion as of December 31, 2015. An impairment charge of \$15 million was recognized in the third quarter of 2015 to adjust the regulatory asset balance.

In June 2015, the governor of Florida signed legislation to allow utilities to issue nuclear asset-recovery bonds to finance the recovery of certain retired nuclear generation assets, with approval of the FPSC. In November 2015, the FPSC issued a financing order approving Duke Energy Florida's request to issue nuclear asset-recovery bonds to finance its unrecovered regulatory asset related to Crystal River Unit 3 through a wholly owned special purpose entity. Nuclear asset-recovery bonds replace the base rate recovery methodology authorized by the 2013 Agreement and result in a lower rate impact to customers with a recovery period of approximately 20 years.

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Pursuant to provisions in Florida Statutes and the FPSC financing order, in 2016, Duke Energy Florida formed Duke Energy Florida Project Finance, LLC (DEFPF), a wholly owned, bankruptcy remote special purpose subsidiary for the purpose of issuing nuclear asset-recovery bonds. In June 2016, DEFPF issued \$1,294 million aggregate principal amount of senior secured bonds (nuclear asset-recovery bonds) to finance the recovery of Duke Energy Florida's Crystal River 3 regulatory asset.

In connection with this financing, net proceeds to DEFPF of approximately \$1,287 million, after underwriting costs, were used to acquire nuclear asset-recovery property from Duke Energy Florida and to pay transaction related expenses. The nuclear asset-recovery property includes the right to impose, bill, collect and adjust a non-bypassable nuclear asset-recovery charge, to be collected on a per kilowatt-hour basis, from all Duke Energy Florida retail customers until the bonds are paid in full. Duke Energy Florida began collecting the nuclear asset-recovery charge on behalf of DEFPF in customer rates in July 2016.

See Notes 6 and 17 for additional information.

#### **Customer Rate Matters**

Pursuant to the 2013 Settlement, Duke Energy Florida will maintain base rates at the current level through the last billing period of 2018, subject to the return on equity range of 9.5 percent to 11.5 percent, with exceptions for base rate increases for new generation through 2018, per the provisions of the 2013 Settlement. Duke Energy Florida is not required to file a depreciation study, fossil dismantlement study or nuclear decommissioning study until the earlier of the next rate case filing or March 31, 2019. The 2013 Settlement also provided for a \$150 million increase in base revenue effective with the first billing cycle of January 2013. If Duke Energy Florida's retail base rate earnings fall below the return on equity range, as reported on a FPSC-adjusted or pro forma basis on a monthly earnings surveillance report, it may petition the FPSC to amend its base rates during the term of the 2013 Settlement.

#### **Levy Nuclear Project**

On July 28, 2008, Duke Energy Florida applied to the NRC for a COL for two Westinghouse AP1000 reactors at Levy. In 2008, the FPSC granted Duke Energy Florida's petition for an affirmative Determination of Need and related orders requesting cost recovery under Florida's nuclear cost-recovery rule, together with the associated facilities, including transmission lines and substation facilities. In October 2016, the NRC issued COLs for the proposed Levy Nuclear Plant Units 1 and 2.

On January 28, 2014, Duke Energy Florida terminated the Levy engineering, procurement and construction agreement (EPC). Duke Energy Florida may be required to pay for work performed under the EPC and to bring existing work to an orderly conclusion, including but not limited to costs to demobilize and cancel certain equipment and material orders placed. Duke Energy Florida recorded an exit obligation in 2014 for the termination of the EPC. This liability was recorded within Other in Deferred Credits and Other Liabilities with an offset primarily to Regulatory assets on the Consolidated Balance Sheets. Duke Energy Florida is allowed to recover reasonable and prudent EPC cancellation costs from its retail customers.

The 2012 Settlement provided that Duke Energy Florida include the allocated wholesale cost of Levy as a retail regulatory asset and include this asset as a component of rate base and amortization expense for regulatory reporting. In accordance with the 2013 Settlement, Duke Energy Florida ceased amortization of the wholesale allocation of Levy investments against retail rates.

On October 27, 2014, the FPSC approved Duke Energy Florida rates for 2015 for Levy as filed and consistent with those established in the 2013 Revised and Restated Settlement Agreement. Recovery of the remaining retail portion of the project costs may occur over 5 years from 2013 through 2017. Duke Energy Florida has an ongoing responsibility to demonstrate prudence related to the wind down of the Levy investment and the potential for salvage of Levy assets. As of December 31, 2016, Duke Energy Florida has a net uncollected investment in Levy of approximately \$219 million, including AFUDC. Of this amount, \$119 million related to land and the COL is included in Net, property, plant and equipment and will be recovered through base rates and \$100 million is included in Regulatory assets within Regulatory Assets and Deferred Debits on the Consolidated Balance Sheets and will be recovered through the NCRC.

On April 16, 2015, the FPSC approved Duke Energy Florida's petition to cease collection of the Levy Nuclear Project fixed charge beginning with the first billing cycle in May 2015. On August 18, 2015, the FPSC approved leaving the Levy Nuclear Project portion of the NCRC charge at zero dollars for 2016 and 2017, consistent with the 2013 Settlement. Duke Energy Florida will submit by May 2017 a true-up of Levy Nuclear Project costs or credits to be recovered no earlier than January 2018. To the extent costs become known after May 2017, Duke Energy Florida will petition for recovery at that time.

#### **Crystal River 1 and 2 Coal Units**

Duke Energy Florida has evaluated Crystal River 1 and 2 coal units for retirement in order to comply with certain environmental regulations. Based on this evaluation, those units will likely be retired by 2018. Once those units are retired Duke Energy Florida will continue recovery of existing annual depreciation expense through the end of 2020. Beginning in 2021, Duke Energy Florida will be allowed to recover any remaining net book value of the assets from retail customers through the Capacity Cost Recovery Clause. In April 2014, the FPSC approved Duke Energy Florida's petition to allow for the recovery of prudently incurred costs to comply with the Mercury and Air Toxics Standard through the Environmental Cost Recovery Clause.

#### **Duke Energy Ohio**

##### **East Bend Coal Ash Basin Filing**

On December 2, 2016, Duke Energy Kentucky filed with the KPSC a request for a CPCN for construction projects necessary to close and repurpose an ash basin at the East Bend necessitated by current and proposed EPA regulations. Duke Energy Kentucky is targeting a completion date in fourth quarter 2018 for these projects and estimates a total cost of approximately \$93 million. Duke Energy Kentucky has requested an order to be issued by April 30, 2017.

**Base Rate Case**

In connection with Duke Energy Ohio's deployment of SmartGrid network, consisting of investments in AMI and distribution automation, a rider was established to recover these investments and return expected savings to customers. A stipulation updating this rider was approved by the PUCO in 2012, whereby Duke Energy Ohio committed to filing a base electric distribution case within one year of full deployment of SmartGrid. On October 22, 2015, PUCO staff concluded that full deployment had occurred thereby, absent relief by the PUCO, Duke Energy Ohio would be required to file a base electric rate case. Pursuant to an order (PUCO order) authorizing a modification in the filing date, Duke Energy Ohio notified the PUCO of its intent to file an electric distribution rate case in Ohio. The base rate case application and supporting testimony will be filed March 2, 2017, and March 16, 2017, respectively. Duke Energy Ohio cannot predict the outcome of this matter.

**Natural Gas Pipeline Extension**

Duke Energy Ohio is proposing to install a new natural gas pipeline in its Ohio service territory to increase system reliability and enable the retirement of older infrastructure. The proposed project involves the installation of a natural gas line and is estimated to cost between \$86 million and \$110 million, excluding AFUDC. On September 13, 2016, Duke Energy Ohio filed with the Ohio Power Siting Board for approval of one of two proposed routes. If approved, construction of the pipeline extension is expected to be completed by 2019.

**Advanced Metering Infrastructure**

On April 25, 2016, Duke Energy Kentucky filed with the KPSC an application for approval of a CPCN for the construction of AMI. Duke Energy Kentucky anticipates that the estimated \$49 million project, if approved, will take about two years to complete. Duke Energy Kentucky also requested approval to establish a regulatory asset of approximately \$10 million for the remaining book value of existing meter equipment and inventory that will be replaced. On July 20, 2016, the Kentucky Attorney General, the only intervenor in the proceeding, moved to dismiss the application. Duke Energy Kentucky filed its opposition to the Kentucky Attorney General's motion to dismiss on July 27, 2016. On September 28, 2016, the KPSC denied the Kentucky Attorney General's motion to dismiss and granted Duke Energy Kentucky's motion to file rebuttal testimony. Duke Energy Kentucky and the Kentucky Attorney General entered into a stipulation resolving the matters raised in the application. An evidentiary hearing was held on December 8, 2016. Duke Energy Kentucky cannot predict the outcome of this matter.

**Accelerated Natural Gas Service Line Replacement Rider**

On January 20, 2015, Duke Energy Ohio filed an application for approval of an accelerated natural gas service line replacement program (ASRP). Under the ASRP, Duke Energy Ohio proposed to replace certain natural gas service lines on an accelerated basis over a 10-year period. Duke Energy Ohio also proposed to complete preliminary survey and investigation work related to natural gas service lines that are customer owned and for which it does not have valid records and, further, to relocate interior natural gas meters to suitable exterior locations where such relocation can be accomplished. Duke Energy Ohio's current projected total capital and operations and maintenance expenditures under the ASRP are approximately \$240 million. The filing also sought approval of Rider ASRP to recover related expenditures. Duke Energy Ohio proposed to update Rider ASRP on an annual basis. Intervenors opposed the ASRP, primarily because they believe the program is neither required nor necessary under federal pipeline regulation. On October 26, 2016, the PUCO issued an order denying the proposed ASRP. The PUCO did, however, encourage Duke Energy Ohio to work with the PUCO Staff and intervenors to identify a reasonable solution for the risks attributed to service line leaks caused by corrosion. Duke Energy Ohio filed an application for rehearing of the PUCO decision. In December 2016, the PUCO granted the request for the purpose of further review. Duke Energy Ohio cannot predict the outcome of this matter.

**Energy Efficiency Cost Recovery**

On March 28, 2014, Duke Energy Ohio filed an application for recovery of program costs, lost distribution revenue and performance incentives related to its energy efficiency and peak demand reduction programs. These programs are undertaken to comply with environmental mandates set forth in Ohio law. After a comment period, the PUCO approved Duke Energy Ohio's application, but found that Duke Energy Ohio was not permitted to use banked energy savings from previous years in order to calculate the amount of allowed incentive. This conclusion represented a change to the cost recovery mechanism that had been agreed to by intervenors and approved by the PUCO in previous cases. The PUCO granted the applications for rehearing filed by Duke Energy Ohio and an intervenor on July 8, 2015. On January 6, 2016, Duke Energy Ohio and PUCO Staff entered into a stipulation pending PUCO approval, resolving the issues related to, among other things, performance incentives and the PUCO Staff audit of 2013 costs. Based on the stipulation, in December 2015, Duke Energy Ohio re-established approximately \$20 million of the revenues that had been reversed in the second quarter. On October 26, 2016, the PUCO issued an order approving the stipulation without modification. Intervenors requested rehearing of the PUCO decision and, in December 2016, the PUCO granted rehearing for the purpose of further review. Duke Energy Ohio cannot predict the outcome of this matter.

**2014 Electric Security Plan**

In April 2015, the PUCO modified and approved Duke Energy Ohio's proposed electric security plan (ESP), with a three-year term and an effective date of June 1, 2015. The PUCO approved a competitive procurement process for SSO load, a distribution capital investment rider and a tracking mechanism for incremental distribution expenses caused by major storms. The PUCO also approved a placeholder tariff for a price stabilization rider, but denied Duke Energy Ohio's specific request to include Duke Energy Ohio's entitlement to generation from OVEC in the rider at this time; however, the order allows Duke Energy Ohio to submit additional information to request recovery in the future. On May 4, 2015, Duke Energy Ohio filed an application for rehearing requesting the PUCO to modify or amend certain aspects of the order. On May 28, 2015, the PUCO granted all applications for rehearing filed in the case for future consideration. Duke Energy Ohio cannot predict the outcome of the appeals in this matter.

During May and November 2016, Duke Energy Ohio completed two competitive bidding processes with results approved by the PUCO to procure a portion of the supply for its SSO load for the term of the ESP. In 2016, Duke Energy Ohio also issued requests for proposal (RFP) to serve a portion of the load attributed to its customers on the state's percentage of income payment plan. This RFP was issued consistent with state law enacted in 2016.



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**2012 Natural Gas Rate Case/Manufactured Gas Plant Cost Recovery**

On November 13, 2013, the PUCO issued an order approving a settlement of Duke Energy Ohio's natural gas base rate case and authorizing the recovery of costs incurred between 2008 and 2012 for environmental investigation and remediation of two former MGP sites. The PUCO order also authorized Duke Energy Ohio to continue deferring MGP environmental investigation and remediation costs incurred subsequent to 2012 and to submit annual filings to adjust the MGP rider for future costs. Intervening parties appealed this decision to the Ohio Supreme Court and that appeal remains pending. Oral argument is scheduled for February 28, 2017. Incurred and projected investigation and remediation expenses at these MGP sites that have not been collected through the MGP rider are approximately \$99 million and are recorded as Regulatory assets on Duke Energy Ohio's Consolidated Balance Sheet as of December 31, 2016. Duke Energy Ohio cannot predict the outcome of this matter.

The PUCO order also contained deadlines for completing the MGP environmental investigation and remediation costs at the MGP sites. For the property known as the East End site, the PUCO order established a deadline of December 31, 2016. The PUCO order authorized Duke Energy Ohio to seek to extend these deadlines due to certain circumstances. On May 16, 2016, Duke Energy Ohio filed an application to extend the deadline for cost recovery applicable to the East End site. In December 2016, the PUCO approved the request, extending the deadline to complete the remediation work until December 31, 2019. In January 2017, intervening parties filed for rehearing of the PUCO's decision. On February 8, 2017, the PUCO denied the rehearing request. As of December 31, 2016, \$46 million of the regulatory asset represents future remediation cost expected to be incurred at the East End site. Duke Energy Ohio cannot predict the outcome of this matter.

**Regional Transmission Organization Realignment**

Duke Energy Ohio, including Duke Energy Kentucky, transferred control of its transmission assets from MISO to PJM Interconnection, LLC (PJM), effective December 31, 2011. The PUCO approved a settlement related to Duke Energy Ohio's recovery of certain costs of the Regional Transmission Organization (RTO) realignment via a non-bypassable rider. Duke Energy Ohio is allowed to recover all MISO Transmission Expansion Planning (MTEP) costs, including but not limited to Multi Value Project (MVP) costs, directly or indirectly charged to Ohio customers. Duke Energy Ohio also agreed to vigorously defend against any charges for MVP projects from MISO. The KPSC also approved a request to effect the RTO realignment, subject to a commitment not to seek double recovery in a future rate case of the transmission expansion fees that may be charged by MISO and PJM in the same period or overlapping periods.

The following table provides a reconciliation of the beginning and ending balance of Duke Energy Ohio's recorded liability for its exit obligation and share of MTEP costs, excluding MVP, recorded within Other in Current liabilities and Other in Deferred credits and other liabilities on the Consolidated Balance Sheets. The retail portions of MTEP costs billed by MISO are recovered by Duke Energy Ohio through a non-bypassable rider. As of December 31, 2016 and 2015, \$71 million and \$72 million are recorded in Regulatory assets on Duke Energy Ohio's Consolidated Balance Sheets, respectively.

(in millions)	Provisions/		Cash	
	December 31, 2015	Adjustments	Reductions	December 31, 2016
Duke Energy Ohio	\$ 92	\$ 3	\$ (5)	\$ 90

**MVP.** MISO approved 17 MVP proposals prior to Duke Energy Ohio's exit from MISO on December 31, 2011. Construction of these projects is expected to continue through 2020. Costs of these projects, including operating and maintenance costs, property and income taxes, depreciation and an allowed return, are allocated and billed to MISO transmission owners.

On December 29, 2011, MISO filed a tariff with the FERC providing for the allocation of MVP costs to a withdrawing owner based on monthly energy usage. The FERC set for hearing (i) whether MISO's proposed cost allocation methodology to transmission owners who withdrew from MISO prior to January 1, 2012, is consistent with the tariff at the time of their withdrawal from MISO and, (ii) if not, what the amount of and methodology for calculating any MVP cost responsibility should be. In 2012, MISO estimated Duke Energy Ohio's MVP obligation over the period from 2012 to 2071 at \$2.7 billion, on an undiscounted basis. On July 16, 2013, a FERC Administrative Law Judge (ALJ) issued an initial decision. Under this initial decision, Duke Energy Ohio would be liable for MVP costs. Duke Energy Ohio filed exceptions to the initial decision, requesting FERC to overturn the ALJ's decision.

On October 29, 2015, the FERC issued an order reversing the ALJ's decision. The FERC ruled the cost allocation methodology is not consistent with the MISO tariff and that Duke Energy Ohio has no liability for MVP costs after its withdrawal from MISO. On May 19, 2016, the FERC denied the request for rehearing filed by MISO and the MISO Transmission Owners. On July 15, 2016, the MISO Transmission Owners filed a petition for review with the U.S. Court of Appeals for the Sixth Circuit. Duke Energy Ohio cannot predict the outcome of this matter.

## Duke Energy Indiana

### ***Coal Combustion Residual Plan***

On March 17, 2016, Duke Energy Indiana filed with the IURC a request for approval of its first group of federally mandated Coal Combustion Residual (CCR) rule compliance projects (Phase I CCR Compliance Projects) to comply with the EPA's CCR rule. The projects in this Phase I filing are CCR compliance projects, including the conversion of Cayuga and Gibson Stations to dry bottom ash handling and related water treatment. Duke Energy Indiana has requested timely recovery of approximately \$380 million in retail capital costs and incremental operating and maintenance costs, including AFUDC, under a federal mandate tracker which provides for timely recovery of 80 percent of such costs and deferral with carrying costs of 20 percent of such costs for recovery in a subsequent retail base rate case. On January 24, 2017, Duke Energy Indiana and various intervenors filed a settlement agreement with the IURC. Terms of the settlement include recovery of 60 percent of the estimated CCR compliance construction project capital costs through existing rider mechanisms and deferral of 40 percent of these costs until Duke Energy Indiana's next general retail rate case. The deferred costs will earn a return based on Duke Energy Indiana's long-term debt rate of 4.73 percent until costs are included in retail rates, at which time the deferred costs will earn a full return. Costs are to be capped at \$365 million, plus actual AFUDC. Costs above the cap may be recoverable in the next rate case. Terms of the settlement agreement also require Duke Energy Indiana to perform certain reporting and groundwater monitoring. The settlement is subject to approval by the IURC. An evidentiary hearing was held on February 23, 2017. Duke Energy Indiana cannot predict the outcome of this matter.

### ***Edwardsport Integrated Gasification Combined Cycle Plant***

Costs for the Edwardsport Integrated Gasification Combined Cycle (IGCC) Plant are recovered from retail electric customers via a tracking mechanism (IGCC rider) with updates filed by Duke Energy Indiana. The IGCC Plant was placed into commercial operation in June 2013.

Duke Energy Indiana and several intervenors agreed upon a settlement (IGCC settlement) in 2015 to resolve disputes related to five IGCC riders (the 11th through 15th) and a subdocket to Duke Energy Indiana's fuel adjustment clause. The settlement agreement resolved disputes related to the determination on whether the IGCC plant was properly declared in-service for ratemaking purposes in June 2013, as well as the operational performance of the plant. The IGCC settlement resulted in customers not being billed for previously incurred plant operating costs of \$87.5 million and payments and commitments from Duke Energy Indiana of \$5.5 million for attorneys' fees and consumer programs funding. Duke Energy Indiana recognized pretax impairment and related charges of \$93 million in 2015. Additionally, under the IGCC settlement, the recovery of operating and maintenance expenses and ongoing maintenance capital at the plant are subject to certain caps during the years of 2016 and 2017. The IGCC settlement also includes a commitment to either retire or stop burning coal by December 31, 2022, at the Gallagher Station. Pursuant to the IGCC settlement, the in-service date used for accounting and ratemaking will remain as June 2013. Remaining deferred costs will be recovered over eight years and not earn a carrying cost. On August 24, 2016, the IURC approved the settlement in full with no changes or conditions. The order was not appealed and the proceeding is concluded. As of December 31, 2016, deferred costs related to the project are approximately \$161 million. Under the IGCC settlement, future IGCC riders will be filed annually, rather than every six months, with the next filing scheduled for first quarter 2017.

The ninth semi-annual IGCC rider order was appealed by various intervenors and the matter was remanded to the IURC for further proceedings and additional findings on a tax in-service issue. On February 2, 2017, the IURC issued an order upholding the original decision, finding that an estimate of impact on customer rates due to the federal income tax in-service determination was reasonable. The intervenors could appeal this order.

### ***FERC Transmission Return on Equity Complaint***

Customer groups have filed with the FERC complaints against MISO and its transmission-owning members, including Duke Energy Indiana, alleging, among other things, that the current base rate of return on equity earned by MISO transmission owners of 12.38 percent is unjust and unreasonable. The latest complaint, filed on February 12, 2015, claims the base rate of return on equity should be reduced to 8.67 percent and requests a consolidation of complaints. The motion to consolidate complaints was denied. On January 5, 2015, the FERC issued an order accepting the MISO transmission owners 0.50 percent adder to the base rate of return on equity based on participation in an RTO subject to it being applied to a return on equity that is shown to be just and reasonable in the pending return on equity complaints. A hearing in the base return on equity proceeding was held in August 2015. On December 22, 2015, the presiding FERC ALJ in the first complaint issued an Initial Decision in which the base rate of return on equity was set at 10.32 percent. On September 28, 2016, the Initial Decision in the first complaint was affirmed by FERC. On June 30, 2016, the presiding FERC ALJ in the second complaint issued an Initial Decision setting the base rate of return on equity at 9.70 percent. The Initial Decision in the second complaint is pending FERC review. Duke Energy Indiana currently believes these matters will not have a material impact on its results of operations, cash flows and financial position.

### ***Grid Infrastructure Improvement Plan***

On August 29, 2014, pursuant to a new statute, Duke Energy Indiana filed a seven-year grid infrastructure improvement plan with the IURC with an estimated cost of \$1.9 billion, focusing on the reliability, integrity and modernization of the transmission and distribution system. The plan also provided for cost recovery through a transmission and distribution rider (T&D Rider). In May 2015, the IURC denied the original proposal due to an insufficient level of detailed projects and cost estimates in the plan. On December 7, 2015, Duke Energy Indiana filed a revised infrastructure improvement plan with an estimated cost of \$1.8 billion in response to guidance from IURC orders and the Indiana Court of Appeals decisions related to this new statute. The revised plan uses a combination of advanced technology and infrastructure upgrades to improve service to customers and provide them with better information about their energy use. It also provides for cost recovery through a T&D Rider. In March 2016, Duke Energy Indiana entered into a settlement with all parties to the proceeding except the Citizens Action Coalition of Indiana, Inc. The settlement agreement decreased the capital expenditures eligible for timely recovery of costs in the seven-year plan to approximately \$1.4 billion, including the removal of an AMI project. Under the settlement, the return on equity to be used in the T&D Rider is 10 percent. The IURC approved the settlement and issued a final order on June 29, 2016. The order was not appealed and the proceeding is concluded.

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The settlement also provided for deferral accounting for depreciation and post-in-service carrying costs for AMI projects outside the seven-year plan. Duke Energy Indiana withdrew its request for a regulatory asset for current meters and will retain any savings associated with future AMI installation until the next retail base rate case, which is required to be filed prior to the end of the seven-year plan. In 2016, Duke Energy Indiana decided to implement the AMI project. This decision resulted in a pretax impairment charge related to existing or non-AMI meters of approximately \$8 million, based in part on Duke Energy Indiana's intent to file a base rate case in 2022 under the approved T&D Rider plan. At December 31, 2016, Duke Energy Indiana's remaining net book value of non-AMI meters is approximately \$46 million which will be depreciated through 2022. In the event that Duke Energy Indiana was to file a base rate case earlier than 2022, it may incur additional impairment charges.

### **Other Regulatory Matters**

#### ***Atlantic Coast Pipeline***

On September 2, 2014, Duke Energy, Dominion Resources (Dominion), Piedmont and Southern Company Gas, formerly AGL Resources Inc., announced the formation of ACP to build and own the proposed Atlantic Coast Pipeline (ACP pipeline), an approximately 600-mile interstate natural gas pipeline running from West Virginia to North Carolina. The ACP pipeline is designed to meet the needs identified in RFPs by Duke Energy Carolinas, Duke Energy Progress and Piedmont. The ACP pipeline development costs are estimated between \$5.0 billion to \$5.5 billion. Dominion will build and operate the ACP pipeline. Originally, Dominion held a 45 percent membership interest in ACP, Duke Energy held a 40 percent interest, Piedmont held a 10 percent interest and Southern Company Gas held a 5 percent interest. On October 3, 2016, Duke Energy and Piedmont completed a merger transaction that resulted in Piedmont becoming a wholly owned subsidiary of Duke Energy. In connection with this transaction, and pursuant to terms of the ACP partnership agreement, Piedmont transferred 3 percent of its membership interest in ACP to Dominion in exchange for approximately \$14 million. As a result of this transfer, Dominion maintains a leading ownership percentage in ACP of 48 percent and Duke Energy owns a 47 percent interest through its Gas Utilities and Infrastructure segment. Southern Company Gas maintains a 5 percent interest. See Note 2 for additional information related to Duke Energy's acquisition of Piedmont.

Duke Energy Carolinas, Duke Energy Progress and Piedmont, among others, will be customers of the pipeline. Purchases will be made under several 20-year supply contracts, subject to state regulatory approval. In October 2014, the NCUC and PSCSC approved the Duke Energy Carolinas and Duke Energy Progress requests to enter into certain affiliate agreements, pay compensation to ACP and to grant a waiver of certain Code of Conduct provisions relating to contractual and jurisdictional matters. On September 18, 2015, ACP filed an application with the FERC requesting a CPCN authorizing ACP to construct the pipeline. In December 2016, FERC issued a preliminary Environmental Impact Statement (EIS) indicating that the proposed pipeline would not cause significant harm to the environment or protected populations. The final EIS is expected by June 30, 2017. FERC approval of the application is expected within 90 days of the issuance of the final EIS. Construction is projected to begin once FERC approval is received with a targeted in-service date in the second half of 2019. ACP executed a construction agreement in September 2016 and is working with various agencies to develop the final pipeline route. ACP also requested approval of an open access tariff and the precedent agreements it entered into with future pipeline customers, including Duke Energy Carolinas and Duke Energy Progress. See Notes 12 and 17 for additional information.

#### ***Sabal Trail Transmission Pipeline***

On May 4, 2015, Duke Energy acquired a 7.5 percent ownership interest in Sabal Trail Transmission, LLC (Sabal Trail) from Spectra Energy Partners, LP, a master limited partnership, formed by Spectra Energy Corp. Spectra Energy Partners, LP holds a 50 percent ownership interest in Sabal Trail and NextEra Energy has a 42.5 percent ownership interest. Sabal Trail is a joint venture that is constructing a 515-mile natural gas pipeline (Sabal Trail pipeline) to transport natural gas to Florida. Total estimated project costs are approximately \$3.2 billion. The Sabal Trail pipeline will traverse Alabama, Georgia and Florida. The primary customers of the Sabal Trail pipeline, Duke Energy Florida and Florida Power & Light Company (FP&L), have each contracted to buy pipeline capacity for 25-year initial terms. On February 3, 2016, the FERC issued an order granting the request for a CPCN to construct and operate the pipeline. The Sabal Trail pipeline has received regulatory approvals and initiated construction of the pipeline with an expected in-service date in mid-2017. See Notes 12 and 17 for additional information.

#### ***Constitution Pipeline***

Duke Energy owns a 24 percent ownership interest in Constitution Pipeline Company, LLC (Constitution) through a wholly owned subsidiary of Piedmont. Constitution is a natural gas pipeline project slated to transport natural gas supplies from the Marcellus supply region in northern Pennsylvania to major northeastern markets. The pipeline will be constructed and operated by Williams Partners L.P. which has a 41 percent ownership share. The remaining interest is held by Cabot Oil and Gas Corporation and WGL Holdings, Inc.

On April 22, 2016, the New York State Department of Environmental Conservation (NYSDEC) denied Constitution's application for a necessary water quality certification for the New York portion of the Constitution pipeline. Constitution filed legal actions in the U.S. District Court for the Northern District of New York and in the U.S. Court of Appeals for the Second Circuit (U.S. Court of Appeals) challenging the legality and appropriateness of the NYSDEC's decision. Both courts granted Constitution's motions to expedite the schedules for the legal actions. On November 16, 2016, oral arguments were heard in the U.S. Court of Appeals.

Constitution remains steadfastly committed to pursuing the project and intends to pursue all available options to challenge the NYSDEC's decision. In light of the denial of the certification, Constitution revised its target in-service date of the project to be as early as the second half of 2018, assuming that the challenge process is satisfactorily and promptly concluded.

In July 2016, Constitution requested and the FERC approved an extension of the construction period and in-service deadline of the project to December 2018. Also in July, the FERC denied the New York Attorney General's (NYAG) complaint and request for a stay of the certificate order authorizing the project on the grounds that Constitution had improperly cut trees along the proposed route. The FERC found the complaint procedurally deficient and that there was no justification for a stay; it did find the filing constituted a valid request for investigation and thus referred the matter to FERC staff for further examination as may be appropriate. On November 22, 2016, the FERC denied the NYAG's request for reconsideration of this order.

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Since April 2016, with the actions of the NYSDEC, Constitution stopped construction and discontinued capitalization of future development costs until the project's uncertainty is resolved. As a result, Duke Energy evaluated the investment in the Constitution project for OTTIs. At this time, no OTTI has been determined and therefore no impairment charge to reduce the carrying value of the investment has been recorded. However, to the extent that the legal and regulatory proceedings have unfavorable outcomes, or if Constitution concludes that the project is not viable or does not go forward as legal and regulatory actions progress, the conclusions with respect to OTTIs could change and may require that an impairment charge of up to the recorded investment in the project, net of any cash and working capital returned, be recorded. Duke Energy will continue to monitor and update the OTTI analysis as required. Different assumptions could affect the timing and amount of any charge recorded in a period.

Pending the outcome of the matters described above, and when construction proceeds, Duke Energy remains committed to fund an amount in proportion to its ownership interest for the development and construction of the new pipeline. Duke Energy's total anticipated contributions are approximately \$229 million. See Notes 12 and 17 for additional information.

**Progress Energy Merger FERC Mitigation**

In June 2012, the FERC approved the merger with Progress Energy, including Duke Energy and Progress Energy's revised market power mitigation plan, the Joint Dispatch Agreement (JDA) and the joint Open Access Transmission Tariff. The revised market power mitigation plan provided for the acceleration of one transmission project and the completion of seven other transmission projects (Long-Term FERC Mitigation) and interim firm power sale agreements during the completion of the transmission projects (Interim FERC Mitigation). The Long-Term FERC Mitigation was expected to increase power imported into the Duke Energy Carolinas and Duke Energy Progress service areas and enhance competitive power supply options in the service areas. All of these projects were completed in or before 2014. On May 30, 2014, the Independent Monitor filed with FERC a final report stating that the Long-Term FERC Mitigation is complete. In 2014, Duke Energy Progress recorded an \$18 million partial reversal of an impairment recorded in 2012. This reversal adjusts the initial disallowance from the Long-Term FERC mitigation and reflects updated information on the construction costs and in-service dates of the transmission projects.

Following the closing of the merger, outside counsel reviewed Duke Energy's mitigation plan and discovered a technical error in the calculations. On December 6, 2013, Duke Energy submitted a filing to the FERC disclosing the error and arguing that no additional mitigation is necessary. The city of New Bern filed a protest and requested that FERC order additional mitigation. On October 29, 2014, the FERC ordered that the amount of the stub mitigation be increased from 25 MW to 129 MW. The stub mitigation is Duke Energy's commitment to set aside for third parties a certain quantity of firm transmission capacity from Duke Energy Carolinas to Duke Energy Progress during summer off-peak hours. The FERC also ordered that Duke Energy operate certain phase shifters to create additional import capability and that such operation be monitored by an independent monitor. The costs to comply with this order are not material. The FERC also referred Duke Energy's failure to expressly designate the phase shifter reactivation as a mitigation project in the original mitigation plan filing in March 2012 to the FERC Office of Enforcement for further inquiry. In response, and since December 2014, the FERC Office of Enforcement has been conducting a nonpublic investigation of Duke Energy's market power analyses included in the Progress merger filings submitted to FERC. Duke Energy cannot predict the outcome of this investigation.

**Potential Coal Plant Retirements**

The Subsidiary Registrants periodically file Integrated Resource Plans (IRP) with their state regulatory commissions. The IRPs provide a view of forecasted energy needs over a long term (10 to 20 years) and options being considered to meet those needs. Recent IRPs filed by the Subsidiary Registrants included planning assumptions to potentially retire certain coal-fired generating facilities in Florida and Indiana earlier than their current estimated useful lives primarily because facilities do not have the requisite emission control equipment to meet EPA regulations recently approved or proposed.

The table below contains the net carrying value of generating facilities planned for retirement or included in recent IRPs as evaluated for potential retirement due to a lack of requisite environmental control equipment. Dollar amounts in the table below are included in Net property, plant and equipment on the Consolidated Balance Sheets as of December 31, 2016 and exclude capitalized asset retirement costs.

	Capacity (in MW)	Remaining Net Book Value (in millions)
<b>Duke Energy Carolinas</b>		
Allen Steam Station Units 1-3 <sup>(a)</sup>	585	\$ 168
<b>Progress Energy and Duke Energy Florida</b>		
Crystal River Units 1 and 2	873	120
<b>Duke Energy Indiana<sup>(b)</sup></b>		
Gallagher Units 2 and 4 <sup>(c)</sup>	280	136
<b>Total Duke Energy</b>	<b>1,738</b>	<b>\$ 424</b>

- (a) Duke Energy Carolinas will retire Allen Steam Station Units 1 through 3 by December 31, 2024, as part of the resolution of a lawsuit involving alleged New Source Review violations.
- (b) Duke Energy Indiana retired Wabash River Units 2 through 6 in 2016.
- (c) Duke Energy Indiana committed to either retire or stop burning coal at Gallagher Units 2 and 4 by December 31, 2022, as part of the settlement of Edwardsport IGCC matters.

On October 23, 2015, the EPA published in the Federal Register the final Clean Power Plan (CPP) rule regulating carbon dioxide (CO<sub>2</sub>) emissions from existing fossil fuel-fired electric generating units (EGUs). The CPP establishes CO<sub>2</sub> emission rates and mass cap goals that apply to existing fossil fuel-fired EGUs. Petitions challenging the final CPP have been filed by several groups and on February 9, 2016, the U.S. Supreme Court issued a stay of the final CPP rule, halting implementation until legal challenges are resolved. States in which the Duke Energy Registrants operate have suspended work on CPP compliance plans as a result of the stay. The court is expected to decide the case in early 2017. Compliance with CPP could cause the industry to replace coal-fired generation with natural gas and renewables, especially in states that have significant CO<sub>2</sub> reduction targets under the rule. Costs to operate coal-fired generation plants continue to grow due to increasing environmental compliance requirements, including ash management costs unrelated to CPP, which may result in the retirement of coal-fired generation plants earlier than the current end of useful lives. Duke Energy continues to evaluate the need to retire generating facilities and plans to seek regulatory recovery, where appropriate, for amounts that have not been recovered upon asset retirements. However, recovery is subject to future regulatory approval, including the recovery of carrying costs on remaining book values, and therefore cannot be assured.

Refer to the "Western Carolinas Modernization Plan" discussion above for details of Duke Energy Progress' planned retirements.

## 5. COMMITMENTS AND CONTINGENCIES

### INSURANCE

#### General Insurance

The Duke Energy Registrants have insurance and reinsurance coverage either directly or through indemnification from Duke Energy's captive insurance company, Bison, and its affiliates, consistent with companies engaged in similar commercial operations with similar type properties. The Duke Energy Registrants' coverage includes (i) commercial general liability coverage for liabilities arising to third parties for bodily injury and property damage; (ii) workers' compensation; (iii) automobile liability coverage; and (iv) property coverage for all real and personal property damage. Real and personal property damage coverage excludes electric transmission and distribution lines, but includes damages arising from boiler and machinery breakdowns, earthquakes, flood damage and extra expense, but not outage or replacement power coverage. All coverage is subject to certain deductibles or retentions, sublimits, exclusions, terms and conditions common for companies with similar types of operations. The Duke Energy Registrants self-insure their electric transmission and distribution lines against loss due to storm damage and other natural disasters. As discussed further in Note 4, Duke Energy Florida maintains a storm damage reserve and has a regulatory mechanism to recover the cost of named storms on an expedited basis.

The cost of the Duke Energy Registrants' coverage can fluctuate from year to year reflecting claims history and conditions of the insurance and reinsurance markets.

In the event of a loss, terms and amounts of insurance and reinsurance available might not be adequate to cover claims and other expenses incurred. Uninsured losses and other expenses, to the extent not recovered by other sources, could have a material effect on the Duke Energy Registrants' results of operations, cash flows or financial position. Each company is responsible to the extent losses may be excluded or exceed limits of the coverage available.

#### Nuclear Insurance

Duke Energy Carolinas owns and operates the McGuire Nuclear Station (McGuire) and the Oconee Nuclear Station (Oconee) and operates and has a partial ownership interest in the Catawba Nuclear Station (Catawba). McGuire and Catawba each have two reactors. Oconee has three reactors. The other joint owners of Catawba reimburse Duke Energy Carolinas for certain expenses associated with nuclear insurance per the Catawba joint owner agreements.

Duke Energy Progress owns and operates the Robinson Nuclear Plant (Robinson), Brunswick and Harris. Robinson and Harris each have one reactor. Brunswick has two reactors.

Duke Energy Florida owns Crystal River Unit 3, which has been retired.

In the event of a loss, terms and amounts of insurance available might not be adequate to cover property damage and other expenses incurred. Uninsured losses and other expenses, to the extent not recovered by other sources, could have a material effect on Duke Energy Carolinas', Duke Energy Progress' and Duke Energy Florida's results of operations, cash flows or financial position. Each company is responsible to the extent losses may be excluded or exceed limits of the coverage available.

#### Nuclear Liability Coverage

The Price-Anderson Act requires owners of nuclear reactors to provide for public nuclear liability protection per nuclear incident up to a maximum total financial protection liability. The maximum total financial protection liability, which is approximately \$13.4 billion, is subject to change every five years for inflation and for the number of licensed reactors. Total nuclear liability coverage consists of a combination of private primary nuclear liability insurance coverage and a mandatory industry risk-sharing program to provide for excess nuclear liability coverage above the maximum reasonably available private primary coverage. The United States Congress could impose revenue-raising measures on the nuclear industry to pay claims.

#### Primary Liability Insurance

Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida have purchased the maximum reasonably available private primary nuclear liability insurance as required by law, which was \$375 million per station. For incidents after January 1, 2017, this primary nuclear liability insurance limit increased to \$450 million per station.

**Excess Liability Program**

This program provides \$13 billion of coverage per incident through the Price-Anderson Act's mandatory industrywide excess secondary financial protection program of risk pooling. This amount is the product of potential cumulative retrospective premium assessments of \$127 million times the current 102 licensed commercial nuclear reactors in the U.S. Under this program, licensees could be assessed retrospective premiums to compensate for public nuclear liability damages in the event of a nuclear incident at any licensed facility in the U.S. Retrospective premiums may be assessed at a rate not to exceed \$19 million per year per licensed reactor for each incident. The assessment may be subject to state premium taxes.

**Nuclear Property and Accidental Outage Coverage**

Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida are members of Nuclear Electric Insurance Limited (NEIL), an industry mutual insurance company, which provides "all risk" property damage, decontamination and premature decommissioning insurance for each station for losses resulting from damage to its nuclear plants, either due to accidents or acts of terrorism. Additionally, NEIL provides some replacement power cost insurance for each station for losses in the event of a major accidental outage at an insured nuclear station. NEIL requires its members to maintain an investment grade credit rating or to ensure collectability of their annual retrospective premium obligation by providing a financial guarantee, letter of credit, deposit premium or other means of assurance. The companies are required each year to report to the NRC the current levels and sources of insurance that demonstrate it possesses sufficient financial resources to stabilize and decontaminate its reactors and reactor station sites in the event of an accident.

Pursuant to regulations of the NRC, each company's property damage insurance policies provide that all proceeds from such insurance be applied, first, to place the plant in a safe and stable condition after a qualifying accident and second, to decontaminate the plant before any proceeds can be used for decommissioning, plant repair or restoration.

Losses resulting from acts of terrorism are covered as common occurrences, such that if terrorist acts occur against one or more commercial nuclear power plants insured by NEIL within a 12-month period, they would be treated as one event and the owners of the plants where the act occurred would share one full limit of liability. The full limit of liability is currently \$3.2 billion. NEIL sublimits the total aggregate for all of their policies for non-nuclear terrorist events to approximately \$1.83 billion.

Each nuclear facility has accident property damage, decontamination and premature decommissioning liability insurance from NEIL with limits of \$1.5 billion, except for Crystal River Unit 3. Crystal River Unit 3's limit is \$50 million and is on an actual cash value basis. All nuclear facilities except for Catawba and Crystal River Unit 3 also share an additional \$1.25 billion nuclear accident insurance limit above their dedicated underlying limit. This shared additional excess limit is not subject to reinstatement in the event of a loss. Catawba has a dedicated \$1.25 billion of additional nuclear accident insurance limit above its dedicated underlying limit. Catawba and Oconee also have an additional \$750 million of non-nuclear accident property damage limit. All coverages are subject to sublimits and significant deductibles.

NEIL's Accidental Outage policy provides some replacement power cost insurance for losses in the event of a major accident property damage outage of a nuclear unit. Coverage is provided on a weekly limit basis after a significant waiting period deductible and at 100 percent of the available weekly limits for 52 weeks and 80 percent of the available weekly limits for the next 110 weeks. Coverage is provided until these available weekly periods are met where the accidental outage policy limit will not exceed \$490 million for McGuire, Catawba, Brunswick and Harris, \$464 million for Oconee and \$404 million for Robinson. NEIL sublimits the accidental outage recovery to the first 104 weeks of coverage not to exceed \$328 million from non-nuclear accidental property damage. Coverage amounts decrease in the event more than one unit at a station is out of service due to a common accident. All coverages are subject to sublimits and significant deductibles.

**Potential Retroactive Premium Assessments**

In the event of NEIL losses, NEIL's board of directors may assess member companies retroactive premiums of amounts up to 10 times their annual premiums for up to six years after a loss. NEIL has never exercised this assessment. The maximum aggregate annual retrospective premium obligations for Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida are \$164 million, \$104 million and \$1 million, respectively. Duke Energy Carolinas' maximum assessment amount includes 100 percent of potential obligations to NEIL for jointly owned reactors. Duke Energy Carolinas would seek reimbursement from the joint owners for their portion of these assessment amounts.

**ENVIRONMENTAL**

The Duke Energy Registrants are subject to federal, state and local regulations regarding air and water quality, hazardous and solid waste disposal and other environmental matters. These regulations can be changed from time to time, imposing new obligations on the Duke Energy Registrants. The following environmental matters impact all of the Duke Energy Registrants.

**Remediation Activities**

In addition to the ARO recorded as a result of various environmental regulations, discussed in Note 9, the Duke Energy Registrants are responsible for environmental remediation at various sites. These include certain properties that are part of ongoing operations and sites formerly owned or used by Duke Energy entities. These sites are in various stages of investigation, remediation and monitoring. Managed in conjunction with relevant federal, state and local agencies, remediation activities vary based upon site conditions and location, remediation requirements, complexity and sharing of responsibility. If remediation activities involve joint and several liability provisions, strict liability, or cost recovery or contribution actions, the Duke Energy Registrants could potentially be held responsible for environmental impacts caused by other potentially responsible parties and may also benefit from insurance policies or contractual indemnities that cover some or all cleanup costs. Liabilities are recorded when losses become probable and are reasonably estimable. The total costs that may be incurred cannot be estimated because the extent of environmental impact, allocation among potentially responsible parties, remediation alternatives and/or regulatory decisions have not yet been determined at all sites. Additional costs associated with remediation activities are likely to be incurred in the future and could be significant. Costs are typically expensed as Operation, maintenance and other in the Consolidated Statements of Operations unless regulatory recovery of the costs is deemed probable.

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The following tables contain information regarding reserves for probable and estimable costs related to the various environmental sites. These reserves are recorded in Other within Deferred Credits and Other Liabilities on the Consolidated Balance Sheets.

(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
<b>Balance at December 31, 2013</b>	\$ 74	\$ 11	\$ 27	\$ 8	\$ 19	\$ 27	\$ 7
Provisions/adjustments	32	(1)	1	4	(3)	28	4
Cash reductions	(14)	—	(11)	(7)	(4)	(1)	(1)
<b>Balance at December 31, 2014</b>	92	10	17	5	12	54	10
Provisions/adjustments	11	1	4	—	4	1	5
Cash reductions	(9)	(1)	(4)	(2)	(2)	(1)	(3)
<b>Balance at December 31, 2015</b>	94	10	17	3	14	54	12
Provisions/adjustments	19	4	7	2	4	7	1
Cash reductions	(15)	(4)	(6)	(2)	(4)	(2)	(3)
<b>Balance at December 31, 2016</b>	\$ 98	\$ 10	\$ 18	\$ 3	\$ 14	\$ 59	\$ 10

Additional losses in excess of recorded reserves that could be incurred for the stages of investigation, remediation and monitoring for environmental sites that have been evaluated at this time are not material except as presented in the table below.

(in millions)	
Duke Energy	\$ 69
Duke Energy Carolinas	22
Duke Energy Ohio	36
Duke Energy Indiana	7

#### North Carolina and South Carolina Ash Basins

In February 2014, a break in a stormwater pipe beneath an ash basin at Duke Energy Carolinas' retired Dan River Steam Station caused a release of ash basin water and ash into the Dan River. Duke Energy Carolinas estimates 30,000 to 39,000 tons of ash and 24 million to 27 million gallons of basin water were released into the river. In July 2014, Duke Energy completed remediation work identified by the EPA and continues to cooperate with the EPA's civil enforcement process. Future costs related to the Dan River release, including future state or federal civil enforcement proceedings, future regulatory directives, natural resources damages, future claims or litigation and long-term environmental impact costs, cannot be reasonably estimated at this time.

The North Carolina Department of Environmental Quality (NCDEQ) has historically assessed Duke Energy Carolinas and Duke Energy Progress with Notice of Violations (NOV) for violations that were most often resolved through satisfactory corrective actions and minor, if any, fines or penalties. Subsequent to the Dan River ash release, Duke Energy Carolinas and Duke Energy Progress have been served with a higher level of NOVs, including assessed penalties for violations at L.V. Sutton Combined Cycle Plant (Sutton) and Dan River Steam Station. Duke Energy Carolinas and Duke Energy Progress cannot predict whether the NCDEQ will assess future penalties related to existing unresolved NOVs and if such penalties would be material. See "NCDEQ Notices of Violation" section below for additional discussion.

#### LITIGATION

##### Duke Energy

Duke Energy no longer has exposure to litigation matters related to the International Energy Disposal Group as a result of the divestiture of the business in December 2016. See Note 2 for additional information related to the sale of International Energy.

##### Ash Basin Shareholder Derivative Litigation

Five shareholder derivative lawsuits were filed in Delaware Chancery Court relating to the release at Dan River and to the management of Duke Energy's ash basins. On October 31, 2014, the five lawsuits were consolidated in a single proceeding titled *In Re Duke Energy Corporation Coal Ash Derivative Litigation*. On December 2, 2014, plaintiffs filed a Corrected Verified Consolidated Shareholder Derivative Complaint (Consolidated Complaint). The Consolidated Complaint names as defendants several current and former Duke Energy officers and directors (collectively, the "Duke Energy Defendants"). Duke Energy is named as a nominal defendant.



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The Consolidated Complaint alleges the Duke Energy Defendants breached their fiduciary duties by failing to adequately oversee Duke Energy's ash basins and that these breaches of fiduciary duty may have contributed to the incident at Dan River and continued thereafter. The lawsuit also asserts claims against the Duke Energy Defendants for corporate waste (relating to the money Duke Energy has spent and will spend as a result of the fines, penalties and coal ash removal) and unjust enrichment (relating to the compensation and director remuneration that was received despite these alleged breaches of fiduciary duty). The lawsuit seeks both injunctive relief against Duke Energy and restitution from the Duke Energy Defendants. On January 21, 2015, the Duke Energy Defendants filed a Motion to Stay and an alternative Motion to Dismiss. On August 31, 2015, the court issued an order staying the case which was lifted on March 24, 2016. On April 22, 2016, plaintiffs filed an Amended Verified Consolidated Shareholder Derivative Complaint (Amended Complaint) making the same allegations as in the Consolidated Complaint. The Duke Energy Defendants filed a motion to dismiss the Amended Complaint on June 21, 2016. On December 14, 2016, the Delaware Chancery Court entered an order dismissing the Amended Complaint. Plaintiffs filed an appeal to the Delaware Supreme Court on January 9, 2017. Opening briefs were due by February 24, 2017, and a date for oral argument has not been set.

On March 5, 2015, shareholder Judy Mesirov filed a shareholder derivative complaint (Mesirov Complaint) in North Carolina state court. The lawsuit, styled *Mesirov v. Good*, was similar to the consolidated derivative action pending in Delaware Chancery Court and was filed against the same current directors and former directors and officers as the Delaware litigation. Duke Energy Corporation, Duke Energy Progress and Duke Energy Carolinas were named as nominal defendants. The Mesirov Complaint alleged that the Duke Energy Board of Directors was aware of Clean Water Act (CWA) compliance issues and failures to maintain structures in ash basins, but that the Board of Directors did not require Duke Energy Carolinas and Duke Energy Progress to take action to remedy deficiencies. The Mesirov Complaint further alleged that the Board of Directors sanctioned activities to avoid compliance with the law by allowing improper influence of the NCDEQ to minimize regulation and by opposing previously anticipated citizen suit litigation. The Mesirov Complaint sought corporate governance reforms and damages relating to costs associated with the Dan River release, remediation of ash basins that are out of compliance with the CWA and defending and payment of fines, penalties and settlements relating to criminal and civil investigations and lawsuits. On July 5, 2016, the plaintiff filed a Notice of Voluntary Dismissal Without Prejudice, closing this matter.

In addition to the above derivative complaints, in 2014, Duke Energy received two shareholder litigation demand letters. The letters alleged that the members of the Board of Directors and certain officers breached their fiduciary duties by allowing the company to illegally dispose of and store coal ash pollutants. One of the letters also alleged a breach of fiduciary duty in the decision-making relating to the leadership changes following the close of the Progress Energy merger in July 2012.

By letter dated September 4, 2015, attorneys for the shareholders were informed that, on the recommendation of the Demand Review Committee formed to consider such matters, the Board of Directors concluded not to pursue potential claims against individuals. One of the shareholders, Mitchell Pinsky, sent a formal demand for records and Duke Energy has responded to this request.

On October 30, 2015, shareholder Saul Bresalier filed a shareholder derivative complaint (Bresalier Complaint) in the U.S. District Court for the District of Delaware. The lawsuit alleges that several current and former Duke Energy officers and directors (Bresalier Defendants) breached their fiduciary duties in connection with coal ash environmental issues, the post-merger change in Chief Executive Officer (CEO) and oversight of political contributions. Duke Energy is named as a nominal defendant. The Bresalier Complaint contends that the Demand Review Committee failed to appropriately consider the shareholder's earlier demand for litigation and improperly decided not to pursue claims against the Bresalier Defendants. The Bresalier Defendants filed a Motion to Dismiss the Bresalier litigation on January 15, 2016. In lieu of a response to the Motion to Dismiss, the plaintiff filed a Motion to Convert the Bresalier Defendants' Motion to Dismiss into a Motion for Summary Judgment and also for limited discovery. Following a hearing on June 15, 2016, the court denied the plaintiff's Motion to Convert and is requiring the parties to complete briefing on the Bresalier Defendants' Motion to Dismiss. On July 29, 2016, the Bresalier Defendants filed an Amended Motion to Dismiss. Oral argument on the Amended Motion to Dismiss was heard on December 20, 2016. As discussed below, an agreement-in-principle has been reached to settle the merger related claims in the Bresalier Complaint.

It is not possible to predict whether Duke Energy will incur any liability or to estimate the damages, if any, it might incur in connection with these matters.

#### ***Progress Energy Merger Shareholder Litigation***

Duke Energy, the 11 members of the Board of Directors who were also members of the pre-merger Board of Directors (Legacy Duke Energy Directors) and certain Duke Energy officers were defendants in a purported securities class action lawsuit (*Nieman v. Duke Energy Corporation, et al*). This lawsuit consolidated three lawsuits originally filed in July 2012. The plaintiffs alleged federal Securities Act of 1933 and Securities Exchange Act of 1934 (Exchange Act) claims based on allegations of materially false and misleading representations and omissions in the Registration Statement filed on July 7, 2011, and purportedly incorporated into other documents, all in connection with the post-merger change in CEO. On August 15, 2014, the parties reached an agreement in principle to settle the litigation. On March 10, 2015, the parties filed a Stipulation of Settlement and a Motion for Preliminary Approval of the Settlement. Under the terms of the agreement, Duke Energy agreed to pay \$146 million to settle the claim. On April 22, 2015, Duke Energy made a payment of \$25 million into the settlement escrow account. The remainder of \$121 million was paid by insurers into the settlement escrow account. The final order approving the settlement was issued on November 2, 2015, thus closing the matter.

On May 31, 2013, the Delaware Chancery Court consolidated four shareholder derivative lawsuits filed in 2012. The Court also appointed a lead plaintiff and counsel for plaintiffs and designated the case as *In Re Duke Energy Corporation Derivative Litigation* (Merger Chancery Litigation). The lawsuit names as defendants the Legacy Duke Energy Directors. Duke Energy is named as a nominal defendant. The case alleges claims for breach of fiduciary duties of loyalty and care in connection with the post-merger change in CEO.

Two shareholder Derivative Complaints, filed in 2012 in federal district court in Delaware, were consolidated as *Tansey v. Rogers, et al*. The case alleges claims against the Legacy Duke Energy Directors for breach of fiduciary duty and waste of corporate assets, as well as claims under Section 14(a) and 20(a) of the Exchange Act. Duke Energy is named as a nominal defendant. On December 21, 2015, Plaintiff filed a Consolidated Amended Complaint asserting the same claims contained in the original complaints.



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The Legacy Duke Energy Directors have reached an agreement-in-principle to settle the Merger Chancery Litigation, conditioned on dismissal as well, of the *Tansey v. Rogers, et al* case and the merger related claims in the Bresalier Complaint discussed above, for a total of \$27 million. The entire settlement amount is to be funded by insurance. The settlement amount, less court-approved attorney fees, will be payable to Duke Energy. The settlement is subject to the execution of definitive settlement documents and court approval.

**Price Reporting Cases**

Duke Energy Trading and Marketing, LLC (DETM), a non-operating Duke Energy affiliate, was a defendant, along with numerous other energy companies, in four class-action lawsuits and a fifth single-plaintiff lawsuit in a consolidated federal court proceeding in Nevada. Each of these lawsuits contained similar claims that defendants allegedly manipulated natural gas markets by various means, including providing false information to natural gas trade publications and entering into unlawful arrangements and agreements in violation of the antitrust laws of the respective states. Plaintiffs sought damages in unspecified amounts. In February 2016, DETM reached agreements in principle to settle all of the pending lawsuits. Settlement of the single-plaintiff settlement was finalized and paid in March 2016. The proposed settlement of the class-action lawsuits was submitted to the Court and preliminarily approved on January 26, 2017. The Court will consider final approval of the class settlement following notice to the class members. The settlement amounts are not material to Duke Energy.

**Duke Energy Carolinas and Duke Energy Progress****NCDEQ Notice of Violation**

In August 2014, NCDEQ issued an NOV for alleged groundwater violations at Duke Energy Progress' Sutton Plant. On March 10, 2015, NCDEQ issued a civil penalty of approximately \$25 million to Duke Energy Progress for environmental damages related to alleged groundwater contamination at the Sutton Plant. On April 9, 2015, Duke Energy Progress filed a Petition for Contested Case hearing in the Office of Administrative Hearings. In February 2015, NCDEQ issued an NOV for alleged groundwater violations at Duke Energy Progress' Asheville Plant. Duke Energy Progress responded to NCDEQ regarding this NOV.

On September 29, 2015, Duke Energy Progress and Duke Energy Carolinas entered into a settlement agreement with NCDEQ resolving all former, current and future groundwater penalties at all Duke Energy Carolinas and Duke Energy Progress coal facilities in North Carolina. Under the agreement, Duke Energy Progress paid approximately \$6 million and Duke Energy Carolinas paid approximately \$1 million. In addition to these payments, Duke Energy Progress and Duke Energy Carolinas will accelerate remediation actions at the Sutton, Asheville, Belews Creek and H.F. Lee plants. The court entered a consent order resolving the contested case relating to the Sutton Plant and NCDEQ rescinded the NOV's relating to alleged groundwater violations at both the Sutton and Asheville plants.

On October 13, 2015, the Southern Environmental Law Center (SELC), representing multiple conservation groups, filed a lawsuit in North Carolina Superior Court seeking judicial review of the order approving the settlement agreement with NCDEQ. The conservation groups contend that the ALJ exceeded his statutory authority in approving a settlement that provided for past, present and future resolution of groundwater issues at facilities which were not at issue in the penalty appeal. On December 18, 2015, Duke Energy Carolinas and Duke Energy Progress filed a Motion to Dismiss the complaint. On February 12, 2016, the ALJ entered a new order clarifying that the dismissal of the contested case only applied to the specific issues before the ALJ in the Petition for Contested Case. On March 10, 2016, the court dismissed the SELC lawsuit based on the ALJ's entry of the new order.

On February 8, 2016, the NCDEQ assessed a penalty of approximately \$6.8 million, including enforcement costs, against Duke Energy Carolinas related to stormwater pipes and associated discharges at the Dan River Steam Station. Duke Energy Carolinas recorded a charge in December 2015 for this penalty. In March 2016, Duke Energy Carolinas filed an appeal of this penalty. On September 23, 2016, Duke Energy Carolinas entered into a settlement agreement with the NCDEQ, without admission of liability, under which Duke Energy Carolinas agreed to a payment of \$6 million to resolve allegations underlying the asserted civil penalty related to the Dan River coal ash release and a March 4, 2016, NOV alleging unpermitted discharges at the facility.

**NCDEQ State Enforcement Actions**

In the first quarter of 2013, SELC sent notices of intent to sue Duke Energy Carolinas and Duke Energy Progress related to alleged CWA violations from coal ash basins at two of their coal-fired power plants in North Carolina. The NCDEQ filed enforcement actions against Duke Energy Carolinas and Duke Energy Progress alleging violations of water discharge permits and North Carolina groundwater standards. The cases have been consolidated and are being heard before a single judge.

On August 16, 2013, the NCDEQ filed an enforcement action against Duke Energy Carolinas and Duke Energy Progress related to their remaining plants in North Carolina, alleging violations of the CWA and violations of the North Carolina groundwater standards. Both of these cases have been assigned to the judge handling the enforcement actions discussed above. SELC is representing several environmental groups who have been permitted to intervene in these cases.

On July 10, 2015, Duke Energy Carolinas and Duke Energy Progress filed two Motions for Partial Summary Judgment in the case on the basis that there is no longer either a genuine controversy or disputed material facts about the relief for seven of the 14 North Carolina plants with coal ash basins. On September 14, 2015, the court granted the Motions for Partial Summary Judgment pending court approval of the terms through an order. On April 4, 2016, the court issued an order granting Duke Energy Progress' Motion for Partial Summary Judgment for cases involving the H.F. Lee, Cape Fear and Weatherspoon plants. On June 1, 2016, the court issued an order granting Duke Energy Carolinas' and Duke Energy Progress' Motion for Partial Summary Judgment for cases involving the Asheville, Dan River, Riverbend and Sutton plants. The litigation is concluded for these seven plants. Litigation continues for the remaining seven plants. In response to a motion for partial summary judgment on the groundwater claims filed by the environmental groups, on October 17, 2016, Duke Energy Carolinas and Duke Energy Progress filed a cross-motion for partial summary judgment on the groundwater claims. On February 13, 2017, the court issued an order denying both the environmental groups' motion for partial summary judgment and Duke Energy Carolinas and Duke Energy Progress' cross-motion for partial summary judgment.

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It is not possible to predict any liability or estimate any damages Duke Energy Carolinas or Duke Energy Progress might incur in connection with these matters.

***Federal Citizens Suits***

On June 13, 2016, the Roanoke River Basin Association filed a federal citizen suit in the Middle District of North Carolina alleging unpermitted discharges to surface water and groundwater violations at the Mayo Plant. On August 19, 2016, Duke Energy Progress filed a Motion to Dismiss the complaint and a decision is pending. It is not possible to predict whether Duke Energy Progress will incur any liability or to estimate the damages, if any, they might incur in connection with this matter.

Five previously filed cases involving the Riverbend, Cape Fear, H.F. Lee, Sutton and Buck plants have been dismissed or settled during 2016.

***North Carolina Ash Basin Grand Jury Investigation***

As a result of the Dan River ash basin water release discussed above, NCDEQ issued a NOV and Recommendation of Assessment of Civil Penalties with respect to this matter on February 28, 2014, which the company responded to on March 13, 2014. Duke Energy and certain Duke Energy employees received subpoenas issued by the United States Attorney for the Eastern District of North Carolina in connection with a criminal investigation related to all 14 of the North Carolina facilities with ash basins and the nature of Duke Energy's contacts with NCDEQ with respect to those facilities. This was a multidistrict investigation that also involves state law enforcement authorities.

On February 20, 2015, Duke Energy Carolinas, Duke Energy Progress and Duke Energy Business Services LLC (DEBS), a wholly owned subsidiary of Duke Energy, each entered into Plea Agreements in connection with the investigation initiated by the United States Department of Justice Environmental Crimes Section and the United States Attorneys for the Eastern District of North Carolina, the Middle District of North Carolina and the Western District of North Carolina (collectively, USDOJ). On May 14, 2015, the United States District Court for the Eastern District of North Carolina approved the Plea Agreements.

Under the Plea Agreements, DEBS and Duke Energy Progress pleaded guilty to four misdemeanor CWA violations related to violations at Duke Energy Progress' H.F. Lee Steam Electric Plant, Cape Fear Steam Electric Plant and Asheville Steam Electric Generating Plant. Duke Energy Carolinas and DEBS pleaded guilty to five misdemeanor CWA violations related to violations at Duke Energy Carolinas' Dan River Steam Station and Riverbend Steam Station. DEBS, Duke Energy Carolinas and Duke Energy Progress also agreed (i) to a five-year probation period, (ii) to pay a total of approximately \$68 million in fines and restitution and \$34 million for community service and mitigation (the Payments), (iii) to fund and establish environmental compliance plans subject to the oversight of a court-appointed monitor in addition to certain other conditions set out in the Plea Agreements. Duke Energy Carolinas and Duke Energy Progress also agree to each maintain \$250 million under their Master Credit Facility as security to meet their obligations under the Plea Agreements. Payments under the Plea Agreements will be borne by shareholders and are not tax deductible. Duke Energy Corporation has agreed to issue a guarantee of all payments and performance due from DEBS, Duke Energy Carolinas and Duke Energy Progress, including but not limited to payments for fines, restitution, community service, mitigation and the funding of, and obligations under, the environmental compliance plans. As a result of the Plea Agreements, Duke Energy Carolinas and Duke Energy Progress recognized charges of \$72 million and \$30 million, respectively, in Operation, maintenance and other on the Consolidated Statements of Operations and Comprehensive Income during 2014. Payment of the amounts relating to fines and restitution were made between May and July 2015. The Plea Agreements do not cover pending civil claims related to the Dan River coal ash release and operations at other North Carolina coal plants.

On May 14, 2015, Duke Energy reached an Interim Administrative Agreement with the U.S. Environmental Protection Agency Office of Suspension and Debarment that avoids debarment of DEBS, Duke Energy Carolinas or Duke Energy Progress with respect to all active generating facilities. The Interim Administrative Agreement imposes a number of requirements relating to environmental and ethical compliance, subject to the oversight of an independent monitor.

***Potential Groundwater Contamination Claims***

Beginning in May 2015, a number of residents living in the vicinity of the North Carolina facilities with ash basins received letters from the NCDEQ advising them not to drink water from the private wells on their land tested by the NCDEQ as the samples were found to have certain substances at levels higher than the criteria set by the North Carolina Department of Health and Human Services (DHHS). The criteria, in some cases, are considerably more stringent than federal drinking water standards established to protect human health and welfare. The North Carolina Coal Ash Management Act of 2014, as amended, (Coal Ash Act) requires additional groundwater monitoring and assessments for each of the 14 coal-fired plants in North Carolina, including sampling of private water supply wells. The data gathered through these Comprehensive Site Assessments (CSAs) will be used by NCDEQ to determine whether the water quality of these private water supply wells has been adversely impacted by the ash basins. Duke Energy has submitted CSAs documenting the results of extensive groundwater monitoring around coal ash basins at all 14 of the plants with coal ash basins. Generally, the data gathered through the installation of new monitoring wells and soil and water samples across the state have been consistent with historical data provided to state regulators over many years. The DHHS and NCDEQ sent follow-up letters on October 15, 2015, to residents near coal ash basins who have had their wells tested, stating that private well samplings at a considerable distance from coal ash basins, as well as some municipal water supplies, contain similar levels of vanadium and hexavalent chromium which leads investigators to believe these constituents are naturally occurring. In March 2016, DHHS rescinded the advisories.

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Duke Energy Carolinas and Duke Energy Progress have received formal demand letters from residents near Duke Energy Carolinas' and Duke Energy Progress' coal ash basins. The residents claim damages for nuisance and diminution in property value, among other things. The parties held three days of mediation discussions which ended at impasse. On January 6, 2017, Duke Energy Carolinas and Duke Energy Progress received the plaintiffs' notice of their intent to file suits should the matter not settle. The NCDEQ preliminarily approved Duke Energy's permanent water solution plans on January 13, 2017, and as a result shortly thereafter, Duke Energy issued a press release, providing additional details regarding the homeowner compensation package. This package consists of three components: (i) a \$5,000 goodwill payment to each eligible well owner to support the transition to a new water supply, (ii) where a public water supply is available and selected by the eligible well owner, a stipend to cover 25 years of water bills and (iii) the Property Value Protection Plan. The Property Value Protection Plan is a program offered by Duke Energy designed to guarantee eligible plant neighbors the fair market value of their residential property should they decide to sell their property during the time which the plan is offered. Duke Energy Carolinas and Duke Energy Progress recognized charges of \$18 million and \$4 million, respectively, in Operation, maintenance and other on the Consolidated Statements of Operations and Comprehensive Income in December 2016.

It is not possible to estimate the maximum exposure of loss, if any, that may occur in connection with claims which might be made by these residents.

### **Duke Energy Carolinas**

#### ***Asbestos-related Injuries and Damages Claims***

Duke Energy Carolinas has experienced numerous claims for indemnification and medical cost reimbursement related to asbestos exposure. These claims relate to damages for bodily injuries alleged to have arisen from exposure to or use of asbestos in connection with construction and maintenance activities conducted on its electric generation plants prior to 1985. As of December 31, 2016, there were 121 asserted claims for non-malignant cases with the cumulative relief sought of up to \$32 million and 58 asserted claims for malignant cases with the cumulative relief sought of up to \$16 million. Based on Duke Energy Carolinas' experience, it is expected that the ultimate resolution of most of these claims likely will be less than the amount claimed.

Duke Energy Carolinas has recognized asbestos-related reserves of \$512 million and \$536 million at December 31, 2016 and 2015, respectively. These reserves are classified in Other within Deferred Credits and Other Liabilities and Other within Current Liabilities on the Consolidated Balance Sheets. These reserves are based upon the minimum amount of the range of loss for current and future asbestos claims through 2036, are recorded on an undiscounted basis and incorporate anticipated inflation. In light of the uncertainties inherent in a longer-term forecast, management does not believe they can reasonably estimate the indemnity and medical costs that might be incurred after 2036 related to such potential claims. It is possible Duke Energy Carolinas may incur asbestos liabilities in excess of the recorded reserves.

Duke Energy Carolinas has third-party insurance to cover certain losses related to asbestos-related injuries and damages above an aggregate self-insured retention. Duke Energy Carolinas' cumulative payments began to exceed the self-insurance retention in 2008. Future payments up to the policy limit will be reimbursed by the third-party insurance carrier. The insurance policy limit for potential future insurance recoveries indemnification and medical cost claim payments is \$814 million in excess of the self-insured retention. Receivables for insurance recoveries were \$587 million and \$599 million at December 31, 2016 and 2015, respectively. These amounts are classified in Other within Investments and Other Assets and Receivables on the Consolidated Balance Sheets. Duke Energy Carolinas is not aware of any uncertainties regarding the legal sufficiency of insurance claims. Duke Energy Carolinas believes the insurance recovery asset is probable of recovery as the insurance carrier continues to have a strong financial strength rating.

### **Duke Energy Progress and Duke Energy Florida**

#### ***Spent Nuclear Fuel Matters***

On October 16, 2014, Duke Energy Progress and Duke Energy Florida sued the U.S. in the U.S. Court of Federal Claims. The lawsuit claimed the Department of Energy breached a contract in failing to accept spent nuclear fuel under the Nuclear Waste Policy Act of 1982 and asserted damages for the cost of on-site storage. Duke Energy Progress and Duke Energy Florida asserted damages for the period January 1, 2011 through December 31, 2013, of \$48 million and \$25 million, respectively. Claims for all periods prior to 2011 have been resolved. Additional claims are likely to be filed after the current litigation is resolved. Trial has been set for June 2017. Duke Energy Progress and Duke Energy Florida cannot predict the outcome of this matter.

### **Duke Energy Florida**

#### ***Class Action Lawsuit***

On February 22, 2016, a lawsuit was filed in the U.S. District Court for the Southern District of Florida on behalf of a putative class of Duke Energy Florida and FP&L's customers in Florida. The suit alleges the State of Florida's nuclear power plant cost recovery statutes (NCRS) are unconstitutional and pre-empted by federal law. Plaintiffs claim they are entitled to repayment of all money paid by customers of Duke Energy Florida and FP&L as a result of the NCRS, as well as an injunction against any future charges under those statutes. The constitutionality of the NCRS has been challenged unsuccessfully in a number of prior cases on alternative grounds. Duke Energy Florida and FP&L filed motions to dismiss the complaint on May 5, 2016. On September 21, 2016, the Court granted the motions to dismiss with prejudice. Plaintiffs filed a motion for reconsideration, which was denied. On January 4, 2017, plaintiffs filed a notice of appeal. Duke Energy Florida cannot predict the outcome of this appeal.

#### ***Westinghouse Contract Litigation***

On March 28, 2014, Duke Energy Florida filed a lawsuit against Westinghouse in the U.S. District Court for the Western District of North Carolina. The lawsuit seeks recovery of \$54 million in milestone payments in excess of work performed under the terminated EPC for Levy as well as a determination by the court of the amounts due to Westinghouse as a result of the termination of the EPC. Duke Energy Florida recognized an exit obligation as a result of the termination of the EPC contract.

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On March 31, 2014, Westinghouse filed a lawsuit against Duke Energy Florida in U.S. District Court for the Western District of Pennsylvania. The Pennsylvania lawsuit alleged damages under the EPC in excess of \$510 million for engineering and design work, costs to end supplier contracts and an alleged termination fee.

On June 9, 2014, the judge in the North Carolina case ruled that the litigation will proceed in the Western District of North Carolina. On July 11, 2016, Duke Energy Florida and Westinghouse filed separate Motions for Summary Judgment. On September 29, 2016, the court issued its ruling on the parties' respective Motions for Summary Judgment, ruling in favor of Westinghouse on a \$30 million termination fee claim and dismissing Duke Energy Florida's \$54 million refund claim, but stating that Duke Energy Florida could use the refund claim to offset any damages for termination costs. Westinghouse's claim for termination costs was unaffected by this ruling and continued to trial. At trial, Westinghouse reduced its claim for termination costs from \$482 million to \$424 million.

Following a trial on the matter, the court issued its final order in December 2016 denying Westinghouse's claim for termination costs and re-affirming its earlier ruling in favor of Westinghouse on the \$30 million termination fee and Duke Energy Florida's refund claim. Judgment was entered against Duke Energy Florida in the amount of approximately \$34 million, which includes pre-judgment interest. Westinghouse has appealed the trial court's order and Duke Energy Florida has cross-appealed.

It is not possible to predict the ultimate outcome of the appeal of the trial court's order. Ultimate resolution of these matters could have a material effect on the results of operations, financial position or cash flows of Duke Energy Florida. However, appropriate regulatory recovery will be pursued for the retail portion of any costs incurred in connection with such resolution.

#### ***MGP Cost Recovery Action***

On December 30, 2011, Duke Energy Florida filed a lawsuit against FirstEnergy Corp. (FirstEnergy) to recover investigation and remediation costs incurred by Duke Energy Florida in connection with the restoration of two former MGP sites in Florida. Duke Energy Florida alleged that FirstEnergy, as the successor to Associated Gas & Electric Co., owes past and future contribution and response costs of up to \$43 million for the investigation and remediation of MGP sites. On December 6, 2016, the trial court entered judgment against Duke Energy Florida in the case. In January 2017, Duke Energy Florida appealed the decision to the U.S. Court of Appeals for the 6th Circuit. Duke Energy Florida cannot predict the outcome of this appeal.

#### **Duke Energy Ohio**

##### ***Antitrust Lawsuit***

In January 2008, four plaintiffs, including individual, industrial and nonprofit customers, filed a lawsuit against Duke Energy Ohio in federal court in the Southern District of Ohio. Plaintiffs alleged Duke Energy Ohio conspired to provide inequitable and unfair price advantages for certain large business consumers by entering into nonpublic option agreements in exchange for their withdrawal of challenges to Duke Energy Ohio's Rate Stabilization Plan implemented in early 2005. In March 2014, a federal judge certified this matter as a class action. Plaintiffs alleged claims of antitrust violations under the federal Robinson Patman Act as well as fraud and conspiracy allegations under the federal Racketeer Influenced and Corrupt Organizations statute and the Ohio Corrupt Practices Act.

During 2015, the parties received preliminary court approval of a settlement agreement. Duke Energy Ohio recorded a litigation settlement reserve of \$81 million classified in Other within Current Liabilities on the Consolidated Balance Sheet at December 31, 2015. Duke Energy Ohio also recognized a pretax charge of \$81 million in (Loss) Income From Discontinued Operations, net of tax in the Consolidated Statements of Operations and Comprehensive Income for the year ended December 31, 2015. The settlement agreement was approved at a federal court hearing on April 19, 2016. Distribution of the settlement checks was approved by the court in January 2017. See Note 2 for further discussion on the Midwest Generation Exit.

##### ***W.C. Beckjord Fuel Release***

On August 18, 2014, approximately 9,000 gallons of fuel oil were inadvertently discharged into the Ohio River during a fuel oil transfer at the W.C. Beckjord generating station. The Ohio Environmental Protection Agency issued a NOV related to the discharge. On November 22, 2016, Duke Energy Ohio entered into a plea agreement with the U.S. Attorney for the Southern District of Ohio. Terms of the agreement include a misdemeanor violation of the CWA, a fine of \$1 million and a \$100 thousand contribution to the Foundation for Ohio River Education, which were paid in fourth quarter 2016. Duke Energy Ohio has also reimbursed government and private entities for approximately \$1 million of costs incurred as a result of the fuel release.

#### **Duke Energy Indiana**

##### ***Benton County Wind Farm Dispute***

On December 16, 2013, Benton County Wind Farm LLC (BCWF) filed a lawsuit against Duke Energy Indiana seeking damages for past generation losses totaling approximately \$16 million alleging Duke Energy Indiana violated its obligations under a 2006 PPA by refusing to offer electricity to the market at negative prices. Damage claims continue to increase during times that BCWF is not dispatched. Under 2013 revised MISO market rules, Duke Energy Indiana is required to make a price offer to MISO for the power it proposes to sell into MISO markets and MISO determines whether BCWF is dispatched. Because market prices would have been negative due to increased market participation, Duke Energy Indiana determined it would not bid at negative prices in order to balance customer needs against BCWF's need to run. BCWF contends Duke Energy Indiana must bid at the lowest negative price to ensure dispatch, while Duke Energy Indiana contends it is not obligated to bid at any particular price, that it cannot ensure dispatch with any bid and that it has reasonably balanced the parties' interests. On July 6, 2015, the U.S. District Court for the Southern District of Indiana entered judgment against BCWF on all claims. BCWF appealed the decision and on December 9, 2016, the appeals court ruled in favor of BCWF. The matter has been remanded to a lower court to determine damages. Duke Energy Indiana cannot predict the outcome of this matter. Ultimate resolution of this matter could have a material effect on the results of operations, financial position or cash flows of Duke Energy Indiana. However, appropriate regulatory recovery will be pursued for the retail portion of any costs incurred in connection with such resolution.

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### Other Litigation and Legal Proceedings

The Duke Energy Registrants are involved in other legal, tax and regulatory proceedings arising in the ordinary course of business, some of which involve significant amounts. The Duke Energy Registrants believe the final disposition of these proceedings will not have a material effect on their results of operations, cash flows or financial position.

The table below presents recorded reserves based on management's best estimate of probable loss for legal matters, excluding asbestos-related reserves and the exit obligation discussed above related to the termination of an EPC contract. Reserves are classified on the Consolidated Balance Sheets in Other within Deferred Credits and Other Liabilities and Accounts payable and Other within Current Liabilities. The reasonably possible range of loss in excess of recorded reserves is not material, other than as described above.

(in millions)	December 31,	
	2016	2015
<b>Reserves for Legal Matters</b>		
Duke Energy	\$ 98	\$ 156
Duke Energy Carolinas	23	11
Progress Energy	59	54
Duke Energy Progress	14	6
Duke Energy Florida	28	31
Duke Energy Ohio	4	80

### OTHER COMMITMENTS AND CONTINGENCIES

#### General

As part of their normal business, the Duke Energy Registrants are party to various financial guarantees, performance guarantees and other contractual commitments to extend guarantees of credit and other assistance to various subsidiaries, investees and other third parties. These guarantees involve elements of performance and credit risk, which are not fully recognized on the Consolidated Balance Sheets and have unlimited maximum potential payments. However, the Duke Energy Registrants do not believe these guarantees will have a material effect on their results of operations, cash flows or financial position.

#### Purchase Obligations

##### *Purchased Power*

Duke Energy Progress, Duke Energy Florida and Duke Energy Ohio have ongoing purchased power contracts, including renewable energy contracts, with other utilities, wholesale marketers, co-generators and qualified facilities. These purchased power contracts generally provide for capacity and energy payments. In addition, Duke Energy Progress and Duke Energy Florida have various contracts to secure transmission rights.

The following table presents executory purchased power contracts with terms exceeding one year, excluding contracts classified as leases.

(in millions)	Contract Expiration	Minimum Purchase Amount at December 31, 2016							Total
		2017	2018	2019	2020	2021	Thereafter		
Duke Energy Progress <sup>(a)</sup>	2019-2031	\$ 66	\$ 67	\$ 67	\$ 50	\$ 51	\$ 267	\$ 568	
Duke Energy Florida <sup>(b)</sup>	2021-2043	341	357	377	394	376	1,211	3,056	
Duke Energy Ohio <sup>(c)(d)</sup>	2018	203	89	—	—	—	—	292	

(a) Contracts represent between 15 percent and 100 percent of net plant output.

(b) Contracts represent between 81 percent and 100 percent of net plant output.

(c) Contracts represent between 1 percent and 11 percent of net plant output.

(d) Excludes PPA with OVEC. See Note 17 for additional information.

#### Gas Supply and Capacity Contracts

Duke Energy and Duke Energy Ohio routinely enter into long-term gas supply commodity and capacity commitments and other agreements that commit future cash flows to acquire services needed in their businesses. These commitments include pipeline and storage capacity contracts and natural gas supply contracts to provide service to customers. Costs arising from the natural gas supply commodity and capacity commitments, while significant, are pass-through costs to customers and are generally fully recoverable through the fuel adjustment or PGA procedures and prudence reviews in North Carolina and South Carolina and under the Tennessee Incentive Plan in Tennessee. In the Midwest, these costs are recovered via the Gas Cost Recovery Rate in Ohio or the Gas Cost Adjustment Clause in Kentucky. The time periods for fixed payments under pipeline and storage capacity contracts are up to 19 years. The time periods for fixed payments under natural gas supply contracts are up to three years. The time period for the natural gas supply purchase commitments is up to 15 years.

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Certain storage and pipeline capacity contracts require the payment of demand charges that are based on rates approved by the FERC in order to maintain rights to access the natural gas storage or pipeline capacity on a firm basis during the contract term. The demand charges that are incurred in each period are recognized in the Consolidated Statements of Operations and Comprehensive Income as part of natural gas purchases and are included in Cost of natural gas.

The following table presents future unconditional purchase obligations under natural gas supply and capacity contracts as of December 31, 2016.

(in millions)	Duke Energy	Duke Energy Ohio
2017	\$ 371	\$ 52
2018	308	35
2019	286	26
2020	269	22
2021	267	22
Thereafter	1,595	7
Total	\$ 3,096	\$ 164

#### Operating and Capital Lease Commitments

The Duke Energy Registrants lease office buildings, railcars, vehicles, computer equipment and other property and equipment with various terms and expiration dates. Additionally, Duke Energy Progress has a capital lease related to firm gas pipeline transportation capacity. Duke Energy Progress and Duke Energy Florida have entered into certain purchased power agreements, which are classified as leases. Consolidated capitalized lease obligations are classified as Long-Term Debt or Other within Current Liabilities on the Consolidated Balance Sheets. Amortization of assets recorded under capital leases is included in Depreciation and amortization and Fuel used in electric generation on the Consolidated Statements of Operations.

The following table presents rental expense for operating leases. These amounts are included in Operation, maintenance and other on the Consolidated Statements of Operations.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Duke Energy	\$ 242	\$ 313	\$ 350
Duke Energy Carolinas	45	41	41
Progress Energy	140	230	257
Duke Energy Progress	68	149	161
Duke Energy Florida	72	81	96
Duke Energy Ohio	16	13	17
Duke Energy Indiana	23	20	21

The following table presents future minimum lease payments under operating leases, which at inception had a non-cancelable term of more than one year.

(in millions)	December 31, 2016						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	2017	\$ 218	\$ 41	\$ 129	\$ 75	\$ 54	\$ 12
2018	205	35	126	73	53	11	17
2019	181	27	120	68	52	7	11
2020	164	23	109	58	51	6	10
2021	134	17	91	43	48	4	6
Thereafter	948	52	602	379	223	7	9
Total	\$ 1,850	\$ 195	\$ 1,177	\$ 696	\$ 481	\$ 47	\$ 73

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The following table presents future minimum lease payments under capital leases.

(in millions)	December 31, 2016						
	Duke		Duke		Duke	Duke	Duke
	Duke Energy	Carolin as	Progre ss	Energy Progre ss	Energy Flori da	Energy Ohio	Energy Indi ana
2017	\$ 148	\$ 6	\$ 46	\$ 21	\$ 25	\$ 4	\$ 1
2018	154	6	46	21	25	3	2
2019	154	6	45	20	25	1	1
2020	159	5	46	22	25	—	1
2021	163	1	45	20	25	—	1
Thereafter	784	30	322	250	71	—	41
Minimum annual payments	1,562	54	550	354	196	8	47
Less: amount representing interest	(462)	(32)	(265)	(212)	(53)	(1)	(36)
Total	\$ 1,100	\$ 22	\$ 285	\$ 142	\$ 143	\$ 7	\$ 11

## 6. DEBT AND CREDIT FACILITIES

### Summary of Debt and Related Terms

The following tables summarize outstanding debt.

(in millions)	December 31, 2016							
	Weighted Average Interest Rate	Duke		Duke		Duke	Duke	Duke
		Duke Energy	Carolin as	Progre ss	Energy Progre ss	Energy Flori da	Energy Ohio	Energy Indi ana
Unsecured debt, maturing 2017 - 2073	4.30%	\$ 17,812	\$ 1,150	\$ 3,551	\$ —	\$ 150	\$ 810	\$ 415
Secured debt, maturing 2017 - 2037	2.60%	3,909	425	1,819	300	1,519	—	—
First mortgage bonds, maturing 2017 - 2046 <sup>(a)</sup>	4.61%	21,879	7,410	10,800	6,425	4,375	1,000	2,669
Capital leases, maturing 2018 - 2051 <sup>(b)</sup>	4.48%	1,100	22	285	142	143	7	11
Tax-exempt bonds, maturing 2017 - 2041 <sup>(c)</sup>	2.84%	1,053	355	48	48	—	77	572
Notes payable and commercial paper <sup>(d)</sup>	1.01%	3,112	—	—	—	—	—	—
Money pool/intercompany borrowings <sup>(e)</sup>		—	300	1,902	150	297	41	150
Fair value hedge carrying value adjustment		6	6	—	—	—	—	—
Unamortized debt discount and premium, net <sup>(f)</sup>		1,753	(20)	(31)	(16)	(10)	(28)	(9)
Unamortized debt issuance costs <sup>(g)</sup>		(242)	(45)	(104)	(38)	(52)	(7)	(22)
Total debt	4.07%	\$ 50,382	\$ 9,603	\$ 18,270	\$ 7,011	\$ 6,422	\$ 1,900	\$ 3,786
Short-term notes payable and commercial paper		(2,487)	—	—	—	—	—	—
Short-term money pool/intercompany borrowings		—	—	(729)	—	(297)	(16)	—
Current maturities of long-term debt <sup>(h)</sup>		(2,319)	(116)	(778)	(452)	(326)	(1)	(3)
Total long-term debt <sup>(h)</sup>		\$ 45,576	\$ 9,487	\$ 16,763	\$ 6,559	\$ 5,799	\$ 1,883	\$ 3,783

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- (a) Substantially all electric utility property is mortgaged under mortgage bond indentures.
- (b) Duke Energy includes \$98 million and \$670 million of capital lease purchase accounting adjustments related to Duke Energy Progress and Duke Energy Florida, respectively, related to power purchase agreements that are not accounted for as capital leases in their respective financial statements because of grandfathering provisions in GAAP.
- (c) Substantially all tax-exempt bonds are secured by first mortgage bonds or letters of credit.
- (d) Includes \$625 million that was classified as Long-Term Debt on the Consolidated Balance Sheets due to the existence of long-term credit facilities that backstop these commercial paper balances, along with Duke Energy's ability and intent to refinance these balances on a long-term basis. The weighted average days to maturity for Duke Energy and Piedmont's commercial paper programs were 14 days and eight days, respectively.
- (e) Progress Energy amount includes a \$1 billion intercompany loan related to the sale of the International Disposal Group. See Note 2 for further discussion of the sale.
- (f) Duke Energy includes \$1,653 million and \$197 million in purchase accounting adjustments related to Progress Energy and Piedmont, respectively.
- (g) Duke Energy includes \$53 million in purchase accounting adjustments primarily related to the merger with Progress Energy.
- (h) Refer to Note 17 for additional information on amounts from consolidated VIEs.

December 31, 2015									
(in millions)	Weighted								
	Average	Duke		Duke		Duke		Duke	
	Interest	Duke	Energy	Progress	Energy	Energy	Energy	Ohio	Duke
	Rate	Energy	Carolinas	Energy	Progress	Florida	Ohio	Indiana	Indiana
Unsecured debt, maturing 2016 - 2073	4.68%	\$ 12,960	\$ 1,152	\$ 3,850	\$ —	\$ 150	\$ 765	\$ 740	
Secured debt, maturing 2016 - 2037	2.37%	2,361	425	479	254	225	—	—	
First mortgage bonds, maturing 2016 - 2045 <sup>(a)</sup>	4.74%	18,980	6,161	9,750	5,975	3,775	750	2,319	
Capital leases, maturing 2016 - 2051 <sup>(b)</sup>	5.39%	1,335	24	300	144	156	13	14	
Tax-exempt bonds, maturing 2017 - 2041 <sup>(c)</sup>	2.59%	1,053	355	48	48	—	77	572	
Notes payable and commercial paper <sup>(d)</sup>	0.88%	4,258	—	—	—	—	—	—	
Money pool/intercompany borrowings		—	300	1,458	359	813	128	150	
Fair value hedge carrying value adjustment		6	6	—	—	—	—	—	
Unamortized debt discount and premium, net <sup>(e)</sup>		1,712	(17)	(28)	(16)	(8)	(28)	(8)	
Unamortized debt issuance costs <sup>(f)</sup>		(164)	(39)	(85)	(37)	(32)	(4)	(19)	
<b>Total debt</b>	<b>4.15%</b>	<b>\$ 42,501</b>	<b>\$ 8,367</b>	<b>\$ 15,772</b>	<b>\$ 6,727</b>	<b>\$ 5,079</b>	<b>\$ 1,701</b>	<b>\$ 3,768</b>	
Short-term notes payable and commercial paper		(3,633)	—	—	—	—	—	—	
Short-term money pool/intercompany borrowings		—	—	(1,308)	(209)	(813)	(103)	—	
Current maturities of long-term debt <sup>(g)</sup>		(2,026)	(356)	(315)	(2)	(13)	(106)	(547)	
<b>Total long-term debt<sup>(g)</sup></b>		<b>\$ 36,842</b>	<b>\$ 8,011</b>	<b>\$ 14,149</b>	<b>\$ 6,516</b>	<b>\$ 4,253</b>	<b>\$ 1,492</b>	<b>\$ 3,221</b>	

- (a) Substantially all electric utility property is mortgaged under mortgage bond indentures.
- (b) Duke Energy includes \$114 million and \$731 million of capital lease purchase accounting adjustments related to Duke Energy Progress and Duke Energy Florida, respectively, related to power purchase agreements that are not accounted for as capital leases in their respective financial statements because of grandfathering provisions in GAAP.
- (c) Substantially all tax-exempt bonds are secured by first mortgage bonds or letters of credit.
- (d) Includes \$625 million that was classified as Long-Term Debt on the Consolidated Balance Sheets due to the existence of long-term credit facilities that backstop these commercial paper balances, along with Duke Energy's ability and intent to refinance these balances on a long-term basis. The weighted average days to maturity for commercial paper was 15 days.
- (e) Duke Energy includes \$1,798 million in purchase accounting adjustments related to the merger with Progress Energy.
- (f) Duke Energy includes \$59 million in purchase accounting adjustments primarily related to the merger with Progress Energy.
- (g) Refer to Note 17 for additional information on amounts from consolidated VIEs.



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**Current Maturities of Long-Term Debt**

The following table shows the significant components of Current maturities of Long-Term Debt on the Consolidated Balance Sheets. The Duke Energy Registrants currently anticipate satisfying these obligations with cash on hand and proceeds from additional borrowings.

(in millions)	Maturity Date	Interest Rate	December 31, 2016
<b>Unsecured Debt</b>			
Duke Energy (Parent)	April 2017	1.226% \$	400
Duke Energy (Parent)	August 2017	1.625%	700
Piedmont Natural Gas	September 2017	8.510%	35
<b>First Mortgage Bonds</b>			
Duke Energy Progress	March 2017	1.146%	250
Duke Energy Florida	September 2017	5.800%	250
Duke Energy Progress	November 2017	1.111%	200
<b>Secured</b>			
Duke Energy	June 2017	2.365%	45
Duke Energy	June 2017	2.260%	34
<b>Tax-exempt Bonds</b>			
Duke Energy Carolinas	February 2017	3.600%	77
Duke Energy Carolinas	February 2017	0.810%	10
Duke Energy Carolinas	February 2017	0.790%	25
<b>Other<sup>(a)</sup></b>			
			293
Current maturities of long-term debt			\$ 2,319

(a) Includes capital lease obligations, amortizing debt and small bullet maturities.

**Maturities and Call Options**

The following table shows the annual maturities of long-term debt for the next five years and thereafter. Amounts presented exclude short-term notes payable and commercial paper and money pool borrowings for the Subsidiary Registrants.

(in millions)	December 31, 2016						
	Duke Energy <sup>(a)</sup>	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	2017	\$ 2,319	\$ 116	\$ 778	\$ 452	\$ 326	\$ 1
2018	3,466	1,629	559	—	561	3	3
2019	3,316	5	1,992	902	292	551	63
2020	2,112	755	469	152	319	25	653
2021	3,699	501	1,473	602	372	49	70
Thereafter	31,090	6,597	12,270	4,903	4,255	1,255	2,994
Total long-term debt, including current maturities	\$ 46,002	\$ 9,603	\$ 17,541	\$ 7,011	\$ 6,125	\$ 1,884	\$ 3,786

(a) Excludes \$1,893 million in purchase accounting adjustments related to the Progress Energy merger and the Piedmont acquisition.

The Duke Energy Registrants have the ability under certain debt facilities to call and repay the obligation prior to its scheduled maturity. Therefore, the actual timing of future cash repayments could be materially different than as presented above.

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**Short-Term Obligations Classified as Long-Term Debt**

Tax-exempt bonds that may be put to the Duke Energy Registrants at the option of the holder and certain commercial paper issuances and money pool borrowings are classified as Long-Term Debt on the Consolidated Balance Sheets. These tax-exempt bonds, commercial paper issuances and money pool borrowings, which are short-term obligations by nature, are classified as long term due to Duke Energy's intent and ability to utilize such borrowings as long-term financing. As Duke Energy's Master Credit Facility and other bilateral letter of credit agreements have non-cancelable terms in excess of one year as of the balance sheet date, Duke Energy has the ability to refinance these short-term obligations on a long-term basis. The following tables show short-term obligations classified as long-term debt.

(in millions)	December 31, 2016				
	Duke	Duke	Duke	Duke	Duke
	Energy	Energy Carolinas	Energy Progress	Energy Ohio	Energy Indiana
Tax-exempt bonds	\$ 347	\$ 35	\$ —	\$ 27	\$ 285
Commercial paper <sup>(a)</sup>	625	300	150	25	150
<b>Total</b>	<b>\$ 972</b>	<b>\$ 335</b>	<b>\$ 150</b>	<b>\$ 52</b>	<b>\$ 435</b>

(in millions)	December 31, 2015				
	Duke	Duke	Duke	Duke	Duke
	Energy	Energy Carolinas	Energy Progress	Energy Ohio	Energy Indiana
Tax-exempt bonds	\$ 347	\$ 35	\$ —	\$ 27	\$ 285
Commercial paper <sup>(a)</sup>	625	300	150	25	150
<b>Total</b>	<b>\$ 972</b>	<b>\$ 335</b>	<b>\$ 150</b>	<b>\$ 52</b>	<b>\$ 435</b>

(a) Progress Energy amounts are equal to Duke Energy Progress amounts.

**Summary of Significant Debt Issuances**

***Piedmont Acquisition Financing***

In August 2016, Duke Energy issued \$3.75 billion of senior unsecured notes in three separate series. The net proceeds were used to finance a portion of the Piedmont acquisition. The \$4.9 billion Bridge Facility was terminated following the issuance of this debt. See Note 2 for additional information on the Piedmont acquisition.

***Nuclear Asset-Recovery Bonds***

In June 2016, DEFPF issued \$1,294 million of nuclear asset-recovery bonds and used the proceeds to acquire nuclear asset-recovery property from its parent, Duke Energy Florida. The nuclear asset-recovery bonds are payable only from and secured by the nuclear asset-recovery property. DEFPF is consolidated for financial reporting purposes; however, the nuclear asset-recovery bonds do not constitute a debt, liability or other legal obligation of, or interest in, Duke Energy Florida or any of its affiliates other than DEFPF. The assets of DEFPF, including the nuclear asset-recovery property, are not available to pay creditors of Duke Energy Florida or any of its affiliates. Duke Energy Florida used the proceeds from the sale to repay short-term borrowings under the intercompany money pool borrowing arrangement and make an equity distribution of \$649 million to the ultimate parent, Duke Energy (Parent), which repaid short-term borrowings. See Notes 4 and 17 for additional information.

***Solar Facilities Financing***

In August 2016, Emerald State Solar, LLC, an indirect wholly owned subsidiary of Duke Energy, entered into a \$333 million portfolio financing of approximately 22 North Carolina Solar facilities. Tranche A of \$228 million is secured by substantially all the assets of the solar facilities and is nonrecourse to Duke Energy. Tranche B of \$105 million is secured by an Equity Contribution Agreement with Duke Energy. Proceeds were used to reimburse Duke Energy for a portion of previously funded construction expenditures related to the Emerald State Solar, LLC portfolio. The initial interest rate on the loans was six months London Interbank Offered Rate (LIBOR) plus an applicable margin of 1.75 percent plus a 0.125 percent increase every three years thereafter. In connection with this debt issuance, Emerald State Solar, LLC entered into two interest rate swaps to convert the substantial majority of the loan interest payments from variable rates to fixed rates of approximately 1.81 percent for Tranche A and 1.38 percent for Tranche B, plus the applicable margin. See Note 14 for further information on the notional amounts of the interest rate swaps.

***Duke Energy Florida Bond Issuance***

In January 2017, Duke Energy Florida issued \$900 million of first mortgage bonds. The issuance was split between a \$250 million, three-year series and a \$650 million, 10-year series. The net proceeds from the issuance were used to repay at maturity \$250 million aggregate principal amount of bonds due September 2017, as well as to fund capital expenditures for ongoing construction and capital maintenance and for general corporate purposes.

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The following tables summarize significant debt issuances (in millions).

Issuance Date	Maturity Date	Interest Rate	Year Ended December 31, 2016						
			Duke Energy	Duke Energy (Parent)	Duke Energy Carolinas	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
<b>Unsecured Debt</b>									
April 2016 <sup>(a)</sup>	April 2023	2.875%	\$ 350	\$ 350	\$ —	\$ —	\$ —	\$ —	\$ —
August 2016	September 2021	1.800%	750	750	—	—	—	—	—
August 2016	September 2026	2.650%	1,500	1,500	—	—	—	—	—
August 2016	September 2046	3.750%	1,500	1,500	—	—	—	—	—
<b>Secured Debt</b>									
June 2016 <sup>(b)</sup>	March 2020	1.196%	183	—	—	—	183	—	—
June 2016 <sup>(b)</sup>	September 2022	1.731%	150	—	—	—	150	—	—
June 2016 <sup>(b)</sup>	September 2029	2.538%	436	—	—	—	436	—	—
June 2016 <sup>(b)</sup>	March 2033	2.858%	250	—	—	—	250	—	—
June 2016 <sup>(b)</sup>	September 2036	3.112%	275	—	—	—	275	—	—
August 2016	June 2034	2.747%	228	—	—	—	—	—	—
August 2016	June 2020	2.747%	105	—	—	—	—	—	—
<b>First Mortgage Bonds</b>									
March 2016 <sup>(c)</sup>	March 2023	2.500%	500	—	500	—	—	—	—
March 2016 <sup>(c)</sup>	March 2046	3.875%	500	—	500	—	—	—	—
May 2016 <sup>(d)</sup>	May 2046	3.750%	500	—	—	—	—	—	500
June 2016 <sup>(c)</sup>	June 2046	3.700%	250	—	—	—	—	250	—
September 2016 <sup>(e)</sup>	October 2046	3.400%	600	—	—	—	600	—	—
September 2016 <sup>(c)</sup>	October 2046	3.700%	450	—	—	450	—	—	—
November 2016 <sup>(f)</sup>	December 2026	2.950%	600	—	600	—	—	—	—
Total issuances			\$ 9,127	\$ 4,100	\$ 1,600	\$ 450	\$ 1,894	\$ 250	\$ 500

- (a) Proceeds were used to pay down outstanding commercial paper and for general corporate purposes.
- (b) The nuclear asset recovery bonds are sequential pay amortizing bonds. The maturity date above represents the scheduled final maturity date for the bonds.
- (c) Proceeds were used to fund capital expenditures for ongoing construction, capital maintenance and for general corporate purposes.
- (d) Proceeds were used to repay \$325 million of unsecured debt due June 2016, \$150 million of first mortgage bonds due July 2016 and for general corporate purposes.
- (e) Proceeds were used to fund capital expenditures for ongoing construction, capital maintenance, to repay short-term borrowings under the intercompany money pool borrowing arrangement and for general corporate purposes.
- (f) Proceeds were used to repay at maturity \$350 million aggregate principal amount of certain bonds due December 2016, as well as to fund capital expenditures for ongoing construction and capital maintenance and for general corporate purposes.

Issuance Date	Maturity Date	Interest Rate	Year Ended December 31, 2015			
			Duke Energy	Duke Energy (Parent)	Duke Energy Carolinas	Duke Energy Progress
<b>Unsecured Debt</b>						
November 2015 <sup>(a)(b)</sup>	April 2024	3.750%	\$ 400	\$ 400	\$ —	\$ —
November 2015 <sup>(a)(b)</sup>	December 2045	4.800%	600	600	—	—
<b>First Mortgage Bonds</b>						
March 2015 <sup>(c)</sup>	June 2045	3.750%	500	—	500	—
August 2015 <sup>(a)(d)</sup>	August 2025	3.250%	500	—	—	500
August 2015 <sup>(a)(d)</sup>	August 2045	4.200%	700	—	—	700
Total issuances			\$ 2,700	\$ 1,000	\$ 500	\$ 1,200

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- (a) Proceeds were used to repay short-term money pool and commercial paper borrowing issued to fund a portion of the NCEMPA acquisition, see Note 2 for further information.
- (b) Proceeds were used to refinance at maturity \$300 million of unsecured notes at Progress Energy due January 2016.
- (c) Proceeds were used to redeem at maturity \$500 million of first mortgage bonds due October 2015.
- (d) Proceeds were used to refinance at maturity \$400 million of first mortgage bonds due December 2015.

#### Available Credit Facilities

Duke Energy has a Master Credit Facility with a capacity of \$7.5 billion through January 2020. The Duke Energy Registrants, excluding Progress Energy (Parent) and Piedmont, have borrowing capacity under the Master Credit Facility up to specified sublimits for each borrower. Duke Energy has the unilateral ability at any time to increase or decrease the borrowing sublimits of each borrower, subject to a maximum sublimit for each borrower. The amount available under the Master Credit Facility has been reduced to backstop issuances of commercial paper, certain letters of credit and variable-rate demand tax-exempt bonds that may be put to the Duke Energy Registrants at the option of the holder. Duke Energy Carolinas and Duke Energy Progress are also required to each maintain \$250 million of available capacity under the Master Credit Facility as security to meet obligations under plea agreements reached with the U.S. Department of Justice in 2015 related to violations at North Carolina facilities with ash basins.

Piedmont has a separate five-year revolving syndicated credit facility, with a capacity of \$850 million through December 2020 and an expansion option of up to an additional \$200 million. The facility provides a line of credit for letters of credit of \$10 million.

The table below includes the current borrowing sublimits and available capacity under these credit facilities.

(in millions)	December 31, 2016						
	Duke Energy <sup>(a)</sup>	Duke Energy (Parent)	Duke Energy Carolinas	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
Facility size <sup>(b)</sup>	\$ 8,350	\$ 3,400	\$ 1,100	\$ 1,000	\$ 950	\$ 450	\$ 600
Reduction to backstop issuances							
Commercial paper <sup>(c)</sup>	(2,022)	(977)	(300)	(150)	(84)	(31)	(150)
Outstanding letters of credit	(78)	(69)	(4)	(2)	(1)	—	—
Tax-exempt bonds	(116)	—	(35)	—	—	—	(81)
Coal ash set-aside	(500)	—	(250)	(250)	—	—	—
Available capacity	\$ 5,634	\$ 2,354	\$ 511	\$ 598	\$ 865	\$ 419	\$ 369

- (a) Includes amounts related to Piedmont's \$850 million credit facility.
- (b) Represents the sublimit of each borrower.
- (c) Duke Energy issued \$625 million of commercial paper and loaned the proceeds through the money pool to Duke Energy Carolinas, Duke Energy Progress, Duke Energy Ohio and Duke Energy Indiana. The balances are classified as Long-Term Debt Payable to Affiliated Companies in the Consolidated Balance Sheets.

#### Term Loan Facility

In 2016, Duke Energy (Parent) entered into a \$1.5 billion term loan facility, as amended (Term Loan) maturing on July 31, 2017. During 2016, Duke Energy (Parent) drew the full amount available under the Term Loan and used \$750 million of proceeds to fund a portion of the Piedmont acquisition and the remaining \$750 million to manage short-term liquidity and for general corporate purposes. The terms and conditions of the Term Loan are generally consistent with those governing Duke Energy's Master Credit Facility. In December 2016, Duke Energy (Parent) repaid the \$1.5 billion term loan which terminated this credit facility.

#### Other Debt Matters

In September 2016, Duke Energy filed a Registration statement (Form S-3) with the SEC. Under this Form S-3, which is uncapped, the Duke Energy Registrants, excluding Progress Energy, may issue debt and other securities in the future at amounts, prices and with terms to be determined at the time of future offerings. The registration statement was filed to replace a similar prior filing upon expiration of its three-year term and also allows for the issuance of common stock by Duke Energy.

Duke Energy has an effective Form S-3 with the SEC to sell up to \$3 billion of variable denomination floating-rate demand notes, called PremierNotes. The Form S-3 states that no more than \$1.5 billion of the notes will be outstanding at any particular time. The notes are offered on a continuous basis and bear interest at a floating rate per annum determined by the Duke Energy PremierNotes Committee, or its designee, on a weekly basis. The interest rate payable on notes held by an investor may vary based on the principal amount of the investment. The notes have no stated maturity date, are non-transferable and may be redeemed in whole or in part by Duke Energy or at the investor's option at any time. The balance as of December 31, 2016 and 2015 was \$1,090 million and \$1,121 million, respectively. The notes are short-term debt obligations of Duke Energy and are reflected as Notes payable and commercial paper on Duke Energy's Consolidated Balance Sheets.

In January 2017, Duke Energy amended its Form S-3 to add Piedmont as a registrant and included in the amendment a prospectus for Piedmont under which it may issue debt securities in the same manner as other Duke Energy Registrants.

Duke Energy guaranteed debt issued by Duke Energy Carolinas of \$762 million and \$767 million, respectively, as of December 31, 2016 and 2015.

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**Money Pool**

The Subsidiary Registrants, excluding Progress Energy, are eligible to receive support for their short-term borrowing needs through participation with Duke Energy and certain of its subsidiaries in a money pool arrangement. Under this arrangement, those companies with short-term funds may provide short-term loans to affiliates participating in this arrangement. The money pool is structured such that the Subsidiary Registrants, excluding Progress Energy, separately manage their cash needs and working capital requirements. Accordingly, there is no net settlement of receivables and payables between money pool participants. Duke Energy (Parent), may loan funds to its participating subsidiaries, but may not borrow funds through the money pool. Accordingly, as the money pool activity is between Duke Energy and its wholly owned subsidiaries, all money pool balances are eliminated within Duke Energy's Consolidated Balance Sheets.

Money pool receivable balances are reflected within Notes receivable from affiliated companies on the Subsidiary Registrants' Consolidated Balance Sheets. Money pool payable balances are reflected within either Notes payable to affiliated companies or Long-Term Debt Payable to Affiliated Companies on the Subsidiary Registrants' Consolidated Balance Sheets.

**Restrictive Debt Covenants**

The Duke Energy Registrants' debt and credit agreements contain various financial and other covenants. Duke Energy's Master Credit Facility contains a covenant requiring the debt-to-total capitalization ratio not to exceed 65 percent for each borrower. Piedmont's credit facility contains a debt-to-total capitalization ratio covenant not to exceed 70 percent. Failure to meet those covenants beyond applicable grace periods could result in accelerated due dates and/or termination of the agreements. As of December 31, 2016, each of the Duke Energy Registrants were in compliance with all covenants related to their debt agreements. In addition, some credit agreements may allow for acceleration of payments or termination of the agreements due to nonpayment, or acceleration of other significant indebtedness of the borrower or some of its subsidiaries. None of the debt or credit agreements contain material adverse change clauses.

**Other Loans**

As of December 31, 2016 and 2015, Duke Energy had loans outstanding of \$661 million, including \$39 million at Duke Energy Progress and \$629 million, including \$41 million at Duke Energy Progress, respectively, against the cash surrender value of life insurance policies it owns on the lives of its executives. The amounts outstanding were carried as a reduction of the related cash surrender value that is included in Other within Investments and Other Assets on the Consolidated Balance Sheets.

**7. GUARANTEES AND INDEMNIFICATIONS**

Duke Energy and Progress Energy have various financial and performance guarantees and indemnifications, which are issued in the normal course of business. As discussed below, these contracts include performance guarantees, stand-by letters of credit, debt guarantees, surety bonds and indemnifications. Duke Energy and Progress Energy enter into these arrangements to facilitate commercial transactions with third parties by enhancing the value of the transaction to the third party. At December 31, 2016, Duke Energy and Progress Energy do not believe conditions are likely for significant performance under these guarantees. To the extent liabilities are incurred as a result of the activities covered by the guarantees, such liabilities are included on the accompanying Consolidated Balance Sheets.

On January 2, 2007, Duke Energy completed the spin-off of its natural gas businesses to shareholders. Guarantees issued by Duke Energy or its affiliates, or assigned to Duke Energy prior to the spin-off, remained with Duke Energy subsequent to the spin-off. Guarantees issued by Spectra Energy Capital, LLC (Spectra Capital) or its affiliates prior to the spin-off remained with Spectra Capital subsequent to the spin-off, except for guarantees that were later assigned to Duke Energy. Duke Energy has indemnified Spectra Capital against any losses incurred under certain of the guarantee obligations that remain with Spectra Capital. At December 31, 2016, the maximum potential amount of future payments associated with these guarantees was \$205 million, the majority of which expires by 2028.

Duke Energy has issued performance guarantees to customers and other third parties that guarantee the payment and performance of other parties, including certain non-wholly owned entities, as well as guarantees of debt of certain non-consolidated entities and less than wholly owned consolidated entities. If such entities were to default on payments or performance, Duke Energy would be required under the guarantees to make payments on the obligations of the less than wholly owned entity. The maximum potential amount of future payments required under these guarantees as of December 31, 2016, was \$333 million. Of this amount, \$11 million relates to guarantees issued on behalf of less than wholly owned consolidated entities, with the remainder related to guarantees issued on behalf of third parties and unconsolidated affiliates of Duke Energy. Of the guarantees noted above, \$215 million of the guarantees expire between 2017 and 2033, with the remaining performance guarantees having no contractual expiration.

Duke Energy has guaranteed certain issuers of surety bonds, obligating itself to make payment upon the failure of a wholly owned and former non-wholly owned entity to honor its obligations to a third party. Under these arrangements, Duke Energy has payment obligations that are triggered by a draw by the third party or customer due to the failure of the wholly owned or former non-wholly owned entity to perform according to the terms of its underlying contract. At December 31, 2016, Duke Energy had guaranteed \$44 million of outstanding surety bonds, most of which have no set expiration.

Duke Energy uses bank-issued stand-by letters of credit to secure the performance of wholly owned and non-wholly owned entities to a third party or customer. Under these arrangements, Duke Energy has payment obligations to the issuing bank which are triggered by a draw by the third party or customer due to the failure of the wholly owned or non-wholly owned entity to perform according to the terms of its underlying contract. At December 31, 2016, Duke Energy had issued a total of \$485 million in letters of credit, which expire between 2017 and 2020. The unused amount under these letters of credit was \$77 million.

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Duke Energy and Progress Energy have issued indemnifications for certain asset performance, legal, tax and environmental matters to third parties, including indemnifications made in connection with sales of businesses. At December 31, 2016, the estimated maximum exposure for these indemnifications was \$96 million, the majority of which expires in 2017. Of this amount, \$7 million has no contractual expiration. For certain matters for which Progress Energy receives timely notice, indemnity obligations may extend beyond the notice period. Certain indemnifications related to discontinued operations have no limitations as to time or maximum potential future payments.

The following table includes the liabilities recognized for the guarantees discussed above. These amounts are primarily recorded in Other within Deferred Credits and other Liabilities on the Consolidated Balance Sheets. As current estimates change, additional losses related to guarantees and indemnifications to third parties, which could be material, may be recorded by the Duke Energy Registrants in the future.

(in millions)	December 31,	
	2016	2015
Duke Energy	\$ 13	\$ 21
Progress Energy	—	7
Duke Energy Florida	—	7

## 8. JOINT OWNERSHIP OF GENERATING AND TRANSMISSION FACILITIES

The Duke Energy Registrants maintain ownership interests in certain jointly owned generating and transmission facilities. The Duke Energy Registrants are entitled to a share of the generating capacity and output of each unit equal to their respective ownership interests. The Duke Energy Registrants pay their ownership share of additional construction costs, fuel inventory purchases and operating expenses. The Duke Energy Registrants share of revenues and operating costs of the jointly owned facilities is included within the corresponding line in the Consolidated Statements of Operations. Each participant in the jointly owned facilities must provide its own financing.

The following table presents the Duke Energy Registrants' interest of jointly owned plant or facilities and amounts included on the Consolidated Balance Sheets. All facilities are operated by the Duke Energy Registrants and are included in the Electric Utilities and Infrastructure segment.

(in millions except for ownership interest)	December 31, 2016			
	Ownership Interest	Property, Plant and Equipment	Accumulated Depreciation	Construction Work in Progress
Duke Energy Carolinas				
Catawba Nuclear Station (units 1 and 2) <sup>(a)</sup>	19.25%	\$ 954	\$ 612	\$ 12
Duke Energy Ohio				
Transmission facilities <sup>(b)</sup>	Various	90	60	1
Duke Energy Indiana				
Gibson Station (unit 5) <sup>(c)</sup>	50.05%	333	157	11
Vermillion Generating Station <sup>(d)</sup>	62.5%	154	111	—
Transmission and local facilities <sup>(c)</sup>	Various	4,315	1,715	—

- (a) Jointly owned with North Carolina Municipal Power Agency Number 1, NCEMC and Piedmont Municipal Power Agency.  
(b) Jointly owned with America Electric Power Generation Resources and The Dayton Power and Light Company.  
(c) Jointly owned with Wabash Valley Power Association, Inc. (WVPA) and Indiana Municipal Power Agency.  
(d) Jointly owned with WVPA.

On August 31, 2016, Duke Energy Florida completed the purchase of Georgia Power Company's (GPC) ownership interest in Intercession City Station Unit 11 for an amount equal to GPC's net book value of the facility as of the transaction close date. Following the purchase, Duke Energy Florida controls the entire output of the facility.

At December 31, 2016, Duke Energy Florida owns 100 percent of the retired Crystal River Unit 3. Duke Energy Florida completed the purchase of 1.7 percent ownership interest from Seminole Electric Cooperative, Inc. on November 30, 2016. On October 30, 2015, Duke Energy Florida completed the purchase of 6.52 percent ownership interest from the Florida Municipal Joint Owners and settled other disputes for \$55 million. All costs associated with Crystal River Unit 3 are included within Regulatory assets on the Consolidated Balance Sheets of Duke Energy, Progress Energy and Duke Energy Florida. See Note 4 for additional information.

## 9. ASSET RETIREMENT OBLIGATIONS

Duke Energy records an ARO when it has a legal obligation to incur retirement costs associated with the retirement of a long-lived asset and the obligation can be reasonably estimated. Certain assets of the Duke Energy Registrants' have an indeterminate life, such as transmission and distribution facilities, and thus the fair value of the retirement obligation is not reasonably estimable. A liability for these AROs will be recorded when a fair value is determinable.

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The Duke Energy Registrants' regulated operations accrue costs of removal for property that does not have an associated legal retirement obligation based on regulatory orders from state commissions. These costs of removal are recorded as a regulatory liability in accordance with regulatory accounting treatment. The Duke Energy Registrants do not accrue the estimated cost of removal for any nonregulated assets. See Note 4 for the estimated cost of removal for assets without an associated legal retirement obligation, which are included in Regulatory liabilities on the Consolidated Balance Sheets.

The following table presents the AROs recorded on the Consolidated Balance Sheets.

(in millions)	December 31, 2016						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
Decommissioning of Nuclear Power Facilities <sup>(a)</sup>	\$ 5,204	\$ 1,834	\$ 3,172	\$ 2,454	\$ 717	\$ —	\$ —
Closure of Ash Impoundments	5,150	2,032	2,228	2,209	19	43	847
Other <sup>(b)</sup>	257	29	75	34	42	34	19
Total asset retirement obligation	\$ 10,611	\$ 3,895	\$ 5,475	\$ 4,697	\$ 778	\$ 77	\$ 866
Less: current portion	411	222	189	189	—	—	—
Total noncurrent asset retirement obligation	\$ 10,200	\$ 3,673	\$ 5,286	\$ 4,508	\$ 778	\$ 77	\$ 866

(a) The Duke Energy amount includes purchase accounting adjustments related to the merger with Progress Energy.

(b) Primarily includes obligations related to asbestos removal and the closure of certain landfills at fossil generation facilities. Duke Energy Ohio also includes AROs related to the retirement of natural gas mains and services. Duke Energy includes AROs related to the removal of renewable energy generation assets and Piedmont's underground natural gas mains and services.

#### North Carolina Ash Basins

AROs recorded on the Duke Energy Carolinas and Duke Energy Progress Consolidated Balance Sheets include the legal obligation for closure of coal ash basins and the disposal of related ash as a result of the Coal Ash Act, the EPA CCR rule and other agreements.

In 2014 the Coal Ash Act became law and was amended on June 24, 2015, and July 14, 2016. The Coal Ash Act, as amended,

- Prohibits construction of new and expansion of existing ash impoundments and use of existing impoundments at retired facilities;
- Requires ash impoundments in North Carolina to be categorized as high risk, intermediate risk or low risk by the NCDEQ with the method of closure and timing to be based upon the assigned risk, with closure no later than December 31, 2029 (see below for category descriptions);
- Classifies Duke Energy Progress' Asheville and Sutton plants and Duke Energy Carolinas' Riverbend and Dan River stations as high risk;
- Requires dry disposal of fly ash at active plants, excluding the Asheville Plant, not retired by December 31, 2018;
- Requires dry disposal of bottom ash at active plants, excluding the Asheville Plant, by December 31, 2019, or retirement of active plants;
- Establishes requirements to deal with groundwater and surface water impacts from impoundments; and
- Increases the level of regulation for structural fills utilizing coal ash.

**High risk** basins (Asheville, Sutton, Riverbend and Dan River) require closure through excavation, including a combination of transferring the ash to an appropriate engineered landfill or conversion of the ash for beneficial use. Closure of high risk basins is required to be completed no later than August 1, 2019, except for Asheville which is required to be completed no later than August 1, 2022.

**Intermediate risk** basins require closure through excavation including a combination of converting the basin to a lined industrial landfill, transferring of the ash to an appropriate engineered landfill or conversion of the ash for beneficial use. Closure of intermediate risk basins is required to be completed no later than December 31, 2024, except for H.F. Lee, Cape Fear and Weatherspoon to be completed no later than August 1, 2028.

**Low risk** basins require closure through either the combination of the installation and maintenance of a cap system and groundwater monitoring system designed to minimize infiltration and erosion or other closure options available to intermediate risk basins. Closure of low risk basins is required to be completed no later than December 31, 2029.

In January 2016, the NCDEQ published draft risk classifications for sites not specifically delineated by the Coal Ash Act as high risk. These risk rankings were generally determined based on three primary criteria: structural integrity of the impoundments and impacts to surface water and to groundwater. The NCDEQ's draft proposed classifications categorized 12 basins at four sites as intermediate risk and four basins at three sites as low risk. The NCDEQ's draft proposed classifications also categorized nine basins at six sites as "low-to-intermediate" risk, thereby not assigning a definitive risk ranking at that time. On May 18, 2016, the NCDEQ issued new proposed risk classifications, proposing to rank all originally proposed low risk and "low-to-intermediate" risk sites as intermediate.



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On July 14, 2016, the former governor of North Carolina signed legislation which amended the Coal Ash Act and required Duke Energy to undertake dam improvement projects and to provide access to a permanent alternative drinking water source to certain residents within a half mile of coal ash basin compliance boundaries and to certain other potentially impacted residents. The new legislation also ranks basins at the H.F. Lee, Cape Fear and Weatherspoon stations as intermediate risk consistent with Duke Energy's previously announced plans to excavate those basins. These specific intermediate basins require closure through excavation including a combination of transferring ash to an appropriate engineered landfill or conversion of the ash for beneficial use. Closure of these specific intermediate basins is required to be completed no later than August 1, 2028. Upon satisfactory completion of the dam improvement projects and installation of alternative drinking water sources by October 15, 2018, the legislation requires the NCDEQ to reclassify sites proposed as intermediate risk, excluding H.F. Lee, Cape Fear and Weatherspoon, as low risk. In January 2017, NCDEQ issued preliminary approval of Duke Energy's plans for the alternative water sources.

Per the Coal Ash Act, final proposed classifications were to be subject to Coal Ash Management Commission (Coal Ash Commission) approval. In March 2016, the Coal Ash Commission created by the Coal Ash Act was disbanded by the former governor of North Carolina based on a North Carolina Supreme Court ruling regarding the constitutionality of the body. The July 2016 legislation eliminates the Coal Ash Commission and transfers responsibility for ash basin closure oversight to the NCDEQ.

Additionally, the July 2016 legislation requires the installation and operation of three large-scale coal ash beneficiation projects which are expected to produce reprocessed ash for use in the concrete industry. Closure of basins at sites with these beneficiation projects are required to be completed no later than December 31, 2029. On October 5, 2016, Duke Energy announced Buck Steam Station as a first location for one of the beneficiation projects. On December 13, 2016, Duke Energy announced H.F. Lee as the second location. Duke Energy intends to announce the third location by July 1, 2017.

The Coal Ash Act includes a variance procedure for compliance deadlines and other issues surrounding the management of CCR and CCR surface impoundments. Provisions of the Coal Ash Act prohibit cost recovery in customer rates for unlawful discharge of ash impoundment waters occurring after January 1, 2014. The Coal Ash Act leaves the decision on cost recovery determinations related to closure of ash impoundments to the normal ratemaking processes before utility regulatory commissions. Consistent with the requirements of the Coal Ash Act, Duke Energy has submitted CSAs and groundwater corrective action plans to NCDEQ and will submit to NCDEQ site-specific coal ash impoundment closure plans in advance of closure. These plans and all associated permits must be approved by NCDEQ before any closure work can begin.

#### **Federal Coal Combustion Residuals Regulation**

In April 2015, the EPA published a rule to regulate the disposal of CCR from electric utilities as solid waste. The federal regulation classifies CCR as nonhazardous waste and allows for beneficial use of CCR with some restrictions. The regulation applies to all new and existing landfills, new and existing surface impoundments receiving CCR and existing surface impoundments that are no longer receiving CCR but contain liquid located at stations currently generating electricity (regardless of fuel source). The rule establishes requirements regarding landfill design, structural integrity design and assessment criteria for surface impoundments, groundwater monitoring and protection procedures and other operational and reporting procedures to ensure the safe disposal and management of CCR. As a result of the EPA rule, Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Ohio and Duke Energy Indiana recorded additional ARO amounts during 2015.

In addition to the requirements of the federal CCR regulation, CCR landfills and surface impoundments will continue to be independently regulated by most states.

In September 2014, Duke Energy Carolinas executed a consent agreement with the South Carolina Department of Health and Environmental Control (SCDHEC) requiring the excavation of an inactive ash basin and ash fill area at the W.S. Lee Steam Station. As part of this agreement, in December 2014, Duke Energy Carolinas filed an ash removal plan and schedule with SCDHEC. In April 2015, the federal CCR rules were published and Duke Energy Carolinas subsequently executed an agreement with the conservation groups Upstate Forever and Save Our Saluda that requires Duke Energy Carolinas to remediate all active and inactive ash storage areas at the W.S. Lee Steam Station. Coal-fired generation at W.S. Lee ceased in 2014 and unit 3 was converted to natural gas in March 2015. In July 2015, Duke Energy Progress executed a consent agreement with the SCDHEC requiring the excavation of an inactive ash fill area at the Robinson Plant within eight years. Coal ash impoundments at the Robinson Plant and W.S. Lee Station sites are required to be closed pursuant to the CCR rule and the provisions of these consent agreements are consistent with the federal CCR closure requirements.

#### **Coal Ash Liability**

The ARO amount recorded on the Consolidated Balance Sheets is based upon estimated closure costs for impacted ash impoundments. The amount recorded represents the discounted cash flows for estimated closure costs based upon either specific closure plans or the probability weightings of the potential closure methods as evaluated on a site-by-site basis. Actual costs to be incurred will be dependent upon factors that vary from site to site. The most significant factors are the method and time frame of closure at the individual sites. Closure methods considered include removing the water from the basins, consolidating material as necessary and capping the ash with a synthetic barrier, excavating and relocating the ash to a lined structural fill or lined landfill, or recycling the ash for concrete or some other beneficial use. The ultimate method and timetable for closure will be in compliance with standards set by federal and state regulations. The ARO amount will be adjusted as additional information is gained through the closure and post-closure process, including acceptance and approval of compliance approaches which may change management assumptions, and may result in a material change to the balance. See ARO Liability Rollforward section below for information about revisions made to the coal ash liability during 2016.

Asset retirement costs associated with the AROs for operating plants and retired plants are included in Net property, plant and equipment and Regulatory assets, respectively, on the Consolidated Balance Sheets. See Note 4 for additional information on Regulatory assets related to AROs.

Cost recovery for future expenditures will be pursued through the normal ratemaking process with federal and state utility commissions, which permit recovery of necessary and prudently incurred costs associated with Duke Energy's regulated operations.



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**Nuclear Decommissioning Liability**

AROs related to nuclear decommissioning are based on site-specific cost studies. The NCUC, PSCSC and FPSC require updated cost estimates for decommissioning nuclear plants every five years.

The following table summarizes information about the most recent site-specific nuclear decommissioning cost studies. Decommissioning costs in the table below are presented in dollars of the year of the cost study and include costs to decommission plant components not subject to radioactive contamination.

(in millions)	Annual Funding Requirement <sup>(a)</sup>	Decommissioning Costs <sup>(a)(b)</sup>	Year of Cost Study
Duke Energy	\$ 14	\$ 8,150	2013 and 2014
Duke Energy Carolinas	—	3,420	2013
Duke Energy Progress	14	3,550	2014
Duke Energy Florida	—	1,180	2013

(a) Amounts for Progress Energy equal the sum of Duke Energy Progress and Duke Energy Florida.

(b) Amounts include the Subsidiary Registrant's ownership interest in jointly owned reactors. Other joint owners are responsible for decommissioning costs related to their interest in the reactors.

**Nuclear Decommissioning Trust Funds**

Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida each maintain NDTFs that are intended to pay for the decommissioning costs of the respective nuclear power plants. The NDTF investments are managed and invested in accordance with applicable requirements of various regulatory bodies including the NRC, FERC, NCUC, PSCSC, FPSC and the Internal Revenue Service (IRS).

Use of the NDTF investments is restricted to nuclear decommissioning activities including license termination, spent fuel and site restoration. The license termination and spent fuel obligations relate to contaminated decommissioning and are recorded as AROs. The site restoration obligation relates to non-contaminated decommissioning and is recorded to cost of removal within Regulatory liabilities on the Consolidated Balance Sheets.

The following table presents the fair value of NDTF assets legally restricted for purposes of settling AROs associated with nuclear decommissioning. Duke Energy Florida is actively decommissioning Crystal River Unit 3 and was granted an exemption from the NRC which allows for use of the NDTF for all aspects of nuclear decommissioning. Therefore, the entire balance of Duke Energy Florida's NDTF may be applied toward license termination, spent fuel and site restoration costs incurred to decommission Crystal River Unit 3.

(in millions)	December 31,	
	2016	2015
Duke Energy	\$ 5,099	\$ 4,670
Duke Energy Carolinas	2,882	2,686
Duke Energy Progress	2,217	1,984

See Note 16 for additional information related to the fair value of the Duke Energy Registrants' NDTFs.

**Nuclear Operating Licenses**

Operating licenses for nuclear units are potentially subject to extension. The following table includes the current expiration of nuclear operating licenses.

Unit	Year of Expiration
<b>Duke Energy Carolinas</b>	
Catawba Units 1 and 2	2043
McGuire Unit 1	2041
McGuire Unit 2	2043
Oconee Units 1 and 2	2033
Oconee Unit 3	2034
<b>Duke Energy Progress</b>	
Brunswick Unit 1	2036
Brunswick Unit 2	2034
Harris	2046
Robinson	2030

Duke Energy Florida has requested the NRC terminate the operating license for Crystal River Unit 3 as it permanently ceased operation in February 2013. Refer to Note 4 for further information on the Crystal River Unit 3 decommissioning activity and transition to SAFSTOR.

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**ARO Liability Rollforward**

During 2016, the Duke Energy Registrants updated coal ash ARO liability estimates based on additional site-specific information about the related costs, methods and timing of work to be performed. Actual closure costs incurred could be materially different from current estimates that form the basis of the recorded AROs.

The following table presents changes in the liability associated with AROs.

(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
<b>Balance at December 31, 2014</b>	\$ 8,464	\$ 3,428	\$ 4,711	\$ 3,905	\$ 806	\$ 27	\$ 32
Acquisitions <sup>(a)</sup>	226	—	226	204	23	—	—
Accretion expense <sup>(b)</sup>	380	165	203	169	34	4	15
Liabilities settled <sup>(c)</sup>	(422)	(200)	(195)	(125)	(70)	(4)	(23)
Liabilities incurred in the current year <sup>(d)</sup>	1,016	178	282	282	—	116	418
Revisions in estimates of cash flows	585	347	142	132	9	(18)	83
<b>Balance at December 31, 2015</b>	10,249	3,918	5,369	4,567	802	125	525
Acquisitions	22	—	2	—	2	—	—
Accretion expense <sup>(b)</sup>	400	187	230	194	35	5	24
Liabilities settled <sup>(c)</sup>	(613)	(287)	(272)	(212)	(60)	(5)	(49)
Liabilities incurred in the current year	51	—	3	3	—	—	29
Revisions in estimates of cash flows	502	77	143	145	(1)	(48)	337
<b>Balance at December 31, 2016</b>	\$ 10,611	\$ 3,895	\$ 5,475	\$ 4,697	\$ 778	\$ 77	\$ 866

- (a) Duke Energy Progress amount relates to the NCEMPA acquisition. See Note 2 for additional information.
- (b) Substantially all accretion expense for the years ended December 31, 2016 and 2015 relates to Duke Energy's regulated electric operations and has been deferred in accordance with regulatory accounting treatment.
- (c) Amounts primarily relate to ash impoundment closures and nuclear decommissioning of Crystal River Unit 3.
- (d) Amounts primarily relate to AROs recorded as a result of the EPA's rule for disposal of CCR.

## 10. PROPERTY, PLANT AND EQUIPMENT

The following tables summarize the property, plant and equipment for Duke Energy and its subsidiary registrants.

		December 31, 2016							
(in millions)	Estimated Useful Life (Years)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	
Land		\$ 1,501	\$ 432	\$ 735	\$ 393	\$ 342	\$ 150	\$ 106	
Plant – Regulated									
Electric generation, distribution and transmission	8 - 100	89,864	34,515	37,596	23,683	13,913	4,593	13,160	
Natural gas transmission and distribution	12 - 67	7,738	—	—	—	—	2,456	—	
Other buildings and improvements	15 - 100	1,692	502	634	293	341	211	197	
Plant – Nonregulated									
Electric generation, distribution and transmission	5 - 30	4,298	—	—	—	—	—	—	
Other buildings and improvements	25 - 35	421	—	—	—	—	—	—	
Nuclear fuel		3,572	2,092	1,480	1,480	—	—	—	
Equipment	3 - 38	1,941	358	505	378	127	338	156	
Construction in process		6,186	2,324	2,708	1,329	1,379	206	396	
Other	5 - 40	4,184	904	1,206	863	332	172	226	
Total property, plant and equipment <sup>(a)(d)</sup>		121,397	41,127	44,864	28,419	16,434	8,126	14,241	
Total accumulated depreciation – regulated <sup>(b)(c)(d)</sup>		(37,831)	(14,365)	(15,212)	(10,561)	(4,644)	(2,579)	(4,317)	
Total accumulated depreciation – nonregulated <sup>(c)(d)</sup>		(1,575)	—	—	—	—	—	—	
Generation facilities to be retired, net		529	—	529	529	—	—	—	
Total net property, plant and equipment		\$ 82,520	\$ 26,762	\$ 30,181	\$ 18,387	\$ 11,790	\$ 5,547	\$ 9,924	

- (a) Includes capitalized leases of \$1,355 million, \$40 million, \$288 million, \$142 million, \$146 million, \$81 million and \$35 million at Duke Energy, Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Florida, Duke Energy Ohio and Duke Energy Indiana, respectively, primarily within Plant – Regulated. The Progress Energy, Duke Energy Progress and Duke Energy Florida amounts are net of \$99 million, \$9 million and \$90 million, respectively, of accumulated amortization of capitalized leases.
- (b) Includes \$1,922 million, \$1,192 million, \$730 million and \$730 million of accumulated amortization of nuclear fuel at Duke Energy, Duke Energy Carolinas, Progress Energy and Duke Energy Progress, respectively.
- (c) Includes accumulated amortization of capitalized leases of \$50 million, \$9 million, \$19 million and \$8 million at Duke Energy, Duke Energy Carolinas, Duke Energy Ohio and Duke Energy Indiana, respectively.
- (d) Includes gross property, plant and equipment cost of consolidated VIEs of \$2,591 million and accumulated depreciation of consolidated VIEs of \$411 million at Duke Energy.

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		December 31, 2015							
(in millions)	Estimated Useful Life (Years)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	
Land		\$ 1,391	\$ 407	\$ 719	\$ 392	\$ 327	\$ 118	\$ 108	
Plant – Regulated									
Electric generation, distribution and transmission	8 - 100	87,593	33,623	36,422	22,888	13,534	4,429	13,118	
Natural gas transmission and distribution	12 - 67	2,322	—	—	—	—	2,322	—	
Other buildings and improvements	15 - 100	1,480	477	621	294	322	204	179	
Plant – Nonregulated									
Electric generation, distribution and transmission	1 - 30	3,348	—	—	—	—	—	—	
Other buildings and improvements	25 - 35	410	—	—	—	—	—	—	
Nuclear fuel		3,194	1,827	1,367	1,367	—	—	—	
Equipment	3 - 38	1,736	368	530	398	132	344	173	
Construction in process		4,485	1,860	1,827	1,118	709	180	214	
Other	5 - 60	4,008	836	1,180	856	319	153	215	
Total property, plant and equipment <sup>(a)(d)</sup>		109,967	39,398	42,666	27,313	15,343	7,750	14,007	
Total accumulated depreciation – regulated <sup>(b)(c)(d)</sup>		(35,367)	(13,521)	(14,867)	(10,141)	(4,720)	(2,507)	(4,484)	
Total accumulated depreciation – nonregulated <sup>(c)(d)</sup>		(1,369)	—	—	—	—	—	—	
Generation facilities to be retired, net		548	—	548	548	—	—	—	
Total net property, plant and equipment		\$ 73,779	\$ 25,877	\$ 28,347	\$ 17,720	\$ 10,623	\$ 5,243	\$ 9,523	

- (a) Includes capitalized leases of \$1,465 million, \$40 million, \$302 million, \$144 million, \$158 million, \$96 million and \$39 million at Duke Energy, Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Florida, Duke Energy Ohio and Duke Energy Indiana, respectively, primarily in regulated plant. The Progress Energy, Duke Energy Progress and Duke Energy Florida amounts are net of \$85 million, \$7 million and \$78 million, respectively, of accumulated amortization of capitalized leases.
- (b) Includes \$1,621 million, \$976 million, \$645 million and \$645 million of accumulated amortization of nuclear fuel at Duke Energy, Duke Energy Carolinas, Progress Energy and Duke Energy Progress, respectively.
- (c) Includes accumulated amortization of capitalized leases of \$57 million, \$11 million, \$27 million and \$7 million at Duke Energy, Duke Energy Carolinas, Duke Energy Ohio and Duke Energy Indiana, respectively.
- (d) Includes gross property, plant and equipment cost of consolidated VIEs of \$2,033 million and accumulated depreciation of consolidated VIEs of \$327 million at Duke Energy.

The following table presents capitalized interest, which includes the debt component of AFUDC.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Duke Energy	\$ 100	\$ 98	\$ 75
Duke Energy Carolinas	38	38	38
Progress Energy	31	24	11
Duke Energy Progress	17	20	10
Duke Energy Florida	14	4	1
Duke Energy Ohio	8	10	10
Duke Energy Indiana	7	6	6

### Operating Leases

Duke Energy's Commercial Renewables segment operates various renewable energy projects and sells the generated output to utilities, electric cooperatives, municipalities and commercial and industrial customers through long-term contracts. In certain situations, these long-term contracts and the associated renewable energy projects qualify as operating leases. Rental income from these leases is accounted for as Operating Revenues in the Consolidated Statements of Operations. There are no minimum lease payments as all payments are contingent based on actual electricity generated by the renewable energy projects. Contingent lease payments were \$216 million, \$172 million and \$164 million for the years ended December 31, 2016, 2015 and 2014. As of December 31, 2016, renewable energy projects owned by Duke Energy and accounted for as operating leases had a cost basis of \$3,127 million and accumulated depreciation of \$347 million. These assets are principally classified as nonregulated electric generation and transmission assets.

## 11. GOODWILL AND INTANGIBLE ASSETS

### Goodwill

The following table presents goodwill by reportable operating segment for Duke Energy.

#### Duke Energy

(in millions)	Electric Utilities and Infrastructure		Gas Utilities and Infrastructure		Commercial Renewables		Total
Goodwill at December 31, 2015	\$	15,656	\$	294	\$	122	\$ 16,072
Piedmont Acquisition <sup>(a)</sup>		1,723		1,630		—	3,353
<b>Goodwill at December 31, 2016</b>	<b>\$</b>	<b>17,379</b>	<b>\$</b>	<b>1,924</b>	<b>\$</b>	<b>122</b>	<b>\$ 19,425</b>

(a) Refer to Note 2 for more information on the purchase accounting related to the acquisition of Piedmont.

#### Duke Energy Ohio

Duke Energy Ohio's Goodwill balance of \$920 million, allocated \$596 million to Electric Utilities and Infrastructure and \$324 million to Gas Utilities and Infrastructure, is presented net of accumulated impairment charges of \$216 million on the Consolidated Balance Sheets at December 31, 2016 and 2015.

#### Progress Energy

Progress Energy's Goodwill is included in the Electric Utilities and Infrastructure operating segment and there are no accumulated impairment charges.

#### Impairment Testing

Duke Energy, Duke Energy Ohio and Progress Energy perform annual goodwill impairment tests each year as of August 31. Duke Energy, Duke Energy Ohio and Progress Energy update their test between annual tests if events or circumstances occur that would more likely than not reduce the fair value of a reporting unit below its carrying value. As the fair value of Duke Energy, Duke Energy Ohio and Progress Energy's reporting units exceeded their respective carrying values at the date of the annual impairment analysis, no impairment charges were recorded.

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**Intangible Assets**

The following tables show the carrying amount and accumulated amortization of intangible assets included in Other within Investments and Other Assets on the Consolidated Balance Sheets of the Duke Energy Registrants at December 31, 2016 and 2015.

(in millions)	December 31, 2016						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	Emission allowances	\$ 19	\$ 1	\$ 6	\$ 2	\$ 4	\$ —
Renewable energy certificates	125	36	84	84	—	4	—
Gas, coal and power contracts	24	—	—	—	—	—	24
Renewable operating and development projects	97	—	—	—	—	—	—
Other	6	—	—	—	—	—	—
Total gross carrying amounts	271	37	90	86	4	4	37
Accumulated amortization – gas, coal and power contracts	(17)	—	—	—	—	—	(17)
Accumulated amortization – renewable operating and development projects	(23)	—	—	—	—	—	—
Accumulated amortization – other	(5)	—	—	—	—	—	—
Total accumulated amortization	(45)	—	—	—	—	—	(17)
Total intangible assets, net	\$ 226	\$ 37	\$ 90	\$ 86	\$ 4	\$ 4	\$ 20

(in millions)	December 31, 2015						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	Emission allowances	\$ 20	\$ 1	\$ 6	\$ 2	\$ 4	\$ —
Renewable energy certificates	116	30	80	80	—	5	—
Gas, coal and power contracts	24	—	—	—	—	—	24
Renewable operating and development projects	115	—	—	—	—	—	—
Other	2	—	—	—	—	—	—
Total gross carrying amounts	277	31	86	82	4	5	38
Accumulated amortization – gas, coal and power contracts	(16)	—	—	—	—	—	(16)
Accumulated amortization – renewable operating and development projects	(18)	—	—	—	—	—	—
Accumulated amortization – other	(1)	—	—	—	—	—	—
Total accumulated amortization	(35)	—	—	—	—	—	(16)
Total intangible assets, net	\$ 242	\$ 31	\$ 86	\$ 82	\$ 4	\$ 5	\$ 22

**Amortization Expense**

The following table presents amortization expense for gas, coal and power contracts, renewable operating projects and other intangible assets.

(in millions)	December 31,		
	2016	2015	2014
Duke Energy	\$ 6	\$ 5	\$ 6
Duke Energy Ohio	—	—	2
Duke Energy Indiana	1	1	1

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The table below shows the expected amortization expense for the next five years for intangible assets as of December 31, 2016. The expected amortization expense includes estimates of emission allowances consumption and estimates of consumption of commodities such as gas and coal under existing contracts, as well as estimated amortization related to renewable operating projects. The amortization amounts discussed below are estimates and actual amounts may differ from these estimates due to such factors as changes in consumption patterns, sales or impairments of emission allowances or other intangible assets, delays in the in-service dates of renewable assets, additional intangible acquisitions and other events.

(in millions)	2017	2018	2019	2020	2021
Duke Energy	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5
Duke Energy Indiana	2	2	2	2	2

## 12. INVESTMENTS IN UNCONSOLIDATED AFFILIATES

### EQUITY METHOD INVESTMENTS

Investments in domestic and international affiliates that are not controlled by Duke Energy, but over which it has significant influence, are accounted for using the equity method. As of December 31, 2016, the carrying amount of investments in affiliates with carrying amounts greater than zero exceeded the underlying investment by \$24 million. These differences are attributable to intangibles associated with underlying contracts which are reflected in the investments balance and the equity in earnings reported in the table below.

The following table presents Duke Energy's investments in unconsolidated affiliates accounted for under the equity method, as well as the respective equity in earnings, by segment.

(in millions)	Years Ended December 31,					
	2016		2015		2014	
	Investments	Equity in earnings	Investments	Equity in earnings	Investments	Equity in earnings
Electric Utilities and Infrastructure	\$ 93	\$ 5	\$ 57	\$ (2)	\$ (1)	\$ (1)
Gas Utilities and Infrastructure	566	19	113	1	—	—
Commercial Renewables	185	(82)	265	(6)	8	8
Other	81	43	64	76	123	123
<b>Total</b>	<b>\$ 925</b>	<b>\$ (15)</b>	<b>\$ 499</b>	<b>\$ 69</b>	<b>\$ 130</b>	<b>\$ 130</b>

During the years ended December 31, 2016, 2015 and 2014, Duke Energy received distributions from equity investments of \$31 million, \$104 million and \$154 million, respectively, which are included in Other assets within Cash Flows from Operating Activities on the Consolidated Statements of Cash Flows.

Significant investments in affiliates accounted for under the equity method are discussed below.

#### Electric Utilities and Infrastructure

Duke Energy owns a 50 percent interest in Duke-American Transmission Co. (DATC) and in Pioneer Transmission, LLC (Pioneer), which build, own and operate electric transmission facilities in North America.

#### Gas Utilities and Infrastructure

The table below outlines Duke Energy's ownership interests in natural gas pipeline companies and natural gas storage facilities. See Notes 4 and 17 for more information.

Entity Name	Ownership Interest	Investment Amount (in millions)	
		December 31, 2016	December 31, 2015
<b>Pipeline Investments</b>			
Atlantic Coast Pipeline, LLC	47%	\$ 265	\$ 52
Sabal Trail Transmission, LLC	7.5%	140	61
Constitution Pipeline, LLC	24%	82	—
Cardinal Pipeline Company, LLC	21.49%	16	—
<b>Storage Facilities</b>			
Pine Needle LNG Company, LLC	45%	16	—
Hardy Storage Company, LLC	50%	47	—
<b>Total Investments</b>		<b>\$ 566</b>	<b>\$ 113</b>

For regulatory matters and other information on the ACP, Sabal Trail and Constitution investments, see Notes 4 and 17.

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**Commercial Renewables**

In 2016, Duke Energy sold its interest in three of the Catamount Sweetwater, LLC wind farm projects. Duke Energy has a 47 percent ownership interest in each of the two other Catamount Sweetwater, LLC wind farm projects and 50 percent interest in DS Cornerstone, LLC, which owns wind farm projects in the U.S.

**Impairment of Equity Method Investments**

During the year ended December 31, 2016, Duke Energy recorded an OTTI of certain wind project investments. The \$71 million pretax impairment was recorded within Equity in earnings (losses) of unconsolidated affiliates on Duke Energy's Consolidated Statements of Operations. The other-than-temporary decline in value of these investments was primarily attributable to a sustained decline in market pricing where the wind investments are located, projected net losses for the projects and a reduction in the projected cash distribution to the class of investment owned by Duke Energy.

**Other**

Duke Energy owns a 25 percent indirect interest in NMC, which owns and operates a methanol and MTBE business in Jubail, Saudi Arabia. Duke Energy's economic ownership interest will decrease to 17.5 percent upon successful startup of NMC's polyacetal production facility, which is expected to occur in the second quarter of 2017. Duke Energy will retain 25 percent of the board representation and voting rights of NMC. The investment in NMC is accounted for under the equity method of accounting.

**13. RELATED PARTY TRANSACTIONS**

The Subsidiary Registrants engage in related party transactions in accordance with the applicable state and federal commission regulations. Refer to the Consolidated Balance Sheets of the Subsidiary Registrants for balances due to or due from related parties. Material amounts related to transactions with related parties included in the Consolidated Statements of Operations and Comprehensive Income are presented in the following table.

(in millions)	Years Ended December 31,		
	2016	2015	2014
<b>Duke Energy Carolinas</b>			
Corporate governance and shared service expenses <sup>(a)</sup>	\$ 831	\$ 914	\$ 851
Indemnification coverages <sup>(b)</sup>	22	24	21
JDA revenue <sup>(c)</sup>	38	51	133
JDA expense <sup>(c)</sup>	156	183	198
<b>Progress Energy</b>			
Corporate governance and shared service expenses <sup>(a)</sup>	\$ 710	\$ 712	\$ 732
Indemnification coverages <sup>(b)</sup>	35	38	33
JDA revenue <sup>(c)</sup>	156	183	198
JDA expense <sup>(c)</sup>	38	51	133
Intercompany natural gas purchases <sup>(d)</sup>	19	—	—
<b>Duke Energy Progress</b>			
Corporate governance and shared service expenses <sup>(a)</sup>	\$ 397	\$ 403	\$ 386
Indemnification coverages <sup>(b)</sup>	14	16	17
JDA revenue <sup>(c)</sup>	156	183	198
JDA expense <sup>(c)</sup>	38	51	133
Intercompany natural gas purchases <sup>(d)</sup>	19	—	—
<b>Duke Energy Florida</b>			
Corporate governance and shared service expenses <sup>(a)</sup>	\$ 313	\$ 309	\$ 346
Indemnification coverages <sup>(b)</sup>	21	22	16
<b>Duke Energy Ohio</b>			
Corporate governance and shared service expenses <sup>(a)</sup>	\$ 356	\$ 342	\$ 316
Indemnification coverages <sup>(b)</sup>	5	6	13
<b>Duke Energy Indiana</b>			
Corporate governance and shared service expenses <sup>(a)</sup>	\$ 366	\$ 349	\$ 384
Indemnification coverages <sup>(b)</sup>	8	9	11



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- (a) The Subsidiary Registrants are charged their proportionate share of corporate governance and other shared services costs, primarily related to human resources, employee benefits, legal and accounting fees, as well as other third-party costs. These amounts are recorded in Operation, maintenance and other on the Consolidated Statements of Operations and Comprehensive Income.
- (b) The Subsidiary Registrants incur expenses related to certain indemnification coverages through Bison, Duke Energy's wholly owned captive insurance subsidiary. These expenses are recorded in Operation, maintenance and other on the Consolidated Statements of Operations and Comprehensive Income.
- (c) Duke Energy Carolinas and Duke Energy Progress participate in a JDA which allows the collective dispatch of power plants between the service territories to reduce customer rates. Revenues from the sale of power under the JDA are recorded in Operating Revenues on the Consolidated Statements of Operations and Comprehensive Income. Expenses from the purchase of power under the JDA are recorded in Fuel used in electric generation and purchased power on the Consolidated Statements of Operations and Comprehensive Income.
- (d) Duke Energy Progress purchases natural gas from Piedmont to supply electric generation facilities. These expenses are recorded in Fuel used in electric generation and purchased power on the Consolidated Statements of Operations and Comprehensive Income.

In addition to the amounts presented above, the Subsidiary Registrants record the impact on net income of other affiliate transactions, including rental of office space, participation in a money pool arrangement, other operational transactions and their proportionate share of certain charged expenses. See Note 6 for more information regarding money pool. The net impact of these transactions was not material for the years ended December 31, 2016, 2015 and 2014 for the Subsidiary Registrants.

As discussed in Note 17, certain trade receivables have been sold by Duke Energy Ohio and Duke Energy Indiana to CRC, an affiliate formed by a subsidiary of Duke Energy. The proceeds obtained from the sales of receivables are largely cash but do include a subordinated note from CRC for a portion of the purchase price.

Duke Energy Ohio's nonregulated indirect subsidiary, Duke Energy Commercial Asset Management, LLC (DECAM), owned generating plants included in the Midwest Generation Disposal Group sold to Dynegy on April 2, 2015. On April 1, 2015, Duke Energy Ohio distributed its indirect ownership interest in DECAM to a Duke Energy subsidiary and non-cash settled DECAM's intercompany loan payable of \$294 million.

Refer to Note 2 for further information on the sale of the Midwest Generation Disposal Group.

#### Intercompany Income Taxes

Duke Energy and its subsidiaries file a consolidated federal income tax return and other state and jurisdictional returns. The Subsidiary Registrants have a tax sharing agreement with Duke Energy for the allocation of consolidated tax liabilities and benefits. Income taxes recorded represent amounts the Subsidiary Registrants would incur as separate C-Corporations. The following table includes the balance of intercompany income tax receivables for the subsidiary registrants.

(in millions)	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
<b>December 31, 2016</b>						
Intercompany income tax receivable	\$ 1	\$ —	\$ —	\$ 37	\$ —	\$ —
Intercompany income tax payable	—	37	90	—	1	3
<b>December 31, 2015</b>						
Intercompany income tax receivable	\$ 122	\$ 120	\$ 104	\$ —	\$ 54	\$ —
Intercompany income tax payable	—	—	—	96	—	47

## 14. DERIVATIVES AND HEDGING

The Duke Energy Registrants use commodity and interest rate contracts to manage commodity price risk and interest rate risk. The primary use of commodity derivatives is to hedge the generation portfolio against changes in the prices of electricity and natural gas. Interest rate swaps are used to manage interest rate risk associated with borrowings.

All derivative instruments not identified as NPNS are recorded at fair value as assets or liabilities on the Consolidated Balance Sheets. Cash collateral related to derivative instruments executed under master netting arrangements is offset against the collateralized derivatives on the Consolidated Balance Sheets. The cash impacts of settled derivatives are recorded as operating activities on the Consolidated Statements of Cash Flows.

#### INTEREST RATE RISK

The Duke Energy Registrants are exposed to changes in interest rates as a result of their issuance or anticipated issuance of variable-rate and fixed-rate debt and commercial paper. Interest rate risk is managed by limiting variable-rate exposures to a percentage of total debt and by monitoring changes in interest rates. To manage risk associated with changes in interest rates, the Duke Energy Registrants may enter into interest rate swaps, U.S. Treasury lock agreements and other financial contracts. In anticipation of certain fixed-rate debt issuances, a series of forward-starting interest rate swaps may be executed to lock in components of current market interest rates. These instruments are later terminated prior to or upon the issuance of the corresponding debt.

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### Cash Flow Hedges

For a derivative designated as hedging the exposure to variable cash flows of a future transaction, referred to as a cash flow hedge, the effective portion of the derivative's gain or loss is initially reported as a component of other comprehensive income and subsequently reclassified into earnings once the future transaction impacts earnings. Amounts for interest rate contracts are reclassified to earnings as interest expense over the term of the related debt. See the Consolidated Statements of Changes in Equity for gains and losses reclassified out of AOCI for the years ended December 31, 2016 and 2015. Duke Energy's interest rate derivatives designated as hedges include interest rate swaps used to hedge existing debt within the Commercial Renewables business.

### Undesignated Contracts

Undesignated contracts include contracts not designated as a hedge because they are accounted for under regulatory accounting and contracts that do not qualify for hedge accounting.

Duke Energy's interest rate swaps for its regulated operations employ regulatory accounting. With regulatory accounting, the mark-to-market gains or losses on the swaps are deferred as regulatory liabilities or regulatory assets, respectively. Regulatory assets and liabilities are amortized consistent with the treatment of the related costs in the ratemaking process. The accrual of interest on the swaps is recorded as Interest Expense.

In August 2016, Duke Energy unwound \$1.4 billion of forward-starting interest rate swaps associated with the Piedmont acquisition financing described in Note 6. The swaps were considered undesignated as they did not qualify for hedge accounting. Losses on the swaps of \$190 million are included within Interest Expense on the Consolidated Statements of Operations for the year ended December 31, 2016. See Note 2 for additional information related to the Piedmont acquisition.

The following tables show notional amounts of outstanding derivatives related to interest rate risk.

December 31, 2016						
(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio
Cash flow hedges <sup>(a)</sup>	\$ 750	\$ —	\$ —	\$ —	\$ —	\$ —
Undesignated contracts	927	400	500	250	250	27
<b>Total notional amount</b>	<b>\$ 1,677</b>	<b>\$ 400</b>	<b>\$ 500</b>	<b>\$ 250</b>	<b>\$ 250</b>	<b>\$ 27</b>

December 31, 2015						
(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio
Cash flow hedges <sup>(a)</sup>	\$ 497	\$ —	\$ —	\$ —	\$ —	\$ —
Undesignated contracts	1,827	400	500	250	250	27
<b>Total notional amount</b>	<b>\$ 2,324</b>	<b>\$ 400</b>	<b>\$ 500</b>	<b>\$ 250</b>	<b>\$ 250</b>	<b>\$ 27</b>

- (a) Duke Energy includes amounts related to consolidated VIEs of \$750 million and \$497 million at December 31, 2016 and 2015, respectively. The December 31, 2016, amount includes interest rate swaps related to solar facilities financing with an outstanding notional amount of \$300 million, including \$81 million of four-year swaps and \$219 million of 18-year swaps. See note 6 for additional information related to the solar facilities financing.

### COMMODITY PRICE RISK

The Duke Energy Registrants are exposed to the impact of changes in the prices of electricity purchased and sold in bulk power markets and coal and natural gas purchases. Exposure to commodity price risk is influenced by a number of factors including the term of contracts, the liquidity of markets and delivery locations. For the Subsidiary Registrants, bulk power electricity and coal and natural gas purchases flow through fuel adjustment clauses, formula based contracts or other cost sharing mechanisms. Differences between the costs included in rates and the incurred costs, including undesignated derivative contracts, are largely deferred as regulatory assets or regulatory liabilities. Piedmont policies allow for the use of financial instruments to hedge commodity price risks, but not for speculative trading. The strategy and objective of these hedging programs are to use the financial instruments to reduce gas cost volatility for customers.

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**Volumes**

The tables below include volumes of outstanding commodity derivatives. Amounts disclosed represent the absolute value of notional volumes of commodity contracts excluding NPNS. The Duke Energy Registrants have netted contractual amounts where offsetting purchase and sale contracts exist with identical delivery locations and times of delivery. Where all commodity positions are perfectly offset, no quantities are shown.

	December 31, 2016						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
Electricity (gigawatt-hours)	147	—	—	—	—	—	147
Natural gas (millions of dekatherms) <sup>(a)</sup>	890	91	269	118	151	—	1

(a) Amounts at Duke Energy increased 529 million dekatherms due to the acquisition of Piedmont in 2016.

	December 31, 2015						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
Electricity (gigawatt-hours)	70	—	—	—	—	34	36
Natural gas (millions of dekatherms)	398	66	332	117	215	—	—

**LOCATION AND FAIR VALUE OF DERIVATIVE ASSETS AND LIABILITIES RECOGNIZED IN THE CONSOLIDATED BALANCE SHEETS**

The following tables show the fair value and balance sheet location of derivative instruments. Although derivatives subject to master netting arrangements are netted on the Consolidated Balance Sheets, the fair values presented below are shown gross and cash collateral on the derivatives has not been netted against the fair values shown.

Derivative Assets	December 31, 2016						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
(in millions)							
<b>Commodity Contracts</b>							
<i>Not Designated as Hedging Instruments</i>							
Current	\$ 108	\$ 23	\$ 61	\$ 35	\$ 26	\$ 4	\$ 16
Noncurrent	32	10	21	10	11	1	—
<b>Total Derivative Assets – Commodity Contracts</b>	<b>\$ 140</b>	<b>\$ 33</b>	<b>\$ 82</b>	<b>\$ 45</b>	<b>\$ 37</b>	<b>\$ 5</b>	<b>\$ 16</b>
<b>Interest Rate Contracts</b>							
<i>Designated as Hedging Instruments</i>							
Noncurrent	\$ 19	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
<i>Not Designated as Hedging Instruments</i>							
Current	3	—	3	1	2	—	—
<b>Total Derivative Assets – Interest Rate Contracts</b>	<b>\$ 22</b>	<b>\$ —</b>	<b>\$ 3</b>	<b>\$ 1</b>	<b>\$ 2</b>	<b>\$ —</b>	<b>\$ —</b>
<b>Total Derivative Assets</b>	<b>\$ 162</b>	<b>\$ 33</b>	<b>\$ 85</b>	<b>\$ 46</b>	<b>\$ 39</b>	<b>\$ 5</b>	<b>\$ 16</b>

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Derivative Liabilities	December 31, 2016						
(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
<b>Commodity Contracts</b>							
<i>Not Designated as Hedging Instruments</i>							
Current	\$ 43	\$ —	\$ 12	\$ —	\$ 12	\$ —	\$ 2
Noncurrent	166	1	7	1	—	—	—
<b>Total Derivative Liabilities – Commodity Contracts</b>	<b>\$ 209</b>	<b>\$ 1</b>	<b>\$ 19</b>	<b>\$ 1</b>	<b>\$ 12</b>	<b>\$ —</b>	<b>\$ 2</b>
<b>Interest Rate Contracts</b>							
<i>Designated as Hedging Instruments</i>							
Current	\$ 8	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Noncurrent	8	—	—	—	—	—	—
<i>Not Designated as Hedging Instruments</i>							
Current	1	—	—	—	—	1	—
Noncurrent	26	15	6	6	—	5	—
<b>Total Derivative Liabilities – Interest Rate Contracts</b>	<b>\$ 43</b>	<b>\$ 15</b>	<b>\$ 6</b>	<b>\$ 6</b>	<b>\$ —</b>	<b>\$ 6</b>	<b>\$ —</b>
<b>Total Derivative Liabilities</b>	<b>\$ 252</b>	<b>\$ 16</b>	<b>\$ 25</b>	<b>\$ 7</b>	<b>\$ 12</b>	<b>\$ 6</b>	<b>\$ 2</b>
<hr/>							
Derivative Assets	December 31, 2015						
(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
<b>Commodity Contracts</b>							
<i>Not Designated as Hedging Instruments</i>							
Current	\$ 12	\$ —	\$ 1	\$ —	\$ 1	\$ 3	\$ 7
Noncurrent	4	—	4	—	4	—	—
<b>Total Derivative Assets – Commodity Contracts</b>	<b>\$ 16</b>	<b>\$ —</b>	<b>\$ 5</b>	<b>\$ —</b>	<b>\$ 5</b>	<b>\$ 3</b>	<b>\$ 7</b>
<b>Interest Rate Contracts</b>							
<i>Designated as Hedging Instruments</i>							
Noncurrent	\$ 3	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
<i>Not Designated as Hedging Instruments</i>							
Current	6	—	6	2	2	—	—
<b>Total Derivative Assets – Interest Rate Contracts</b>	<b>\$ 9</b>	<b>\$ —</b>	<b>\$ 6</b>	<b>\$ 2</b>	<b>\$ 2</b>	<b>\$ —</b>	<b>\$ —</b>
<b>Total Derivative Assets</b>	<b>\$ 25</b>	<b>\$ —</b>	<b>\$ 11</b>	<b>\$ 2</b>	<b>\$ 7</b>	<b>\$ 3</b>	<b>\$ 7</b>

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Derivative Liabilities	December 31, 2015						
(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
<b>Commodity Contracts</b>							
<i>Not Designated as Hedging Instruments</i>							
Current	\$ 256	\$ 32	\$ 222	\$ 77	\$ 145	\$ —	\$ —
Noncurrent	100	8	92	16	71	—	—
<b>Total Derivative Liabilities – Commodity Contracts</b>	<b>\$ 356</b>	<b>\$ 40</b>	<b>\$ 314</b>	<b>\$ 93</b>	<b>\$ 216</b>	<b>\$ —</b>	<b>\$ —</b>
<b>Interest Rate Contracts</b>							
<i>Designated as Hedging Instruments</i>							
Current	\$ 9	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Noncurrent	13	—	—	—	—	—	—
<i>Not Designated as Hedging Instruments</i>							
Current	4	—	3	—	—	1	—
Noncurrent	15	5	5	5	—	6	—
<b>Total Derivative Liabilities – Interest Rate Contracts</b>	<b>\$ 41</b>	<b>\$ 5</b>	<b>\$ 8</b>	<b>\$ 5</b>	<b>\$ —</b>	<b>\$ 7</b>	<b>\$ —</b>
<b>Total Derivative Liabilities</b>	<b>\$ 397</b>	<b>\$ 45</b>	<b>\$ 322</b>	<b>\$ 98</b>	<b>\$ 216</b>	<b>\$ 7</b>	<b>\$ —</b>

**OFFSETTING ASSETS AND LIABILITIES**

The following tables present the line items on the Consolidated Balance Sheets where derivatives are reported. Substantially all of Duke Energy's outstanding derivative contracts are subject to enforceable master netting arrangements. The Gross amounts offset in the tables below show the effect of these netting arrangements on financial position and include collateral posted to offset the net position. The amounts shown are calculated by counterparty. Accounts receivable or accounts payable may also be available to offset exposures in the event of bankruptcy. These amounts are not included in the tables below.

Derivative Assets	December 31, 2016						
(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
<b>Current</b>							
Gross amounts recognized	\$ 111	\$ 23	\$ 64	\$ 36	\$ 28	\$ 4	\$ 16
Gross amounts offset	(11)	—	(11)	—	(11)	—	—
Net amounts presented in Current Assets: Other	\$ 100	\$ 23	\$ 53	\$ 36	\$ 17	\$ 4	\$ 16
<b>Noncurrent</b>							
Gross amounts recognized	\$ 51	\$ 10	\$ 21	\$ 10	\$ 11	\$ 1	\$ —
Gross amounts offset	(2)	(1)	(1)	(1)	—	—	—
Net amounts presented in Investments and Other Assets: Other	\$ 49	\$ 9	\$ 20	\$ 9	\$ 11	\$ 1	\$ —

Derivative Liabilities	December 31, 2016						
(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
<b>Current</b>							
Gross amounts recognized	\$ 52	\$ —	\$ 12	\$ —	\$ 12	\$ 1	\$ 2
Gross amounts offset	(11)	—	(11)	—	(11)	—	—
Net amounts presented in Current Liabilities: Other	\$ 41	\$ —	\$ 1	\$ —	\$ 1	\$ 1	\$ 2
<b>Noncurrent</b>							
Gross amounts recognized	\$ 200	\$ 16	\$ 13	\$ 7	\$ —	\$ 5	\$ —
Gross amounts offset	(2)	(1)	(1)	(1)	—	—	—
Net amounts presented in Deferred Credits and Other Liabilities: Other	\$ 198	\$ 15	\$ 12	\$ 6	\$ —	\$ 5	\$ —

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Derivative Assets	December 31, 2015						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
(in millions)							
<b>Current</b>							
Gross amounts recognized	\$ 18	\$ —	\$ 7	\$ 2	\$ 3	\$ 3	\$ 7
Gross amounts offset	(3)	—	(2)	—	(2)	—	—
Net amounts presented in Current Assets: Other	\$ 15	\$ —	\$ 5	\$ 2	\$ 1	\$ 3	\$ 7
<b>Noncurrent</b>							
Gross amounts recognized	\$ 7	\$ —	\$ 4	\$ —	\$ 4	\$ —	\$ —
Gross amounts offset	(4)	—	(4)	—	(4)	—	—
Net amounts presented in Investments and Other Assets: Other	\$ 3	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —

Derivative Liabilities	December 31, 2015						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
(in millions)							
<b>Current</b>							
Gross amounts recognized	\$ 269	\$ 32	\$ 225	\$ 77	\$ 145	\$ 1	\$ —
Gross amounts offset	(22)	—	(21)	(1)	(20)	—	—
Net amounts presented in Current Liabilities: Other	\$ 247	\$ 32	\$ 204	\$ 76	\$ 125	\$ 1	\$ —
<b>Noncurrent</b>							
Gross amounts recognized	\$ 128	\$ 13	\$ 97	\$ 21	\$ 71	\$ 6	\$ —
Gross amounts offset	(16)	—	(15)	—	(15)	—	—
Net amounts presented in Deferred Credits and Other Liabilities: Other	\$ 112	\$ 13	\$ 82	\$ 21	\$ 56	\$ 6	\$ —

**OBJECTIVE CREDIT CONTINGENT FEATURES**

Certain derivative contracts contain objective credit contingent features. These features include the requirement to post cash collateral or letters of credit if specific events occur, such as a credit rating downgrade below investment grade. The following tables show information with respect to derivative contracts that are in a net liability position and contain objective credit-risk-related payment provisions. Amounts for Duke Energy Ohio and Duke Energy Indiana were not material.

(in millions)	December 31, 2016				
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida
Aggregate fair value of derivatives in a net liability position	\$ 34	\$ 16	\$ 18	\$ 6	\$ 12
Fair value of collateral already posted	—	—	—	—	—
Additional cash collateral or letters of credit in the event credit-risk-related contingent features were triggered	34	16	18	6	12

(in millions)	December 31, 2015				
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida
Aggregate fair value of derivatives in a net liability position	\$ 334	\$ 45	\$ 290	\$ 93	\$ 194
Fair value of collateral already posted	30	—	30	—	30
Additional cash collateral or letters of credit in the event credit-risk-related contingent features were triggered	304	45	260	93	164

The Duke Energy Registrants have elected to offset cash collateral and fair values of derivatives. For amounts to be netted, the derivative and cash collateral must be executed with the same counterparty under the same master netting arrangement. At December 31, 2015, receivables of \$30 million at Duke Energy Florida related to the right to reclaim cash collateral under master netting arrangements were offset against net derivative positions on the Consolidated Balance Sheets of Duke Energy, Progress Energy and Duke Energy Florida.

## 15. INVESTMENTS IN DEBT AND EQUITY SECURITIES

### TRADING SECURITIES

Investments in debt and equity securities held in rabbi trusts associated with certain deferred compensation plans are classified as trading securities. The fair value of these investments was \$5 million at December 31, 2016.

### AVAILABLE-FOR-SALE SECURITIES

The Duke Energy Registrants classify their investments in debt and equity securities as available-for-sale.

Duke Energy's available-for-sale securities are primarily comprised of investments held in (i) the NDTF at Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida, (ii) grantor trusts at Duke Energy Progress, Duke Energy Florida and Duke Energy Indiana related to OPEB plans and (iii) Bison.

Duke Energy classifies all other investments in debt and equity securities as long-term, unless otherwise noted.

### Investment Trusts

The investments within the NDTF investments and the Duke Energy Progress, Duke Energy Florida and Duke Energy Indiana grantor trusts (Investment Trusts) are managed by independent investment managers with discretion to buy, sell and invest pursuant to the objectives set forth by the trust agreements. The Duke Energy Registrants have limited oversight of the day-to-day management of these investments. As a result, the ability to hold investments in unrealized loss positions is outside the control of the Duke Energy Registrants. Accordingly, all unrealized losses associated with debt and equity securities within the Investment Trusts are considered OTTI's and are recognized immediately.

Investments within the Investment Trusts generally qualify for regulatory accounting and accordingly realized and unrealized gains and losses are generally deferred as a regulatory asset or liability.

### Other Available-for-Sale Securities

Unrealized gains and losses on all other available-for-sale securities are included in other comprehensive income until realized, unless it is determined the carrying value of an investment is other-than-temporarily impaired. If an OTTI exists, the unrealized loss is included in earnings based on the criteria discussed below.

The Duke Energy Registrants analyze all investment holdings each reporting period to determine whether a decline in fair value should be considered other-than-temporary. Criteria used to evaluate whether an impairment associated with equity securities is other-than-temporary includes, but is not limited to, (i) the length of time over which the market value has been lower than the cost basis of the investment, (ii) the percentage decline compared to the cost of the investment and (iii) management's intent and ability to retain its investment for a period of time sufficient to allow for any anticipated recovery in market value. If a decline in fair value is determined to be other-than-temporary, the investment is written down to its fair value through a charge to earnings.

If the entity does not have an intent to sell a debt security and it is not more likely than not management will be required to sell the debt security before the recovery of its cost basis, the impairment write-down to fair value would be recorded as a component of other comprehensive income, except for when it is determined a credit loss exists. In determining whether a credit loss exists, management considers, among other things, (i) the length of time and the extent to which the fair value has been less than the amortized cost basis, (ii) changes in the financial condition of the issuer of the security, or in the case of an asset backed security, the financial condition of the underlying loan obligors, (iii) consideration of underlying collateral and guarantees of amounts by government entities, (iv) ability of the issuer of the security to make scheduled interest or principal payments and (v) any changes to the rating of the security by rating agencies. If a credit loss exists, the amount of impairment write-down to fair value is split between credit loss and other factors. The amount related to credit loss is recognized in earnings. The amount related to other factors is recognized in other comprehensive income. There were no material credit losses as of December 31, 2016 and 2015.

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**DUKE ENERGY**

The following table presents the estimated fair value of investments in available-for-sale securities.

(in millions)	December 31, 2016			December 31, 2015		
	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses <sup>(a)</sup>	Estimated Fair Value	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses <sup>(a)</sup>	Estimated Fair Value
<b>NDTF</b>						
Cash and cash equivalents	\$ —	\$ —	\$ 111	\$ —	\$ —	\$ 179
Equity securities	2,092	54	4,106	1,823	58	3,590
Corporate debt securities	10	8	528	7	8	432
Municipal bonds	3	10	331	5	1	185
U.S. government bonds	10	8	984	11	5	1,254
Other debt securities	—	3	124	—	4	177
<b>Total NDTF</b>	<b>\$ 2,115</b>	<b>\$ 83</b>	<b>\$ 6,184</b>	<b>\$ 1,846</b>	<b>\$ 76</b>	<b>\$ 5,817</b>
<b>Other Investments</b>						
Cash and cash equivalents	\$ —	\$ —	\$ 25	\$ —	\$ —	\$ 29
Equity securities	38	—	104	32	1	95
Corporate debt securities	1	1	66	1	3	92
Municipal bonds	2	1	82	3	1	74
U.S. government bonds	—	1	51	—	—	45
Other debt securities	—	2	42	—	2	62
<b>Total Other Investments<sup>(b)</sup></b>	<b>\$ 41</b>	<b>\$ 5</b>	<b>\$ 370</b>	<b>\$ 36</b>	<b>\$ 7</b>	<b>\$ 397</b>
<b>Total Investments</b>	<b>\$ 2,156</b>	<b>\$ 88</b>	<b>\$ 6,554</b>	<b>\$ 1,882</b>	<b>\$ 83</b>	<b>\$ 6,214</b>

(a) Substantially all these amounts are considered OTTI's on investments within Investment Trusts that have been recognized immediately as a regulatory asset.

(b) These amounts are recorded in Other within Investments and Other Assets on the Consolidated Balance Sheets.

The table below summarizes the maturity date for debt securities.

(in millions)	December 31, 2016
Due in one year or less	\$ 94
Due after one through five years	653
Due after five through 10 years	515
Due after 10 years	946
<b>Total</b>	<b>\$ 2,208</b>

Realized gains and losses, which were determined on a specific identification basis, from sales of available-for-sale securities were as follows.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Realized gains	\$ 246	\$ 193	\$ 271
Realized losses	187	98	105



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**DUKE ENERGY CAROLINAS**

The following table presents the estimated fair value of investments in available-for-sale securities.

(in millions)	December 31, 2016			December 31, 2015		
	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses <sup>(a)</sup>	Estimated Fair Value	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses <sup>(a)</sup>	Estimated Fair Value
<b>NDTF</b>						
Cash and cash equivalents	\$ —	\$ —	\$ 18	\$ —	\$ —	\$ 34
Equity securities	1,157	28	2,245	1,021	27	2,094
Corporate debt securities	5	6	354	3	5	292
Municipal bonds	1	2	67	1	—	33
U.S. government bonds	2	5	458	3	3	438
Other debt securities	—	3	116	—	4	147
<b>Total NDTF</b>	<b>\$ 1,165</b>	<b>\$ 44</b>	<b>\$ 3,258</b>	<b>\$ 1,028</b>	<b>\$ 39</b>	<b>\$ 3,038</b>
<b>Other Investments</b>						
Other debt securities	\$ —	\$ 1	\$ 3	\$ —	\$ 1	\$ 3
<b>Total Other Investments<sup>(b)</sup></b>	<b>\$ —</b>	<b>\$ 1</b>	<b>\$ 3</b>	<b>\$ —</b>	<b>\$ 1</b>	<b>\$ 3</b>
<b>Total Investments</b>	<b>\$ 1,165</b>	<b>\$ 45</b>	<b>\$ 3,261</b>	<b>\$ 1,028</b>	<b>\$ 40</b>	<b>\$ 3,041</b>

- (a) Substantially all these amounts represent OTTI on investments within Investment Trusts that have been recognized immediately as a regulatory asset.
- (b) These amounts are recorded in Other within Investments and Other Assets on the Consolidated Balance Sheets.

The table below summarizes the maturity date for debt securities.

(in millions)	December 31, 2016
Due in one year or less	\$ 3
Due after one through five years	230
Due after five through 10 years	260
Due after 10 years	505
<b>Total</b>	<b>\$ 998</b>

Realized gains and losses, which were determined on a specific identification basis, from sales of available-for-sale securities were as follows.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Realized gains	\$ 157	\$ 158	\$ 109
Realized losses	121	83	93

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**PROGRESS ENERGY**

The following table presents the estimated fair value of investments in available-for-sale securities.

(in millions)	December 31, 2016			December 31, 2015		
	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses <sup>(a)</sup>	Estimated Fair Value	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses <sup>(a)</sup>	Estimated Fair Value
<b>NDTF</b>						
Cash and cash equivalents	\$ —	\$ —	\$ 93	\$ —	\$ —	\$ 145
Equity securities	935	26	1,861	802	31	1,496
Corporate debt securities	5	2	174	4	3	140
Municipal bonds	2	8	264	4	1	152
U.S. government bonds	8	3	526	8	2	816
Other debt securities	—	—	8	—	—	30
<b>Total NDTF</b>	<b>\$ 950</b>	<b>\$ 39</b>	<b>\$ 2,926</b>	<b>\$ 818</b>	<b>\$ 37</b>	<b>\$ 2,779</b>
<b>Other Investments</b>						
Cash and cash equivalents	\$ —	\$ —	\$ 21	\$ —	\$ —	\$ 18
Municipal bonds	2	—	44	3	—	45
<b>Total Other Investments<sup>(b)</sup></b>	<b>\$ 2</b>	<b>\$ —</b>	<b>\$ 65</b>	<b>\$ 3</b>	<b>\$ —</b>	<b>\$ 63</b>
<b>Total Investments</b>	<b>\$ 952</b>	<b>\$ 39</b>	<b>\$ 2,991</b>	<b>\$ 821</b>	<b>\$ 37</b>	<b>\$ 2,842</b>

(a) Substantially all these amounts represent OTTI on investments within Investment Trusts that have been recognized immediately as a regulatory asset.

(b) These amounts are recorded in Other within Investments and Other Assets on the Consolidated Balance Sheets.

The table below summarizes the maturity date for debt securities.

(in millions)	December 31, 2016
Due in one year or less	\$ 84
Due after one through five years	347
Due after five through 10 years	187
Due after 10 years	398
<b>Total</b>	<b>\$ 1,016</b>

Realized gains and losses, which were determined on a specific identification basis, from sales of available-for-sale securities were as follows.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Realized gains	\$ 84	\$ 33	\$ 157
Realized losses	64	13	11

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**DUKE ENERGY PROGRESS**

The following table presents the estimated fair value of investments in available-for-sale securities.

(in millions)	December 31, 2016			December 31, 2015		
	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses <sup>(a)</sup>	Estimated Fair Value	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses <sup>(a)</sup>	Estimated Fair Value
<b>NDTF</b>						
Cash and cash equivalents	\$ —	\$ —	\$ 45	\$ —	\$ —	\$ 110
Equity securities	704	21	1,505	596	25	1,178
Corporate debt securities	4	1	120	3	2	96
Municipal bonds	2	8	263	4	1	150
U.S. government bonds	5	2	275	6	2	486
Other debt securities	—	—	5	—	—	18
<b>Total NDTF</b>	<b>\$ 715</b>	<b>\$ 32</b>	<b>\$ 2,213</b>	<b>\$ 609</b>	<b>\$ 30</b>	<b>\$ 2,038</b>
<b>Other Investments</b>						
Cash and cash equivalents	\$ —	\$ —	\$ 1	\$ —	\$ —	\$ 1
<b>Total Other Investments<sup>(b)</sup></b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 1</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 1</b>
<b>Total Investments</b>	<b>\$ 715</b>	<b>\$ 32</b>	<b>\$ 2,214</b>	<b>\$ 609</b>	<b>\$ 30</b>	<b>\$ 2,039</b>

- (a) Substantially all these amounts are considered OTTIs on investments within Investment Trusts that have been recognized immediately as a regulatory asset.
- (b) These amounts are recorded in Other within Investments and Other Assets on the Consolidated Balance Sheets.

The table below summarizes the maturity date for debt securities.

(in millions)	December 31, 2016
Due in one year or less	\$ 28
Due after one through five years	190
Due after five through 10 years	142
Due after 10 years	303
<b>Total</b>	<b>\$ 663</b>

Realized gains and losses, which were determined on a specific identification basis, from sales of available-for-sale securities were as follows.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Realized gains	\$ 71	\$ 26	\$ 19
Realized losses	55	11	5

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**DUKE ENERGY FLORIDA**

The following table presents the estimated fair value of investments in available-for-sale securities.

(in millions)	December 31, 2016			December 31, 2015		
	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses <sup>(a)</sup>	Estimated Fair Value	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses <sup>(a)</sup>	Estimated Fair Value
	<b>NDTF</b>					
Cash and cash equivalents	\$ —	\$ —	\$ 48	\$ —	\$ —	\$ 35
Equity securities	231	5	356	206	6	318
Corporate debt securities	1	1	54	1	1	44
Municipal bonds	—	—	1	—	—	2
U.S. government bonds	3	1	251	2	—	330
Other debt securities	—	—	3	—	—	12
<b>Total NDTF<sup>(b)</sup></b>	<b>\$ 235</b>	<b>\$ 7</b>	<b>\$ 713</b>	<b>\$ 209</b>	<b>\$ 7</b>	<b>\$ 741</b>
<b>Other Investments</b>						
Cash and cash equivalents	\$ —	\$ —	\$ 4	\$ —	\$ —	\$ 6
Municipal bonds	2	—	44	3	—	45
<b>Total Other Investments<sup>(c)</sup></b>	<b>\$ 2</b>	<b>\$ —</b>	<b>\$ 48</b>	<b>\$ 3</b>	<b>\$ —</b>	<b>\$ 51</b>
<b>Total Investments</b>	<b>\$ 237</b>	<b>\$ 7</b>	<b>\$ 761</b>	<b>\$ 212</b>	<b>\$ 7</b>	<b>\$ 792</b>

- (a) Substantially all these amounts are considered OTTIs on investments within Investment Trusts that have been recognized immediately as a regulatory asset.
- (b) The decrease in estimated fair value of the NDTF as of December 31, 2016, is primarily due to reimbursements from the NDTF for costs related to ongoing decommissioning activity of Crystal River Unit 3.
- (c) These amounts are recorded in Other within Investments and Other Assets on the Consolidated Balance Sheets.

The table below summarizes the maturity date for debt securities.

(in millions)	December 31, 2016
Due in one year or less	\$ 56
Due after one through five years	157
Due after five through 10 years	45
Due after 10 years	95
<b>Total</b>	<b>\$ 353</b>

Realized gains and losses, which were determined on a specific identification basis, from sales of available-for-sale securities were as follows.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Realized gains	\$ 13	\$ 7	\$ 138
Realized losses	9	2	5

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**DUKE ENERGY INDIANA**

The following table presents the estimated fair value of investments in available-for-sale securities.

(in millions)	December 31, 2016			December 31, 2015		
	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses <sup>(a)</sup>	Estimated Fair Value	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses <sup>(a)</sup>	Estimated Fair Value
<b>Other Investments</b>						
Cash and cash equivalents	\$ —	\$ —	\$ —	\$ —	\$ —	2
Equity securities	33	—	79	27	—	71
Corporate debt securities	—	—	2	—	—	2
Municipal bonds	—	1	28	—	1	26
U.S. government bonds	—	—	1	—	—	—
<b>Total Other Investments<sup>(b)</sup></b>	<b>\$ 33</b>	<b>\$ 1</b>	<b>\$ 110</b>	<b>\$ 27</b>	<b>\$ 1</b>	<b>\$ 101</b>
<b>Total Investments</b>	<b>\$ 33</b>	<b>\$ 1</b>	<b>\$ 110</b>	<b>\$ 27</b>	<b>\$ 1</b>	<b>\$ 101</b>

- (a) Substantially all these amounts are considered OTTI's on investments within Investment Trusts that have been recognized immediately as a regulatory asset.
- (b) These amounts are recorded in Other within Investments and Other Assets on the Consolidated Balance Sheets.

The table below summarizes the maturity date for debt securities.

(in millions)	December 31, 2016
Due in one year or less	\$ 3
Due after one through five years	13
Due after five through 10 years	9
Due after 10 years	6
<b>Total</b>	<b>\$ 31</b>

Realized gains and losses, which were determined on a specific identification basis, from sales of available-for-sale securities were insignificant for the years ended December 31, 2016, 2015 and 2014.

**16. FAIR VALUE MEASUREMENTS**

Fair value is the exchange price to sell an asset or transfer a liability in an orderly transaction between market participants at the measurement date. The fair value definition focuses on an exit price versus the acquisition cost. Fair value measurements use market data or assumptions market participants would use in pricing the asset or liability, including assumptions about risk and the risks inherent in the inputs to the valuation technique. These inputs may be readily observable, corroborated by market data, or generally unobservable. Valuation techniques maximize the use of observable inputs and minimize use of unobservable inputs. A midmarket pricing convention (the midpoint price between bid and ask prices) is permitted for use as a practical expedient.

Fair value measurements are classified in three levels based on the fair value hierarchy:

**Level 1** – Unadjusted quoted prices in active markets for identical assets or liabilities that the reporting entity can access at the measurement date. An active market is one in which transactions for an asset or liability occur with sufficient frequency and volume to provide ongoing pricing information.

**Level 2** – A fair value measurement utilizing inputs other than quoted prices included in Level 1 that are observable, either directly or indirectly, for an asset or liability. Inputs include (i) quoted prices for similar assets or liabilities in active markets, (ii) quoted prices for identical or similar assets or liabilities in markets that are not active, (iii) and inputs other than quoted market prices that are observable for the asset or liability, such as interest rate curves and yield curves observable at commonly quoted intervals, volatilities and credit spreads. A Level 2 measurement cannot have more than an insignificant portion of its valuation based on unobservable inputs. Instruments in this category include non-exchange-traded derivatives, such as over-the-counter forwards, swaps and options; certain marketable debt securities; and financial instruments traded in less than active markets.

**Level 3** – Any fair value measurement which includes unobservable inputs for more than an insignificant portion of the valuation. These inputs may be used with internally developed methodologies that result in management's best estimate of fair value. Level 3 measurements may include longer-term instruments that extend into periods in which observable inputs are not available.

**Not Categorized** – Certain investments are not categorized within the Fair Value hierarchy. These investments are measured based on the fair value of the underlying investments but may not be readily redeemable at that fair value.

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Fair value accounting guidance permits entities to elect to measure certain financial instruments that are not required to be accounted for at fair value, such as equity method investments or the company's own debt, at fair value. The Duke Energy Registrants have not elected to record any of these items at fair value.

Transfers between levels represent assets or liabilities that were previously (i) categorized at a higher level for which the inputs to the estimate became less observable or (ii) classified at a lower level for which the inputs became more observable during the period. The Duke Energy Registrant's policy is to recognize transfers between levels of the fair value hierarchy at the end of the period. There were no transfers between Levels 1 and 2 during the years ended December 31, 2016, 2015 and 2014. Transfers out of Level 3 during the year ended December 31, 2014, were the result of forward commodity prices becoming observable due to the passage of time.

Valuation methods of the primary fair value measurements disclosed below are as follows.

#### Investments in equity securities

The majority of investments in equity securities are valued using Level 1 measurements. Investments in equity securities are typically valued at the closing price in the principal active market as of the last business day of the quarter. Principal active markets for equity prices include published exchanges such as the New York Stock Exchange (NYSE) and the NASDAQ Stock Market. Foreign equity prices are translated from their trading currency using the currency exchange rate in effect at the close of the principal active market. There was no after-hours market activity that was required to be reflected in the reported fair value measurements.

#### Investments in debt securities

Most investments in debt securities are valued using Level 2 measurements because the valuations use interest rate curves and credit spreads applied to the terms of the debt instrument (maturity and coupon interest rate) and consider the counterparty credit rating. If the market for a particular fixed-income security is relatively inactive or illiquid, the measurement is Level 3.

#### Commodity derivatives

Commodity derivatives with clearinghouses are classified as Level 1. Other commodity derivatives are primarily valued using internally developed discounted cash flow models which incorporate forward price, adjustments for liquidity (bid-ask spread) and credit or non-performance risk (after reflecting credit enhancements such as collateral) and are discounted to present value. Pricing inputs are derived from published exchange transaction prices and other observable data sources. In the absence of an active market, the last available price may be used. If forward price curves are not observable for the full term of the contract and the unobservable period had more than an insignificant impact on the valuation, the commodity derivative is classified as Level 3. In isolation, increases (decreases) in natural gas forward prices result in favorable (unfavorable) fair value adjustments for gas purchase contracts; and increases (decreases) in electricity forward prices result in unfavorable (favorable) fair value adjustments for electricity sales contracts. Duke Energy regularly evaluates and validates pricing inputs used to estimate the fair value of gas commodity contracts by a market participant price verification procedure. This procedure provides a comparison of internal forward commodity curves to market participant generated curves.

#### Interest rate derivatives

Most over-the-counter interest rate contract derivatives are valued using financial models which utilize observable inputs for similar instruments and are classified as Level 2. Inputs include forward interest rate curves, notional amounts, interest rates and credit quality of the counterparties.

#### Other fair value considerations

See Note 11 for a discussion of the valuation of goodwill and intangible assets. See Note 2 related to the acquisition of Piedmont in 2016 and the purchase of NCEMPA's ownership interests in certain generating assets in 2015.

#### DUKE ENERGY

The following tables provide recorded balances for assets and liabilities measured at fair value on a recurring basis on the Consolidated Balance Sheets. Derivative amounts in the table below exclude cash collateral which is disclosed in Note 14. See Note 15 for additional information related to investments by major security type.

(in millions)	December 31, 2016				
	Total Fair Value	Level 1	Level 2	Level 3	Not Categorized
Nuclear decommissioning trust fund equity securities	\$ 4,106	\$ 4,029	\$ —	\$ —	77
Nuclear decommissioning trust fund debt securities	2,078	632	1,446	—	—
Other trading and available-for-sale equity securities	104	104	—	—	—
Other trading and available-for-sale debt securities	266	75	186	5	—
Derivative assets	162	5	136	21	—
Total assets	6,716	4,845	1,768	26	77
Derivative liabilities	(252)	(2)	(63)	(187)	—
Net assets (liabilities)	\$ 6,464	\$ 4,843	\$ 1,705	\$ (161)	77

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(in millions)	December 31, 2015				
	Total Fair Value	Level 1	Level 2	Level 3	Not Categorized
Nuclear decommissioning trust fund equity securities	\$ 3,590	\$ 3,418	\$ —	\$ —	172
Nuclear decommissioning trust fund debt securities	2,227	672	1,555	—	—
Other available-for-sale equity securities	95	95	—	—	—
Other available-for-sale debt securities	302	75	222	5	—
Derivative assets	25	—	15	10	—
Total assets	6,239	4,260	1,792	15	172
Derivative liabilities	(397)	—	(397)	—	—
Net assets	\$ 5,842	\$ 4,260	\$ 1,395	\$ 15	172

The following tables provide reconciliations of beginning and ending balances of assets and liabilities measured at fair value using Level 3 measurements. Amounts included in earnings for derivatives are primarily included in Operating Revenues.

(in millions)	December 31, 2016		
	Investments	Derivatives (net)	Total
Balance at beginning of period	\$ 5	\$ 10	\$ 15
Derivative liability resulting from the acquisition of Piedmont	—	(187)	(187)
Purchases, sales, issuances and settlements:			
Purchases	—	33	33
Settlements	—	(28)	(28)
Total gains included on the Consolidated Balance Sheet as regulatory assets or liabilities	—	6	6
Balance at end of period	\$ 5	\$ (166)	\$ (161)

(in millions)	December 31, 2015		
	Investments	Derivatives (net)	Total
Balance at beginning of period	\$ 5	\$ (1)	\$ 4
Total pretax realized or unrealized gains (losses) included in earnings	—	21	21
Purchases, sales, issuances and settlements:			
Purchases	—	24	24
Sales	—	(1)	(1)
Settlements	—	(37)	(37)
Total gains included on the Consolidated Balance Sheet as regulatory assets or liabilities	—	4	4
Balance at end of period	\$ 5	\$ 10	\$ 15

#### DUKE ENERGY CAROLINAS

The following tables provide recorded balances for assets and liabilities measured at fair value on a recurring basis on the Consolidated Balance Sheets. Derivative amounts in the table below exclude cash collateral, which is disclosed in Note 14. See Note 15 for additional information related to investments by major security type.

(in millions)	December 31, 2016				
	Total Fair Value	Level 1	Level 2	Level 3	Not Categorized
Nuclear decommissioning trust fund equity securities	\$ 2,245	\$ 2,168	\$ —	\$ —	77
Nuclear decommissioning trust fund debt securities	1,013	178	835	—	—
Other available-for-sale debt securities	3	—	—	3	—
Derivative assets	33	—	33	—	—
Total assets	3,294	2,346	868	3	77
Derivative liabilities	(16)	—	(16)	—	—
Net assets	\$ 3,278	\$ 2,346	\$ 852	\$ 3	77

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(in millions)	December 31, 2015				
	Total Fair Value	Level 1	Level 2	Level 3	Not Categorized
Nuclear decommissioning trust fund equity securities	\$ 2,094	\$ 1,922	\$ —	\$ —	172
Nuclear decommissioning trust fund debt securities	944	246	698	—	—
Other available-for-sale debt securities	3	—	—	3	—
Total assets	3,041	2,168	698	3	172
Derivative liabilities	(45)	—	(45)	—	—
Net assets	\$ 2,996	\$ 2,168	\$ 653	\$ 3	172

There was no change to the Level 3 balance during the years ended December 31, 2016 and 2015.

### PROGRESS ENERGY

The following tables provide recorded balances for assets and liabilities measured at fair value on a recurring basis on the Consolidated Balance Sheets. Derivative amounts in the table below exclude cash collateral, which is disclosed in Note 14. See Note 15 for additional information related to investments by major security type.

(in millions)	December 31, 2016		
	Total Fair Value	Level 1	Level 2
Nuclear decommissioning trust fund equity securities	\$ 1,861	\$ 1,861	—
Nuclear decommissioning trust fund debt securities	1,065	454	611
Other available-for-sale debt securities	65	21	44
Derivative assets	85	—	85
Total assets	3,076	2,336	740
Derivative liabilities	(25)	—	(25)
Net assets	\$ 3,051	\$ 2,336	715

(in millions)	December 31, 2015		
	Total Fair Value	Level 1	Level 2
Nuclear decommissioning trust fund equity securities	\$ 1,496	\$ 1,496	—
Nuclear decommissioning trust fund debt securities	1,283	426	857
Other available-for-sale debt securities	63	18	45
Derivative assets	11	—	11
Total assets	2,853	1,940	913
Derivative liabilities	(322)	—	(322)
Net assets	\$ 2,531	\$ 1,940	591

### DUKE ENERGY PROGRESS

The following tables provide recorded balances for assets and liabilities measured at fair value on a recurring basis on the Consolidated Balance Sheets. Derivative amounts in the table below exclude cash collateral which is disclosed in Note 14. See Note 15 for additional information related to investments by major security type.

(in millions)	December 31, 2016		
	Total Fair Value	Level 1	Level 2
Nuclear decommissioning trust fund equity securities	\$ 1,505	\$ 1,505	—
Nuclear decommissioning trust fund debt securities and other	708	207	501
Other available-for-sale debt securities and other	1	1	—
Derivative assets	46	—	46
Total assets	2,260	1,713	547
Derivative liabilities	(7)	—	(7)
Net assets	\$ 2,253	\$ 1,713	540



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(in millions)	December 31, 2015		
	Total Fair Value	Level 1	Level 2
Nuclear decommissioning trust fund equity securities	\$ 1,178	\$ 1,178	\$ —
Nuclear decommissioning trust fund debt securities and other	860	141	719
Other available-for-sale debt securities and other	1	1	—
Derivative assets	2	—	2
Total assets	2,041	1,320	721
Derivative liabilities	(98)	—	(98)
Net assets	\$ 1,943	\$ 1,320	\$ 623

**DUKE ENERGY FLORIDA**

The following tables provide recorded balances for assets and liabilities measured at fair value on a recurring basis on the Consolidated Balance Sheets. Derivative amounts in the table below exclude cash collateral which is disclosed in Note 14. See Note 15 for additional information related to investments by major security type.

(in millions)	December 31, 2016		
	Total Fair Value	Level 1	Level 2
Nuclear decommissioning trust fund equity securities	\$ 356	\$ 356	\$ —
Nuclear decommissioning trust fund debt securities and other	357	247	110
Other available-for-sale debt securities and other	48	4	44
Derivative assets	39	—	39
Total assets	800	607	193
Derivative liabilities	(12)	—	(12)
Net assets	\$ 788	\$ 607	\$ 181

(in millions)	December 31, 2015		
	Total Fair Value	Level 1	Level 2
Nuclear decommissioning trust fund equity securities	\$ 318	\$ 318	\$ —
Nuclear decommissioning trust fund debt securities and other	423	285	138
Other available-for-sale debt securities and other	51	6	45
Derivative assets	7	—	7
Total assets	799	609	190
Derivative liabilities	(216)	—	(216)
Net assets (liabilities)	\$ 583	\$ 609	\$ (26)

**DUKE ENERGY OHIO**

The following tables provide recorded balances for assets and liabilities measured at fair value on a recurring basis on the Consolidated Balance Sheets. Derivative amounts in the table below exclude cash collateral, which are disclosed in Note 14.

(in millions)	December 31, 2016			
	Total Fair Value	Level 1	Level 2	Level 3
Derivative assets	\$ 5	\$ —	\$ —	\$ 5
Derivative liabilities	(6)	—	(6)	—
Net (liabilities) assets	\$ (1)	\$ —	\$ (6)	\$ 5

(in millions)	December 31, 2015			
	Total Fair Value	Level 1	Level 2	Level 3
Derivative assets	\$ 3	\$ —	\$ —	\$ 3
Derivative liabilities	(7)	—	(7)	—
Net (liabilities) assets	\$ (4)	\$ —	\$ (7)	\$ 3

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The following table provides a reconciliation of beginning and ending balances of assets and liabilities measured at fair value using Level 3 measurements.

(in millions)	Derivatives (net)	
	Years Ended December 31,	
	2016	2015
Balance at beginning of period	\$ 3	\$ (18)
Total pretax realized or unrealized gains (losses) included in earnings	—	21
Purchases, sales, issuances and settlements:		
Purchases	5	5
Settlements	(5)	(5)
Total gains included on the Consolidated Balance Sheet as regulatory assets or liabilities	2	—
Balance at end of period	\$ 5	\$ 3

#### DUKE ENERGY INDIANA

The following tables provide recorded balances for assets and liabilities measured at fair value on a recurring basis on the Consolidated Balance Sheets. Derivative amounts in the table below exclude cash collateral, which is disclosed in Note 14. See Note 15 for additional information related to investments by major security type.

(in millions)	December 31, 2016			
	Total Fair Value	Level 1	Level 2	Level 3
	Other available-for-sale equity securities	\$ 79	\$ 79	\$ —
Other available-for-sale debt securities and other	31	—	31	—
Derivative assets	16	—	—	16
Total assets	126	79	31	16
Derivative liabilities	(2)	(2)	—	—
Net assets	\$ 124	\$ 77	\$ 31	\$ 16

(in millions)	December 31, 2015			
	Total Fair Value	Level 1	Level 2	Level 3
	Other available-for-sale equity securities	\$ 71	\$ 71	\$ —
Other available-for-sale debt securities and other	30	2	28	—
Derivative assets	7	—	—	7
Net assets	\$ 108	\$ 73	\$ 28	\$ 7

The following table provides a reconciliation of beginning and ending balances of assets and liabilities measured at fair value using Level 3 measurements.

(in millions)	Derivatives (net)	
	Years Ended December 31,	
	2016	2015
Balance at beginning of period	\$ 7	\$ 14
Purchases, sales, issuances and settlements:		
Purchases	29	19
Settlements	(24)	(30)
Total gains included on the Consolidated Balance Sheet as regulatory assets or liabilities	4	4
Balance at end of period	\$ 16	\$ 7

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**QUANTITATIVE INFORMATION ABOUT UNOBSERVABLE INPUTS**

The following table includes quantitative information about the Duke Energy Registrants' derivatives classified as Level 3.

December 31, 2016				
Investment Type	Fair Value (in millions)	Valuation Technique	Unobservable Input	Range
<b>Duke Energy</b>				
Natural gas contracts	\$ (187)	Discounted cash flow	Forward natural gas curves - price per million British thermal unit (MMBtu)	\$ 2.31 - \$ 4.18
Financial Transmission Rights (FTRs)	21	RTO auction pricing	FTR price – per megawatt-hour (MWh)	(0.83) - 9.32
Total Level 3 derivatives	\$ (166)			
<b>Duke Energy Ohio</b>	<b>\$ 5</b>	RTO auction pricing	FTR price – per MWh	<b>\$ 0.77 - \$ 3.52</b>
<b>Duke Energy Indiana</b>	<b>16</b>	RTO auction pricing	FTR price – per MWh	<b>(0.83) - 9.32</b>

December 31, 2015				
Investment Type	Fair Value (in millions)	Valuation Technique	Unobservable Input	Range
Duke Energy	\$ 10	RTO auction pricing	FTR price – per MWh	\$ (0.74) - \$ 7.29
Duke Energy Ohio	3	RTO auction pricing	FTR price – per MWh	0.67 - 2.53
Duke Energy Indiana	7	RTO auction pricing	FTR price – per MWh	(0.74) - 7.29

**OTHER FAIR VALUE DISCLOSURES**

The fair value and book value of long-term debt, including current maturities, is summarized in the following table. Estimates determined are not necessarily indicative of amounts that could have been settled in current markets. Fair value of long-term debt uses Level 2 measurements.

(in millions)	December 31, 2016		December 31, 2015	
	Book Value	Fair Value	Book Value	Fair Value
Duke Energy	\$ 47,895	\$ 49,161	\$ 38,868	\$ 41,767
Duke Energy Carolinas	9,603	10,494	8,367	9,156
Progress Energy	17,541	19,107	14,464	15,856
Duke Energy Progress	7,011	7,357	6,518	6,757
Duke Energy Florida	6,125	6,728	4,266	4,908
Duke Energy Ohio	1,884	2,020	1,598	1,724
Duke Energy Indiana	3,786	4,260	3,768	4,219

At both December 31, 2016 and December 31, 2015, fair value of cash and cash equivalents, accounts and notes receivable, accounts payable, notes payable and commercial paper and non-recourse notes payable of VIEs are not materially different from their carrying amounts because of the short-term nature of these instruments and/or because the stated rates approximate market rates.

**17. VARIABLE INTEREST ENTITIES**

A VIE is an entity that is evaluated for consolidation using more than a simple analysis of voting control. The analysis to determine whether an entity is a VIE considers contracts with an entity, credit support for an entity, the adequacy of the equity investment of an entity and the relationship of voting power to the amount of equity invested in an entity. This analysis is performed either upon the creation of a legal entity or upon the occurrence of an event requiring reevaluation, such as a significant change in an entity's assets or activities. A qualitative analysis of control determines the party that consolidates a VIE. This assessment is based on (i) what party has the power to direct the activities of the VIE that most significantly impact its economic performance and (ii) what party has rights to receive benefits or is obligated to absorb losses that could potentially be significant to the VIE. The analysis of the party that consolidates a VIE is a continual reassessment.

**CONSOLIDATED VIEs**

The obligations of these VIEs discussed in the following paragraphs are nonrecourse to the Duke Energy Registrants. The registrants have no requirement to provide liquidity to, purchase assets of or guarantee performance of these VIEs unless noted in the following paragraphs.

No financial support was provided to any of the consolidated VIEs during the years ended December 31, 2016, 2015 and 2014, or is expected to be provided in the future, that was not previously contractually required.

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**Receivables Financing – DERF/DEPR/DEFR**

Duke Energy Receivables Finance Company, LLC (DERF), Duke Energy Progress Receivables, LLC (DEPR) and Duke Energy Florida Receivables, LLC (DEFR) are bankruptcy remote, special purpose subsidiaries of Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida, respectively. DERF, DEPR and DEFR are wholly owned limited liability companies with separate legal existence from their parent companies and their assets are not generally available to creditors of their parent companies. On a revolving basis, DERF, DEPR and DEFR buy certain accounts receivable arising from the sale of electricity and related services from their parent companies.

DERF, DEPR and DEFR borrow amounts under credit facilities to buy these receivables. Borrowing availability from the credit facilities is limited to the amount of qualified receivables purchased. The sole source of funds to satisfy the related debt obligations is cash collections from the receivables. Amounts borrowed under the credit facilities are reflected on the Consolidated Balance Sheets as Long-Term Debt.

The most significant activity that impacts the economic performance of DERF, DEPR and DEFR are the decisions made to manage delinquent receivables. Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida consolidate DERF, DEPR and DEFR, respectively, as they make those decisions.

**Receivables Financing – CRC**

CRC is a bankruptcy remote, special purpose entity indirectly owned by Duke Energy. On a revolving basis, CRC buys certain accounts receivable arising from the sale of electricity, natural gas and related services from Duke Energy Ohio and Duke Energy Indiana. CRC borrows amounts under a credit facility to buy the receivables from Duke Energy Ohio and Duke Energy Indiana. Borrowing availability from the credit facility is limited to the amount of qualified receivables sold to CRC. The sole source of funds to satisfy the related debt obligation is cash collections from the receivables. Amounts borrowed under the credit facility are reflected on Duke Energy's Consolidated Balance Sheets as Long-Term Debt.

The proceeds Duke Energy Ohio and Duke Energy Indiana receive from the sale of receivables to CRC are typically 75 percent cash and 25 percent in the form of a subordinated note from CRC. The subordinated note is a retained interest in the receivables sold. Depending on collection experience, additional equity infusions to CRC may be required by Duke Energy to maintain a minimum equity balance of \$3 million.

CRC is considered a VIE because (i) equity capitalization is insufficient to support its operations, (ii) power to direct the activities that most significantly impact the economic performance of the entity are not performed by the equity holder and (iii) deficiencies in net worth of CRC are funded by Duke Energy. The most significant activities that impact the economic performance of CRC are decisions made to manage delinquent receivables. Duke Energy consolidates CRC as it makes these decisions. Neither Duke Energy Ohio nor Duke Energy Indiana consolidate CRC.

**Receivables Financing – Credit Facilities**

The following table outlines amounts and expiration dates of the credit facilities described above.

	Duke Energy			
	CRC	Duke Energy Carolinas	Duke Energy Progress	Duke Energy Florida
		DERF	DEPR	DEFR
Expiration date	December 2018	December 2018	February 2019	April 2019
Credit facility amount (in millions)	\$ 325	\$ 425	\$ 300	\$ 225
Amounts borrowed at December 31, 2016	325	425	300	225
Amounts borrowed at December 31, 2015	325	425	254	225

**Nuclear Asset-Recovery Bonds – DEFPP**

DEFPP is a bankruptcy remote, wholly owned special purpose subsidiary of Duke Energy Florida. DEFPP was formed in 2016 for the sole purpose of issuing nuclear asset-recovery bonds to finance Duke Energy Florida's unrecovered regulatory asset related to Crystal River Unit 3.

In June 2016, DEFPP issued \$1,294 million of senior secured bonds and used the proceeds to acquire nuclear asset-recovery property from Duke Energy Florida. The nuclear asset-recovery property acquired includes the right to impose, bill, collect and adjust a non-bypassable nuclear asset-recovery charge from all Duke Energy Florida retail customers until the bonds are paid in full and all financing costs have been recovered. The nuclear asset-recovery bonds are secured by the nuclear asset-recovery property and cash collections from the nuclear asset-recovery charges are the sole source of funds to satisfy the debt obligation. The bondholders have no recourse to Duke Energy Florida. For additional information see Notes 4 and 6.

DEFPP is considered a VIE primarily because the equity capitalization is insufficient to support its operations. Duke Energy Florida has the power to direct the significant activities of the VIE as described above and therefore Duke Energy Florida is considered the primary beneficiary and consolidates DEFPP.

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The following table summarizes the impact of DEFPF on Duke Energy Florida's Consolidated Balance Sheets.

(in millions)	December 31, 2016
Receivables of VIEs	\$ 6
Regulatory Assets: Current	50
Current Assets: Other	53
Regulatory Assets and Deferred Debits: Regulatory assets	1,142
Current Liabilities: Other	17
Current maturities of long-term debt	62
Long-Term Debt	1,217

### Commercial Renewables

Certain of Duke Energy's renewable energy facilities are VIEs due to Duke Energy issuing guarantees for debt service and operations and maintenance reserves in support of debt financings. Assets are restricted and cannot be pledged as collateral or sold to third parties without prior approval of debt holders. The activities that most significantly impact the economic performance of these renewable energy facilities were decisions associated with siting, negotiating PPAs, engineering, procurement and construction and decisions associated with ongoing operations and maintenance-related activities. Duke Energy consolidates the entities as it is responsible for all of these decisions. The table below presents material balances reported on Duke Energy's Consolidated Balance Sheets related to renewables VIEs.

(in millions)	December 31, 2016	December 31, 2015
Current Assets: Other	\$ 223	\$ 138
Property, plant and equipment, cost	3,419	2,015
Accumulated depreciation and amortization	(453)	(321)
Current maturities of long-term debt	198	108
Long-Term Debt	1,097	968
Deferred Credits and Other Liabilities: Deferred income taxes	275	289
Deferred Credits and Other Liabilities: Other	252	33

### NON-CONSOLIDATED VIEs

The following tables summarize the impact of non-consolidated VIEs on the Consolidated Balance Sheets.

(in millions)	December 31, 2016					
	Duke Energy				Duke Energy Ohio	Duke Energy Indiana
	Pipeline Investments	Commercial Renewables	Other	Total		
Receivables from affiliated companies	\$ —	\$ —	\$ —	\$ —	\$ 82	\$ 101
Investments in equity method unconsolidated affiliates	487	174	90	751	—	—
Investments and other assets	12	—	—	12	—	—
Total assets	\$ 499	\$ 174	\$ 90	\$ 763	\$ 82	\$ 101
Other current liabilities	—	—	3	3	—	—
Deferred credits and other liabilities	—	—	13	13	—	—
Total liabilities	\$ —	\$ —	\$ 16	\$ 16	\$ —	\$ —
Net assets (liabilities)	\$ 499	\$ 174	\$ 74	\$ 747	\$ 82	\$ 101

(in millions)	December 31, 2015					
	Duke Energy				Duke Energy Ohio	Duke Energy Indiana
	Pipeline Investments	Commercial Renewables	Other	Total		
Receivables from affiliated companies	\$ —	\$ —	\$ —	\$ —	\$ 47	\$ 60
Investments in equity method unconsolidated affiliates	113	235	39	387	—	—
Total assets	\$ 113	\$ 235	\$ 39	\$ 387	\$ 47	\$ 60
Other current liabilities	—	—	3	3	—	—
Deferred credits and other liabilities	—	—	14	14	—	—
Total liabilities	\$ —	\$ —	\$ 17	\$ 17	\$ —	\$ —
Net assets	\$ 113	\$ 235	\$ 22	\$ 370	\$ 47	\$ 60

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The Duke Energy Registrants are not aware of any situations where the maximum exposure to loss significantly exceeds the carrying values shown above except for the power purchase agreement with OVEC, which is discussed below, and various guarantees, some of which are reflected in the table above as Deferred credits and other liabilities. For more information on various guarantees, refer to Note 7.

### Pipeline Investments

Duke Energy has investments in various joint ventures with pipeline projects currently under construction. These entities are considered VIEs due to having insufficient equity to finance their own activities without subordinated financial support. Duke Energy does not have the power to direct the activities that most significantly impact the economic performance, the obligation to absorb losses or the right to receive benefits of these VIEs and therefore does not consolidate these entities. The table below presents Duke Energy's ownership interest and investment balance in in these joint ventures.

Entity Name	Ownership Interest <sup>(a)</sup>	Investment Amount (in millions)	
		December 31, 2016	December 31, 2015
ACP	47%	\$ 265	\$ 52
Sabal Trail	7.5%	140	61
Constitution	24%	82	—
Total		\$ 487	\$ 113

(a) The percentages presented reflect Duke Energy's ownership interest as of December 31, 2016. The investment amount presented for ACP as of December 31, 2015, reflects 40 percent ownership interest prior to acquiring an additional 7 percent as a result of the Piedmont acquisition. See Notes 2 and 4 for additional information related to the Piedmont acquisition and increased ownership of ACP.

### Commercial Renewables

Duke Energy has investments in various renewable energy project entities. Some of these entities are VIEs due to Duke Energy issuing guarantees for debt service and operations and maintenance reserves in support of debt financings. Duke Energy does not consolidate these VIEs because power to direct and control key activities is shared jointly by Duke Energy and other owners.

During the year ended December 31, 2016, Duke Energy recorded a \$71 million pretax OTTI of certain wind project investments within Equity in earnings (losses) of unconsolidated affiliates on Duke Energy's Consolidated Statements of Operations. See Note 12 for additional information related to the OTTI.

### Other

Duke Energy holds a 50 percent equity interest in DATC. DATC is considered a VIE due to having insufficient equity to finance their own activities without subordinated financial support. The activities that most significantly impact DATC's economic performance are decisions related to investing in existing and development of new transmission facilities. The power to direct these activities is jointly and equally shared by Duke Energy and the other joint venture partner, American Transmission Company, LLC, therefore Duke Energy does not consolidate DATC.

Duke Energy holds a 50 percent equity interest in Pioneer. Pioneer is considered a VIE due to having insufficient equity to finance their own activities without subordinated financial support. The activities that most significantly impact Pioneer's economic performance are decisions related to the development of new transmission facilities. The power to direct these activities is jointly and equally shared by Duke Energy and the other joint venture partner, American Electric Power, therefore Duke Energy does not consolidate Pioneer.

### OVEC

Duke Energy Ohio's 9 percent ownership interest in OVEC is considered a non-consolidated VIE due to having insufficient equity to finance their activities without subordinated financial support. As a counterparty to an inter-company power agreement (ICPA), Duke Energy Ohio has a contractual arrangement to buy power from OVEC's power plants through June 2040 commensurate with its power participation ratio, which is equivalent to Duke Energy Ohio's ownership interest. Costs, including fuel, operating expenses, fixed costs, debt amortization, and interest expense are allocated to counterparties to the ICPA based on their power participation ratio. The value of the ICPA is subject to variability due to fluctuation in power prices and changes in OVEC's cost of business, including costs associated with its 2,256 MW of coal-fired generation capacity. Deterioration in the credit quality, or bankruptcy of one or more parties to the ICPA could increase the costs of OVEC. In addition, certain proposed environmental rulemaking could result in future increased cost allocations.

### CRC

See discussion under Consolidated VIEs for additional information related to CRC.

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Amounts included in Receivables from affiliated companies in the above table for Duke Energy Ohio and Duke Energy Indiana reflect their retained interest in receivables sold to CRC. These subordinated notes held by Duke Energy Ohio and Duke Energy Indiana are stated at fair value. Carrying values of retained interests are determined by allocating carrying value of the receivables between assets sold and interests retained based on relative fair value. The allocated bases of the subordinated notes are not materially different than their face value because (i) the receivables generally turnover in less than two months, (ii) credit losses are reasonably predictable due to the broad customer base and lack of significant concentration and (iii) the equity in CRC is subordinate to all retained interests and thus would absorb losses first. The hypothetical effect on fair value of the retained interests assuming both a 10 percent and a 20 percent unfavorable variation in credit losses or discount rates is not material due to the short turnover of receivables and historically low credit loss history. Interest accrues to Duke Energy Ohio and Duke Energy Indiana on the retained interests using the acceptable yield method. This method generally approximates the stated rate on the notes since the allocated basis and the face value are nearly equivalent. An impairment charge is recorded against the carrying value of both retained interests and purchased beneficial interest whenever it is determined that an OTTI has occurred.

Key assumptions used in estimating fair value are detailed in the following table.

	Duke Energy Ohio		Duke Energy Indiana	
	2016	2015	2016	2015
Anticipated credit loss ratio	0.5%	0.6%	0.3%	0.3%
Discount rate	1.5%	1.2%	1.5%	1.2%
Receivable turnover rate	13.3%	12.9%	10.6%	10.6%

The following table shows the gross and net receivables sold.

(in millions)	Duke Energy Ohio		Duke Energy Indiana	
	2016	2015	2016	2015
Receivables sold	\$ 267	\$ 233	\$ 306	\$ 260
Less: Retained interests	82	47	101	60
Net receivables sold	\$ 185	\$ 186	\$ 205	\$ 200

The following table shows sales and cash flows related to receivables sold.

(in millions)	Duke Energy Ohio			Duke Energy Indiana		
	Years Ended December 31,			Years Ended December 31,		
	2016	2015	2014	2016	2015	2014
<b>Sales</b>						
Receivables sold	\$ 1,926	\$ 1,963	\$ 2,246	\$ 2,635	\$ 2,627	\$ 2,913
Loss recognized on sale	9	9	11	11	11	11
<b>Cash Flows</b>						
Cash proceeds from receivables sold	1,882	1,995	2,261	2,583	2,670	2,932
Collection fees received	1	1	1	1	1	1
Return received on retained interests	2	3	4	5	5	6

Cash flows from the sales of receivables are reflected within Cash Flows From Operating Activities on Duke Energy Ohio's and Duke Energy Indiana's Consolidated Statements of Cash Flows.

Collection fees received in connection with servicing transferred accounts receivable are included in Operation, maintenance and other on Duke Energy Ohio's and Duke Energy Indiana's Consolidated Statements of Operations and Comprehensive Income. The loss recognized on sales of receivables is calculated monthly by multiplying receivables sold during the month by the required discount. The required discount is derived monthly utilizing a three-year weighted average formula that considers charge-off history, late charge history and turnover history on the sold receivables, as well as a component for the time value of money. The discount rate, or component for the time value of money, is the prior month-end LIBOR plus a fixed rate of 1.00 percent.

## 18. COMMON STOCK

Basic Earnings Per Share (EPS) is computed by dividing net income attributable to Duke Energy common stockholders, adjusted for distributed and undistributed earnings allocated to participating securities, by the weighted average number of common stock outstanding during the period. Diluted EPS is computed by dividing net income attributable to Duke Energy common stockholders, as adjusted for distributed and undistributed earnings allocated to participating securities, by the diluted weighted average number of common stock outstanding during the period. Diluted EPS reflects the potential dilution that could occur if securities or other agreements to issue common stock, such as stock options, were exercised or settled. Duke Energy's participating securities are restricted stock units that are entitled to dividends declared on Duke Energy common stock during the restricted stock unit's vesting periods.



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The following table presents Duke Energy's basic and diluted EPS calculations and reconciles the weighted average number of common stock outstanding to the diluted weighted average number of common stock outstanding.

(in millions, except per share amounts)	Years Ended December 31,		
	2016	2015	2014
Income from continuing operations attributable to Duke Energy common stockholders excluding impact of participating securities	\$ 2,567	\$ 2,640	\$ 2,529
Weighted average shares outstanding – basic	691	694	707
Weighted average shares outstanding – diluted	691	694	707
Earnings per share from continuing operations attributable to Duke Energy common stockholders			
Basic	\$ 3.71	3.80	3.58
Diluted	\$ 3.71	3.80	3.58
Potentially dilutive items excluded from the calculation <sup>(a)</sup>	2	2	2
Dividends declared per common share	\$ 3.36	3.24	3.15

- (a) Performance stock awards were not included in the dilutive securities calculation because the performance measures related to the awards had not been met.

### Stock Issuance

In March 2016, Duke Energy marketed an equity offering of 10.6 million shares of common stock. In lieu of issuing equity at the time of the offering, Duke Energy entered into Equity Forwards with Barclays. The Equity Forwards required Duke Energy to either physically settle the transactions by issuing 10.6 million shares, or net settle in whole or in part through the delivery or receipt of cash or shares.

On October 5, 2016, following the close of the Piedmont acquisition, Duke Energy physically settled the Equity Forwards in full by delivering 10.6 million shares of common stock in exchange for net cash proceeds of approximately \$723 million. The net proceeds were used to finance a portion of the Piedmont acquisition.

### Accelerated Stock Repurchase Program

On April 6, 2015, Duke Energy entered into agreements with each of Goldman, Sachs & Co. and JPMorgan Chase Bank, National Association (the Dealers) to repurchase a total of \$1.5 billion of Duke Energy common stock under an accelerated stock repurchase program (the ASR). Duke Energy made payments of \$750 million to each of the Dealers and was delivered 16.6 million shares, with a total fair value of \$1.275 billion, which represented approximately 85 percent of the total number of shares of Duke Energy common stock expected to be repurchased under the ASR. The company recorded the \$1.5 billion payment as a reduction to common stock as of April 6, 2015. In June 2015, the Dealers delivered 3.2 million additional shares to Duke Energy to complete the ASR. Approximately 19.8 million shares, in total, were delivered to Duke Energy and retired under the ASR at an average price of \$75.75 per share. The final number of shares repurchased was based upon the average of the daily volume weighted average stock prices of Duke Energy's common stock during the term of the program, less a discount.

## 19. SEVERANCE

As part of strategic planning processes launched in 2015, Duke Energy continued to implement targeted cost savings initiatives during 2016 aimed at reducing operations and maintenance expense. The initiatives included efforts to reduce costs through the standardization of processes and systems, leveraging technology and workforce optimization throughout the company.

Also during 2016, Duke Energy and Piedmont announced severance plans covering certain eligible employees whose employment will be involuntarily terminated without cause as a result of Duke Energy's acquisition of Piedmont. These reductions are a part of the synergies expected to be realized with the acquisition. Refer to Note 2 for additional information on the Piedmont acquisition.

As part of the cost savings initiatives and the Piedmont integration, voluntary and involuntary severance benefit costs were accrued for a total of approximately 600 employees in 2016 and 900 employees in 2015. The following table presents the direct and allocated severance and related expenses recorded by the Duke Energy Registrants. Amounts are included within Operation, maintenance and other on the Consolidated Statements of Operations.

(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	Year Ended December 31, 2016	\$ 118	\$ 39	\$ 40	\$ 23	\$ 17	\$ 3
Year Ended December 31, 2015	142	93	36	28	8	2	6



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The table below presents the severance liability for past and ongoing severance plans including the plans described above. Amounts for Duke Energy Indiana and Duke Energy Ohio are not material.

(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida
Balance at December 31, 2015	\$ 136	\$ 78	\$ 23	\$ 19	\$ 4
Provision/Adjustments	110	18	20	11	9
Cash Reductions	(167)	(83)	(29)	(24)	(5)
<b>Balance at December 31, 2016</b>	<b>\$ 79</b>	<b>\$ 13</b>	<b>\$ 14</b>	<b>\$ 6</b>	<b>\$ 8</b>

## 20. STOCK-BASED COMPENSATION

The Duke Energy Corporation 2015 Long-Term Incentive Plan (the 2015 Plan) provides for the grant of stock-based compensation awards to employees and outside directors. The 2015 Plan reserves 10 million shares of common stock for issuance. Duke Energy has historically issued new shares upon exercising or vesting of share-based awards. However, Duke Energy may use a combination of new share issuances and open market repurchases for share-based awards that are exercised or vest in the future. Duke Energy has not determined with certainty the amount of such new share issuances or open market repurchases.

The following table summarizes the total expense recognized by the Duke Energy Registrants, net of tax, for stock-based compensation.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Duke Energy	\$ 35	\$ 38	\$ 38
Duke Energy Carolinas	12	14	12
Progress Energy	12	14	14
Duke Energy Progress	7	9	9
Duke Energy Florida	5	5	5
Duke Energy Ohio	2	2	5
Duke Energy Indiana	3	4	3

Duke Energy's pretax stock-based compensation costs, the tax benefit associated with stock-based compensation expense and stock-based compensation costs capitalized are included in the following table.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Restricted stock unit awards	\$ 36	\$ 38	\$ 39
Performance awards	19	23	22
Pretax stock-based compensation cost	\$ 55	\$ 61	\$ 61
Tax benefit associated with stock-based compensation expense	\$ 20	\$ 23	\$ 23
Stock-based compensation costs capitalized	2	3	4

## RESTRICTED STOCK UNIT AWARDS

Restricted stock unit awards generally vest over periods from immediate to three years. Fair value amounts are based on the market price of Duke Energy's common stock on the grant date. The following table includes information related to restricted stock unit awards.

	Years Ended December 31,		
	2016	2015	2014
Shares awarded (in thousands)	684	524	557
Fair value (in millions)	\$ 52	\$ 41	\$ 40

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The following table summarizes information about restricted stock unit awards outstanding.

	Shares (in thousands)	Weighted Average Grant Date Fair Value (per share)
Outstanding at December 31, 2015	953	\$ 75
Piedmont transfers in	113	79
Granted	684	75
Vested	(525)	73
Forfeited	(86)	76
Outstanding at December 31, 2016	1,139	76
Restricted stock unit awards expected to vest	1,056	76

The total grant date fair value of shares vested during the years ended December 31, 2016, 2015 and 2014 was \$38 million, \$41 million and \$52 million, respectively. At December 31, 2016, Duke Energy had \$27 million of unrecognized compensation cost, which is expected to be recognized over a weighted average period of one year, ten months.

### PERFORMANCE AWARDS

Stock-based performance awards generally vest after three years if performance targets are met.

Performance awards granted in 2016, 2015 and 2014 contain market conditions based on the total shareholder return (TSR) of Duke Energy stock relative to a predefined peer group (relative TSR). These awards are valued using a path-dependent model that incorporates expected relative TSR into the fair value determination of Duke Energy's performance-based share awards. The model uses three-year historical volatilities and correlations for all companies in the predefined peer group, including Duke Energy, to simulate Duke Energy's relative TSR as of the end of the performance period. For each simulation, Duke Energy's relative TSR associated with the simulated stock price at the end of the performance period plus expected dividends within the period results in a value per share for the award portfolio. The average of these simulations is the expected portfolio value per share. Actual life to date results of Duke Energy's relative TSR for each grant are incorporated within the model.

For performance awards granted in 2016, the model used a risk-free interest rate of 0.9 percent, which reflects the yield on three-year Treasury bonds as of the grant date, and an expected volatility of 16.1 percent based on Duke Energy's historical volatility over three years using daily stock prices. The performance awards granted in 2016 also contain a performance condition based on Duke Energy's cumulative adjusted EPS.

The following table includes information related to stock-based performance awards.

	Years Ended December 31,		
	2016	2015	2014
Shares awarded (in thousands)	675	642	542
Fair value (in millions)	\$ 25	\$ 26	\$ 19

The following table summarizes information about stock-based performance awards outstanding and assumes payout at the maximum level.

	Shares (in thousands)	Weighted Average Grant Date Fair Value (per share)
Outstanding at December 31, 2015	1,697	\$ 40
Granted	675	38
Vested	(544)	46
Forfeited	(104)	38
Outstanding at December 31, 2016	1,724	38
Stock-based performance awards expected to vest	1,199	38

The total grant date fair value of shares vested during the years ended December 31, 2016, 2015 and 2014 was \$25 million, \$26 million and \$27 million, respectively. At December 31, 2016, Duke Energy had \$24 million of unrecognized compensation cost, which is expected to be recognized over a weighted average period of one year, ten months.

**STOCK OPTIONS**

Stock options are granted with a maximum option term of 10 years and with an exercise price not less than the market price of Duke Energy's common stock on the grant date. The following table summarizes information about stock options outstanding.

	Stock Options (in thousands)	Weighted Average Exercise Price (per share)
Outstanding at December 31, 2015	103	\$ 69
Exercised	(103)	69
Outstanding at December 31, 2016	—	—

The following table summarizes additional information related to stock options exercised and granted.

(in millions)	Years Ended December 31,		
	2016	2015	2014
Intrinsic value of options exercised	\$ 1	\$ 5	\$ 6
Tax benefit related to options exercised	—	2	2
Cash received from options exercised	7	17	25

**21. EMPLOYEE BENEFIT PLANS****DEFINED BENEFIT RETIREMENT PLANS**

Duke Energy or its affiliates maintain, and the Subsidiary Registrants participate in, qualified, non-contributory defined benefit retirement plans. The plans cover most U.S. employees using a cash balance formula. Under a cash balance formula, a plan participant accumulates a retirement benefit consisting of pay credits based upon a percentage of current eligible earnings based on age, or age and years of service and interest credits. Certain employees are covered under plans that use a final average earnings formula. Under these average earnings formulas, a plan participant accumulates a retirement benefit equal to the sum of percentages of their (i) highest three-year, four-year, or five-year average earnings, (ii) highest three-year, four-year, or five-year average earnings in excess of covered compensation per year of participation (maximum of 35 years), (iii) highest three-year average earnings times years of participation in excess of 35 years. Duke Energy also maintains, and the Subsidiary Registrants participate in, non-qualified, non-contributory defined benefit retirement plans which cover certain executives. As of January 1, 2014, the qualified and non-qualified non-contributory defined benefit plans are closed to new and rehired non-union and certain unionized employees. Piedmont employees hired or rehired after December 31, 2007, cannot participate in the qualified non-contributory defined benefit plans, but are participants in the Money Purchase Pension (MPP) plan, discussed below.

Duke Energy uses a December 31 measurement date for its defined benefit retirement plan assets and obligations.

Net periodic benefit costs disclosed in the tables below represent the cost of the respective benefit plan for the periods presented. However, portions of the net periodic benefit costs disclosed in the tables below have been capitalized as a component of property, plant and equipment. Amounts presented in the tables below for the Subsidiary Registrants represent the amounts of pension and other post-retirement benefit cost allocated by Duke Energy for employees of the Subsidiary Registrants. Additionally, the Subsidiary Registrants are allocated their proportionate share of pension and post-retirement benefit cost for employees of Duke Energy's shared services affiliate that provide support to the Subsidiary Registrants. These allocated amounts are included in the governance and shared service costs discussed in Note 13.

Duke Energy's policy is to fund amounts on an actuarial basis to provide assets sufficient to meet benefit payments to be paid to plan participants. The following table includes information related to the Duke Energy Registrants' contributions to its U.S. qualified defined benefit pension plans.

(in millions)	Duke Energy		Duke Energy Progress		Duke Energy Florida		Duke Energy Ohio		Duke Energy Indiana	
	Energy	Carolin	Energy	Energy	Energy	Florida	Energy	Ohio	Energy	Indiana
<b>Anticipated Contributions:</b>										
	2017 \$	160 \$	45 \$	45 \$	25 \$	20 \$	4 \$	9		
<b>Contributions Made:</b>										
	2016 \$	155 \$	43 \$	43 \$	24 \$	20 \$	5 \$	9		
	2015	302	91	83	42	40	8	19		
	2014	—	—	—	—	—	—	—		

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**QUALIFIED PENSION PLANS****Components of Net Periodic Pension Costs**

(in millions)	Year Ended December 31, 2016						
	Duke	Duke	Progress	Duke	Duke	Duke	Duke
	Energy	Energy	Energy	Energy	Energy	Energy	Energy
	Energy	Carolinas	Energy	Progress	Florida	Ohio	Indiana
Service cost	\$ 147	\$ 48	\$ 42	\$ 24	\$ 19	\$ 4	\$ 9
Interest cost on projected benefit obligation	335	86	106	49	55	19	28
Expected return on plan assets	(519)	(142)	(168)	(82)	(84)	(27)	(42)
Amortization of actuarial loss	134	33	51	23	29	4	11
Amortization of prior service credit	(17)	(8)	(3)	(2)	(1)	—	(1)
Settlement charge	3	—	—	—	—	—	—
Other	8	2	3	1	1	1	1
Net periodic pension costs <sup>(a)(b)</sup>	\$ 91	\$ 19	\$ 31	\$ 13	\$ 19	\$ 1	\$ 6

(in millions)	Year Ended December 31, 2015						
	Duke	Duke	Progress	Duke	Duke	Duke	Duke
	Energy	Energy	Energy	Energy	Energy	Energy	Energy
	Energy	Carolinas	Energy	Progress	Florida	Ohio	Indiana
Service cost	\$ 159	\$ 50	\$ 44	\$ 23	\$ 20	\$ 4	\$ 10
Interest cost on projected benefit obligation	324	83	104	48	54	18	27
Expected return on plan assets	(516)	(139)	(171)	(79)	(87)	(26)	(42)
Amortization of actuarial loss	166	39	65	33	31	7	13
Amortization of prior service (credit) cost	(15)	(7)	(3)	(2)	(1)	—	1
Other	8	2	3	1	1	—	1
Net periodic pension costs <sup>(a)(b)</sup>	\$ 126	\$ 28	\$ 42	\$ 24	\$ 18	\$ 3	\$ 10

(in millions)	Year Ended December 31, 2014						
	Duke	Duke	Progress	Duke	Duke	Duke	Duke
	Energy	Energy	Energy	Energy	Energy	Energy	Energy
	Energy	Carolinas	Energy	Progress	Florida	Ohio	Indiana
Service cost	\$ 135	\$ 41	\$ 40	\$ 21	\$ 20	\$ 4	\$ 9
Interest cost on projected benefit obligation	344	85	112	54	57	20	29
Expected return on plan assets	(511)	(132)	(173)	(85)	(85)	(27)	(41)
Amortization of actuarial loss	150	36	68	32	32	4	13
Amortization of prior service credit	(15)	(8)	(3)	(2)	(1)	—	—
Other	8	2	3	1	1	—	1
Net periodic pension costs <sup>(a)(b)</sup>	\$ 111	\$ 24	\$ 47	\$ 21	\$ 24	\$ 1	\$ 11

(a) Duke Energy amounts exclude \$8 million, \$9 million and \$10 million for the years ended December 2016, 2015 and 2014, respectively, of regulatory asset amortization resulting from purchase accounting adjustments associated with Duke Energy's merger with Cinergy in April 2006.

(b) Duke Energy Ohio amounts exclude \$4 million, \$4 million and \$5 million for the years ended December 2016, 2015 and 2014, respectively, of regulatory asset amortization resulting from purchase accounting adjustments associated with Duke Energy's merger with Cinergy in April 2006.

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**Combined Notes To Consolidated Financial Statements – (Continued)**

**Amounts Recognized in Accumulated Other Comprehensive Income and Regulatory Assets**

(in millions)	Year Ended December 31, 2016						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	Energy	Carolinas	Energy	Progress	Florida	Ohio	Indiana
Regulatory assets, net increase	\$ 214	\$ 4	\$ 34	\$ 18	\$ 16	\$ 2	\$ 9
Accumulated other comprehensive loss (income)							
Deferred income tax expense	\$ 4	—	—	—	—	—	—
Prior year service credit arising during the year	(2)	—	—	—	—	—	—
Amortization of prior year actuarial losses	(7)	—	(1)	—	—	—	—
Net amount recognized in accumulated other comprehensive income	\$ (5)	\$ —	\$ (1)	\$ —	\$ —	\$ —	\$ —
(in millions)	Year Ended December 31, 2015						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	Energy	Carolinas	Energy	Progress	Florida	Ohio	Indiana
Regulatory assets, net increase (decrease)	\$ 173	\$ 65	\$ 18	\$ 14	\$ 4	\$ 14	\$ 11
Accumulated other comprehensive (income) loss							
Deferred income tax expense	\$ 6	\$ —	\$ 5	\$ —	\$ —	\$ —	\$ —
Actuarial losses arising during the year	4	—	—	—	—	—	—
Prior year service credit arising during the year	1	—	—	—	—	—	—
Amortization of prior year actuarial losses	(11)	—	(4)	—	—	—	—
Transfer with the Midwest Generation Disposal Group	3	—	—	—	—	—	—
Reclassification of actuarial losses to regulatory assets	(6)	—	—	—	—	—	—
Net amount recognized in accumulated other comprehensive income	\$ (3)	\$ —	\$ 1	\$ —	\$ —	\$ —	\$ —

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**Combined Notes To Consolidated Financial Statements – (Continued)**

**Reconciliation of Funded Status to Net Amount Recognized**

(in millions)	Year Ended December 31, 2016						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
<b>Change in Projected Benefit Obligation</b>							
Obligation at prior measurement date	\$ 7,727	\$ 1,995	\$ 2,451	\$ 1,143	\$ 1,276	\$ 453	\$ 649
Obligation assumed from acquisition	352	—	—	—	—	—	—
Service cost	147	48	42	24	19	4	9
Interest cost	335	86	106	49	55	19	28
Actuarial loss	307	46	111	52	57	13	41
Transfers	—	14	(3)	(3)	—	(3)	—
Plan amendments	(52)	(3)	—	—	—	(3)	(15)
Benefits paid	(679)	(234)	(195)	(107)	(84)	(36)	(54)
Impact of settlements	(6)	—	—	—	—	—	—
Obligation at measurement date	\$ 8,131	\$ 1,952	\$ 2,512	\$ 1,158	\$ 1,323	\$ 447	\$ 658
<b>Accumulated Benefit Obligation at measurement date</b>	<b>\$ 8,006</b>	<b>\$ 1,952</b>	<b>\$ 2,479</b>	<b>\$ 1,158</b>	<b>\$ 1,290</b>	<b>\$ 436</b>	<b>\$ 649</b>
<b>Change in Fair Value of Plan Assets</b>							
Plan assets at prior measurement date	\$ 8,136	\$ 2,243	\$ 2,640	\$ 1,284	\$ 1,321	\$ 433	\$ 655
Assets received from acquisition	343	—	—	—	—	—	—
Employer contributions	155	43	43	24	20	5	9
Actual return on plan assets	582	159	190	92	95	29	47
Benefits paid	(679)	(234)	(195)	(107)	(84)	(36)	(54)
Impact of settlements	(6)	—	—	—	—	—	—
Transfers	—	14	(3)	(3)	—	(3)	—
Plan assets at measurement date	\$ 8,531	\$ 2,225	\$ 2,675	\$ 1,290	\$ 1,352	\$ 428	\$ 657
Funded status of plan	\$ 400	\$ 273	\$ 163	\$ 132	\$ 29	\$ (19)	\$ (1)

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**Combined Notes To Consolidated Financial Statements – (Continued)**

(in millions)	Year Ended December 31, 2015						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	<b>Change in Projected Benefit Obligation</b>						
Obligation at prior measurement date	\$ 8,107	\$ 2,053	\$ 2,557	\$ 1,187	\$ 1,335	\$ 469	\$ 673
Obligation transferred with Midwest Generation Disposal Group	(83)	—	—	—	—	—	—
Service cost	159	50	44	23	20	4	10
Interest cost	324	83	104	48	54	18	27
Actuarial gain	(241)	(53)	(111)	(46)	(62)	(9)	(15)
Transfers	—	8	4	7	(3)	8	—
Plan amendments	(6)	—	—	—	—	—	(4)
Benefits paid	(533)	(146)	(147)	(76)	(68)	(37)	(42)
Obligation at measurement date	\$ 7,727	\$ 1,995	\$ 2,451	\$ 1,143	\$ 1,276	\$ 453	\$ 649
<b>Accumulated Benefit Obligation at measurement date</b>							
	\$ 7,606	\$ 1,993	\$ 2,414	\$ 1,143	\$ 1,240	\$ 442	\$ 628
<b>Change in Fair Value of Plan Assets</b>							
Plan assets at prior measurement date	\$ 8,498	\$ 2,300	\$ 2,722	\$ 1,321	\$ 1,363	\$ 456	\$ 681
Obligation transferred with Midwest Generation Disposal Group	(81)	—	—	—	—	—	—
Employer contributions	302	91	83	42	40	8	19
Actual return on plan assets	(50)	(10)	(22)	(10)	(11)	(2)	(3)
Benefits paid	(533)	(146)	(147)	(76)	(68)	(37)	(42)
Transfers	—	8	4	7	(3)	8	—
Plan assets at measurement date	\$ 8,136	\$ 2,243	\$ 2,640	\$ 1,284	\$ 1,321	\$ 433	\$ 655
Funded status of plan	\$ 409	\$ 248	\$ 189	\$ 141	\$ 45	\$ (20)	\$ 6

**Amounts Recognized in the Consolidated Balance Sheets**

(in millions)	December 31, 2016						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	<b>Prefunded pension<sup>(a)</sup></b>						
	\$ 518	\$ 273	\$ 225	\$ 132	\$ 91	\$ 6	\$ —
<b>Noncurrent pension liability<sup>(b)</sup></b>							
	\$ 118	\$ —	\$ 62	\$ —	\$ 62	\$ 25	\$ 1
<b>Net asset recognized</b>	<b>\$ 400</b>	<b>\$ 273</b>	<b>\$ 163</b>	<b>\$ 132</b>	<b>\$ 29</b>	<b>\$ (19)</b>	<b>\$ (1)</b>
<b>Regulatory assets</b>	<b>\$ 2,098</b>	<b>\$ 476</b>	<b>\$ 805</b>	<b>\$ 378</b>	<b>\$ 426</b>	<b>\$ 81</b>	<b>\$ 171</b>
<b>Accumulated other comprehensive (income) loss</b>							
Deferred income tax asset	\$ (41)	\$ —	\$ (6)	\$ —	\$ —	\$ —	\$ —
Prior service credit	(6)	—	—	—	—	—	—
Net actuarial loss	123	—	16	—	—	—	—
<b>Net amounts recognized in accumulated other comprehensive loss</b>	<b>\$ 76</b>	<b>\$ —</b>	<b>\$ 10</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>
<b>Amounts to be recognized in net periodic pension costs in the next year</b>							
Unrecognized net actuarial loss	\$ 147	\$ 31	\$ 52	\$ 23	\$ 29	\$ 5	\$ 8
Unrecognized prior service credit	(24)	(8)	(3)	(2)	(1)	—	(2)

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**Combined Notes To Consolidated Financial Statements – (Continued)**

(in millions)	December 31, 2015						
	Duke	Duke	Progress	Duke	Duke	Duke	Duke
	Energy	Energy	Energy	Energy	Energy	Energy	Energy
	Energy	Carolin	Energy	Progress	Florida	Ohio	Indiana
Prefunded pension <sup>(a)</sup>	\$ 474	\$ 252	\$ 232	\$ 145	\$ 84	\$ 1	\$ 6
Noncurrent pension liability <sup>(b)</sup>	\$ 65	\$ 4	\$ 43	\$ 4	\$ 39	\$ 21	\$ —
Net asset recognized	\$ 409	\$ 248	\$ 189	\$ 141	\$ 45	\$ (20)	\$ 6
Regulatory assets	\$ 1,884	\$ 472	\$ 771	\$ 360	\$ 410	\$ 79	\$ 162
Accumulated other comprehensive (income) loss							
Deferred income tax asset	\$ (45)	\$ —	\$ (6)	\$ —	\$ —	\$ —	\$ —
Prior service credit	(4)	—	—	—	—	—	—
Net actuarial loss	130	—	17	—	—	—	—
Net amounts recognized in accumulated other comprehensive loss <sup>(c)</sup>	\$ 81	\$ —	\$ 11	\$ —	\$ —	\$ —	\$ —

(a) Included in Other within Investments and Other Assets on the Consolidated Balance Sheets.

(b) Included in Accrued pension and other post-retirement benefit costs on the Consolidated Balance Sheets.

(c) Excludes accumulated other comprehensive income of \$13 million as of December 31, 2015, net of tax, associated with a Brazilian retirement plan.

#### Information for Plans with Accumulated Benefit Obligation in Excess of Plan Assets

(in millions)	December 31, 2016			
	Duke	Progress	Duke	Duke
	Energy	Energy	Energy	Energy
	Energy	Energy	Florida	Ohio
Projected benefit obligation	\$ 1,299	\$ 665	\$ 665	\$ 311
Accumulated benefit obligation	1,239	633	633	299
Fair value of plan assets	1,182	604	604	286

(in millions)	December 31, 2015			
	Duke	Progress	Duke	Duke
	Energy	Energy	Energy	Energy
	Energy	Energy	Florida	Ohio
Projected benefit obligation	\$ 1,216	\$ 611	\$ 611	\$ 307
Accumulated benefit obligation	1,158	575	575	298
Fair value of plan assets	1,151	574	574	289

#### Assumptions Used for Pension Benefits Accounting

The discount rate used to determine the current year pension obligation and following year's pension expense is based on a bond selection-settlement portfolio approach. This approach develops a discount rate by selecting a portfolio of high quality corporate bonds that generate sufficient cash flow to provide for projected benefit payments of the plan. The selected bond portfolio is derived from a universe of non-callable corporate bonds rated Aa quality or higher. After the bond portfolio is selected, a single interest rate is determined that equates the present value of the plan's projected benefit payments discounted at this rate with the market value of the bonds selected.

The average remaining service period of active covered employees is nine years for Duke Energy, Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Florida, Duke Energy Ohio and Duke Energy Indiana.



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**Combined Notes To Consolidated Financial Statements – (Continued)**

The following tables present the assumptions or range of assumptions used for pension benefit accounting.

	December 31,		
	2016	2015	2014
<b>Benefit Obligations</b>			
Discount rate	4.10%	4.40%	4.10%
Salary increase	4.00% - 4.50%	4.00% - 4.40%	4.00% - 4.40%
<b>Net Periodic Benefit Cost</b>			
Discount rate	4.40%	4.10%	4.70%
Salary increase	4.00% - 4.40%	4.00% - 4.40%	4.00% - 4.40%
Expected long-term rate of return on plan assets	6.50% - 6.75%	6.50%	6.75%

**Expected Benefit Payments**

(in millions)	Duke Energy		Duke Progress		Duke Florida		Duke Ohio		Duke Indiana	
	Energy	Carolinas	Energy	Progress	Energy	Florida	Energy	Ohio	Energy	Indiana
Years ending December 31,										
2017	\$ 585	\$ 162	\$ 159	\$ 84	\$ 74	\$ 35	\$ 49			
2018	595	171	159	83	75	33	49			
2019	613	177	164	86	76	33	48			
2020	632	186	171	90	79	34	47			
2021	637	181	175	92	81	35	48			
2022 – 2026	3,099	867	890	455	425	161	219			

**NON-QUALIFIED PENSION PLANS****Components of Net Periodic Pension Costs**

(in millions)	Year Ended December 31, 2016							
	Duke Energy		Duke Progress		Duke Florida		Duke Ohio	
	Energy	Carolinas	Energy	Progress	Energy	Florida	Energy	Ohio
Service cost	\$ 2	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Interest cost on projected benefit obligation	14	1	5	1	2	—	—	—
Amortization of actuarial loss	8	1	1	1	1	—	—	—
Amortization of prior service credit	(1)	—	—	—	—	—	—	—
Net periodic pension costs	\$ 23	\$ 2	\$ 6	\$ 2	\$ 3	\$ —	\$ —	\$ —

(in millions)	Year Ended December 31, 2015							
	Duke Energy		Duke Progress		Duke Florida		Duke Ohio	
	Energy	Carolinas	Energy	Progress	Energy	Florida	Energy	Ohio
Service cost	\$ 3	\$ —	\$ 1	\$ —	\$ —	\$ —	\$ —	\$ —
Interest cost on projected benefit obligation	13	1	4	1	2	—	—	—
Amortization of actuarial loss	6	—	2	1	2	—	1	—
Amortization of prior service credit	(1)	—	(1)	—	—	—	—	—
Net periodic pension costs	\$ 21	\$ 1	\$ 6	\$ 2	\$ 4	\$ —	\$ 1	\$ —

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**Combined Notes To Consolidated Financial Statements – (Continued)**

(in millions)	Year Ended December 31, 2014						
	Duke		Duke		Duke	Duke	Duke
	Duke Energy	Energy Carolinas	Progress Energy	Energy Progress	Energy Florida	Energy Ohio	Energy Indiana
Service cost	\$ 3	\$ —	\$ 1	\$ 1	\$ —	\$ —	\$ —
Interest cost on projected benefit obligation	14	1	5	1	2	—	—
Amortization of actuarial loss	3	—	2	—	—	—	—
Amortization of prior service credit	(1)	—	(1)	—	—	—	—
Net periodic pension costs	\$ 19	\$ 1	\$ 7	\$ 2	\$ 2	\$ —	\$ —

**Amounts Recognized in Accumulated Other Comprehensive Income and Regulatory Assets and Liabilities**

(in millions)	Year Ended December 31, 2016						
	Duke		Duke		Duke	Duke	Duke
	Duke Energy	Energy Carolinas	Progress Energy	Energy Progress	Energy Florida	Energy Ohio	Energy Indiana
Regulatory assets, net (decrease) increase	\$ (3)	\$ (2)	\$ 2	\$ 1	\$ 1	\$ —	\$ (1)
Regulatory liabilities, net increase (decrease)	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Accumulated other comprehensive (income) loss							
Deferred income tax benefit	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Prior service credit arising during the year	(1)	—	—	—	—	—	—
Actuarial loss arising during the year	1	—	—	—	—	—	—
Net amount recognized in accumulated other comprehensive loss (income)	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —

(in millions)	Year Ended December 31, 2015						
	Duke		Duke		Duke	Duke	Duke
	Duke Energy	Energy Carolinas	Progress Energy	Energy Progress	Energy Florida	Energy Ohio	Energy Indiana
Regulatory assets, net (decrease) increase	\$ (13)	\$ 2	\$ (16)	\$ (1)	\$ (15)	\$ —	\$ (1)
Accumulated other comprehensive (income) loss							
Deferred income tax benefit	\$ (7)	\$ —	\$ (5)	\$ —	\$ —	\$ —	\$ —
Amortization of prior service credit	1	—	—	—	—	—	—
Actuarial gains arising during the year	17	—	13	—	—	—	—
Net amount recognized in accumulated other comprehensive loss (income)	\$ 11	\$ —	\$ 8	\$ —	\$ —	\$ —	\$ —

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**Combined Notes To Consolidated Financial Statements – (Continued)**

**Reconciliation of Funded Status to Net Amount Recognized**

(in millions)	Year Ended December 31, 2016						
		Duke	Duke	Duke	Duke	Duke	Duke
	Duke	Energy	Progress	Energy	Energy	Energy	Energy
	Energy	Carolinas	Energy	Progress	Florida	Ohio	Indiana
<b>Change in Projected Benefit Obligation</b>							
Obligation at prior measurement date	\$ 341	\$ 16	\$ 112	\$ 33	\$ 46	\$ 4	\$ 5
Obligation assumed from acquisition	5	—	—	—	—	—	—
Service cost	2	—	—	—	—	—	—
Interest cost	14	1	5	1	2	—	—
Actuarial losses (gains)	4	(1)	5	2	1	—	(2)
Plan amendments	(2)	—	—	—	—	—	—
Benefits paid	(32)	(2)	(8)	(3)	(3)	—	—
Obligation at measurement date	\$ 332	\$ 14	\$ 114	\$ 33	\$ 46	\$ 4	\$ 3
<b>Accumulated Benefit Obligation at measurement date</b>	<b>\$ 332</b>	<b>\$ 14</b>	<b>\$ 114</b>	<b>\$ 33</b>	<b>\$ 46</b>	<b>\$ 4</b>	<b>\$ 3</b>
<b>Change in Fair Value of Plan Assets</b>							
Benefits paid	\$ (32)	\$ (2)	\$ (8)	\$ (3)	\$ (3)	\$ —	\$ —
Employer contributions	32	2	8	3	3	—	—
Plan assets at measurement date	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —

(in millions)	Year Ended December 31, 2015						
		Duke	Duke	Duke	Duke	Duke	Duke
	Duke	Energy	Progress	Energy	Energy	Energy	Energy
	Energy	Carolinas	Energy	Progress	Florida	Ohio	Indiana
<b>Change in Projected Benefit Obligation</b>							
Obligation at prior measurement date	\$ 337	\$ 16	\$ 116	\$ 35	\$ 61	\$ 4	\$ 5
Service cost	3	—	1	—	—	—	—
Interest cost	13	1	4	1	2	—	—
Actuarial losses (gains)	10	1	(1)	—	(14)	—	—
Transfers	4	—	—	—	—	—	—
Benefits paid	(26)	(2)	(8)	(3)	(3)	—	—
Obligation at measurement date	\$ 341	\$ 16	\$ 112	\$ 33	\$ 46	\$ 4	\$ 5
<b>Accumulated Benefit Obligation at measurement date</b>	<b>\$ 336</b>	<b>\$ 16</b>	<b>\$ 112</b>	<b>\$ 33</b>	<b>\$ 46</b>	<b>\$ 4</b>	<b>\$ 5</b>
<b>Change in Fair Value of Plan Assets</b>							
Plan assets at prior measurement date	—	—	—	—	—	—	—
Benefits paid	(26)	(2)	(8)	(3)	(3)	—	—
Employer contributions	26	2	8	3	3	—	—
Plan assets at measurement date	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —

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**Combined Notes To Consolidated Financial Statements – (Continued)**

**Amounts Recognized in the Consolidated Balance Sheets**

(in millions)	December 31, 2016						
	Duke		Duke		Duke	Duke	Duke
	Duke	Energy	Progress	Energy	Energy	Energy	Energy
	Energy	Carolinas	Energy	Progress	Florida	Ohio	Indiana
Current pension liability <sup>(a)</sup>	\$ 28	\$ 2	\$ 8	\$ 2	\$ 3	\$ —	\$ —
Noncurrent pension liability <sup>(b)</sup>	304	12	106	31	43	4	3
<b>Total accrued pension liability</b>	<b>\$ 332</b>	<b>\$ 14</b>	<b>\$ 114</b>	<b>\$ 33</b>	<b>\$ 46</b>	<b>\$ 4</b>	<b>\$ 3</b>
Regulatory assets	\$ 73	\$ 5	\$ 18	\$ 7	\$ 11	\$ 1	\$ —
Accumulated other comprehensive (income) loss							
Deferred income tax asset	\$ (3)	\$ —	\$ (3)	\$ —	\$ —	\$ —	\$ —
Prior service credit	(1)	—	—	—	—	—	—
Net actuarial loss	10	—	9	—	—	—	—
Net amounts recognized in accumulated other comprehensive income	\$ 6	\$ —	\$ 6	\$ —	\$ —	\$ —	\$ —
Amounts to be recognized in net periodic pension expense in the next year							
Unrecognized net actuarial loss	\$ 7	\$ —	\$ 2	\$ 1	\$ 1	\$ —	\$ —
Unrecognized prior service credit	(2)	—	—	—	—	—	—

(in millions)	December 31, 2015						
	Duke		Duke		Duke	Duke	Duke
	Duke	Energy	Progress	Energy	Energy	Energy	Energy
	Energy	Carolinas	Energy	Progress	Florida	Ohio	Indiana
Current pension liability <sup>(a)</sup>	\$ 27	\$ 2	\$ 8	\$ 3	\$ 3	\$ —	\$ —
Noncurrent pension liability <sup>(b)</sup>	314	14	104	30	43	4	5
<b>Total accrued pension liability</b>	<b>\$ 341</b>	<b>\$ 16</b>	<b>\$ 112</b>	<b>\$ 33</b>	<b>\$ 46</b>	<b>\$ 4</b>	<b>\$ 5</b>
Regulatory assets	\$ 76	\$ 7	\$ 16	\$ 6	\$ 10	\$ 1	\$ 1
Accumulated other comprehensive (income) loss							
Deferred income tax asset	\$ (3)	\$ —	\$ (3)	\$ —	\$ —	\$ —	\$ —
Net actuarial loss	9	—	9	—	—	—	—
Net amounts recognized in accumulated other comprehensive loss	\$ 6	\$ —	\$ 6	\$ —	\$ —	\$ —	\$ —

(a) Included in Other within Current Liabilities on the Consolidated Balance Sheets.

(b) Included in Accrued pension and other post-retirement benefit costs on the Consolidated Balance Sheets.

**Information for Plans with Accumulated Benefit Obligation in Excess of Plan Assets**

(in millions)	December 31, 2016						
	Duke		Duke		Duke	Duke	Duke
	Duke	Energy	Progress	Energy	Energy	Energy	Energy
	Energy	Carolinas	Energy	Progress	Florida	Ohio	Indiana
Projected benefit obligation	\$ 332	\$ 14	\$ 114	\$ 33	\$ 46	\$ 4	\$ 3
Accumulated benefit obligation	332	14	114	33	46	4	3

(in millions)	December 31, 2015						
	Duke		Duke		Duke	Duke	Duke
	Duke	Energy	Progress	Energy	Energy	Energy	Energy
	Energy	Carolinas	Energy	Progress	Florida	Ohio	Indiana
Projected benefit obligation	\$ 341	\$ 16	\$ 112	\$ 33	\$ 46	\$ 4	\$ 5
Accumulated benefit obligation	336	16	112	33	46	4	5

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**Combined Notes To Consolidated Financial Statements – (Continued)**

**Assumptions Used for Pension Benefits Accounting**

The discount rate used to determine the current year pension obligation and following year's pension expense is based on a bond selection-settlement portfolio approach. This approach develops a discount rate by selecting a portfolio of high quality corporate bonds that generate sufficient cash flow to provide for projected benefit payments of the plan. The selected bond portfolio is derived from a universe of non-callable corporate bonds rated Aa quality or higher. After the bond portfolio is selected, a single interest rate is determined that equates the present value of the plan's projected benefit payments discounted at this rate with the market value of the bonds selected.

The average remaining service period of active covered employees is 10 years for Duke Energy, seven years for Duke Energy Carolinas, Duke Energy Ohio and Duke Energy Indiana, 14 years for Progress Energy, 12 years for Duke Energy Progress and 15 years for Duke Energy Florida.

The following tables present the assumptions used for pension benefit accounting.

	December 31,		
	2016	2015	2014
<b>Benefit Obligations</b>			
Discount rate	4.10%	4.40%	4.10%
Salary increase	4.40%	4.40%	4.40%
<b>Net Periodic Benefit Cost</b>			
Discount rate	4.40%	4.10%	4.70%
Salary increase	4.40%	4.40%	4.40%

**Expected Benefit Payments**

(in millions)	Duke		Duke		Duke		Duke	
	Duke	Energy	Progress	Energy	Energy	Energy	Ohio	Energy
Years ending December 31,	Energy	Carolinas	Energy	Progress	Florida	Ohio	Indiana	Indiana
2017	\$ 29	\$ 2	\$ 8	\$ 3	\$ 3	\$ —	\$ —	\$ —
2018	25	2	8	3	3	—	—	—
2019	25	2	8	2	3	—	—	—
2020	24	2	8	2	3	—	—	—
2021	24	1	8	2	3	—	—	—
2021 - 2025	111	5	36	11	15	1	1	1

**OTHER POST-RETIREMENT BENEFIT PLANS**

Duke Energy provides, and the Subsidiary Registrants participate in, some health care and life insurance benefits for retired employees on a contributory and non-contributory basis. Employees are eligible for these benefits if they have met age and service requirements at retirement, as defined in the plans. The health care benefits include medical, dental and prescription drug coverage and are subject to certain limitations, such as deductibles and co-payments.

Duke Energy did not make any pre-funding contributions to its other post-retirement benefit plans during the years ended December 31, 2016, 2015 or 2014.

**Components of Net Periodic Other Post-Retirement Benefit Costs**

(in millions)	Year Ended December 31, 2016						
	Duke	Duke	Progress	Duke	Duke	Duke	Duke
Years ending December 31,	Energy	Energy	Energy	Energy	Energy	Energy	Energy
Years ending December 31,	Energy	Carolinas	Energy	Progress	Florida	Ohio	Indiana
Service cost	\$ 3	\$ 1	\$ 1	\$ —	\$ 1	\$ —	\$ —
Interest cost on accumulated post-retirement benefit obligation	35	8	15	8	7	1	4
Expected return on plan assets	(12)	(8)	—	—	—	—	(1)
Amortization of actuarial loss (gain)	6	(3)	22	13	9	(2)	(1)
Amortization of prior service credit	(141)	(14)	(103)	(68)	(35)	—	(1)
Net periodic post-retirement benefit costs <sup>(a)(b)</sup>	\$ (109)	\$ (16)	\$ (65)	\$ (47)	\$ (18)	\$ (1)	\$ 1

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(in millions)	Year Ended December 31, 2015													
		Duke		Duke		Duke		Duke						
		Energy	Carolinas	Progress	Energy	Progress	Florida	Ohio	Indiana					
Service cost	\$	6	\$	1	\$	1	\$	1	\$	—	\$	1		
Interest cost on accumulated post-retirement benefit obligation		36		9		15		8		7		2	4	
Expected return on plan assets		(13)		(8)		—		—		—		(1)	(1)	
Amortization of actuarial loss (gain)		16		(2)		28		18		10		(2)	(2)	
Amortization of prior service credit		(140)		(14)		(102)		(68)		(35)		—	—	
Net periodic post-retirement benefit costs <sup>(a)(b)</sup>	\$	(95)	\$	(14)	\$	(58)	\$	(41)	\$	(17)	\$	(1)	\$	2

(in millions)	Year Ended December 31, 2014													
		Duke		Duke		Duke		Duke						
		Energy	Carolinas	Progress	Energy	Progress	Florida	Ohio	Indiana					
Service cost	\$	10	\$	2	\$	4	\$	1	\$	3	\$	—	\$	1
Interest cost on accumulated post-retirement benefit obligation		49		12		22		11		12		2		5
Expected return on plan assets		(13)		(9)		—		—		—		—		(1)
Amortization of actuarial loss (gain)		39		3		42		31		10		(2)		—
Amortization of prior service credit		(125)		(11)		(95)		(73)		(21)		—		—
Net periodic post-retirement benefit costs <sup>(a)(b)</sup>	\$	(40)	\$	(3)	\$	(27)	\$	(30)	\$	4	\$	—	\$	5

- (a) Duke Energy amounts exclude \$8 million, \$10 million and \$9 million for the years ended December 2016, 2015 and 2014, respectively, of regulatory asset amortization resulting from purchase accounting adjustments associated with Duke Energy's merger with Cinergy in April 2006.
- (b) Duke Energy Ohio amounts exclude \$2 million, \$3 million and \$2 million for the years ended December 2016, 2015 and 2014, respectively, of regulatory asset amortization resulting from purchase accounting adjustments associated with Duke Energy's merger with Cinergy in April 2006.

**Amounts Recognized in Accumulated Other Comprehensive Income and Regulatory Assets and Liabilities**

(in millions)	Year Ended December 31, 2016													
		Duke		Duke		Duke		Duke						
		Energy	Carolinas	Progress	Energy	Progress	Florida	Ohio	Indiana					
Regulatory assets, net increase (decrease)	\$	53	\$	—	\$	47	\$	38	\$	9	\$	—	\$	(6)
Regulatory liabilities, net increase (decrease)	\$	(114)	\$	(22)	\$	(51)	\$	(25)	\$	(26)	\$	(2)	\$	(12)
Accumulated other comprehensive (income) loss														
Deferred income tax benefit	\$	(2)	\$	—	\$	—	\$	—	\$	—	\$	—	\$	—
Actuarial losses arising during the year		3		—		—		—		—		—		—
Amortization of prior year prior service credit		1		—		1		—		—		—		—
Net amount recognized in accumulated other comprehensive income	\$	2	\$	—	\$	1	\$	—	\$	—	\$	—	\$	—

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(in millions)	Year Ended December 31, 2015							
	Duke	Duke	Progress	Duke	Duke	Duke	Duke	
	Energy	Energy	Energy	Energy	Energy	Energy	Energy	
	Energy	Carolin	Carolin	Progress	Progress	Florida	Ohio	Indiana
Regulatory assets, net increase (decrease)	\$ 1	\$ —	\$ 1	\$ —	\$ 1	\$ —	\$ —	\$ (7)
Regulatory liabilities, net increase (decrease)	\$ (92)	\$ (8)	\$ (71)	\$ (36)	\$ (35)	\$ 2	\$ (8)	\$ (8)
<b>Accumulated other comprehensive (income) loss</b>								
Deferred income tax benefit	\$ 2	\$ —	\$ (1)	\$ —	\$ —	\$ —	\$ —	\$ —
Actuarial losses (gains) arising during the year	(5)	—	2	—	—	—	—	—
Transfer with the Midwest Generation Disposal Group	(3)	—	—	—	—	—	—	—
Amortization of prior year prior service credit	3	—	(1)	—	—	—	—	—
Net amount recognized in accumulated other comprehensive income	\$ (3)	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —

**Reconciliation of Funded Status to Accrued Other Post-Retirement Benefit Costs**

(in millions)	Year Ended December 31, 2016							
	Duke	Duke	Progress	Duke	Duke	Duke	Duke	
	Energy	Energy	Energy	Energy	Energy	Energy	Energy	
	Energy	Carolin	Carolin	Progress	Progress	Florida	Ohio	Indiana
<b>Change in Projected Benefit Obligation</b>								
Accumulated post-retirement benefit obligation at prior measurement date	\$ 828	\$ 200	\$ 354	\$ 188	\$ 164	\$ 35	\$ 87	\$ 87
Obligation assumed from acquisition	39	—	—	—	—	—	—	—
Service cost	3	1	1	—	1	—	—	—
Interest cost	35	8	15	8	7	1	4	4
Plan participants' contributions	19	3	7	4	3	1	2	2
Actuarial (gains) losses	33	5	16	8	8	—	3	3
Transfers	—	1	—	—	—	—	—	—
Plan amendments	(1)	—	—	—	—	(1)	—	—
Benefits paid	(88)	(17)	(36)	(17)	(19)	(4)	(13)	(13)
Accumulated post-retirement benefit obligation at measurement date	\$ 868	\$ 201	\$ 357	\$ 191	\$ 164	\$ 32	\$ 83	\$ 83
<b>Change in Fair Value of Plan Assets</b>								
Plan assets at prior measurement date	\$ 208	\$ 134	\$ —	\$ —	\$ 1	\$ 8	\$ 19	\$ 19
Assets received from acquisition	29	—	—	—	—	—	—	—
Actual return on plan assets	14	8	1	—	—	1	2	2
Benefits paid	(88)	(17)	(36)	(17)	(19)	(4)	(13)	(13)
Employer contributions	62	9	29	13	15	1	12	12
Plan participants' contributions	19	3	7	4	3	1	2	2
Plan assets at measurement date	\$ 244	\$ 137	\$ 1	\$ —	\$ —	\$ 7	\$ 22	\$ 22

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(in millions)	Year Ended December 31, 2015							
		Duke	Duke	Duke	Duke	Duke	Duke	
		Energy	Energy Carolinas	Progress Energy	Energy Progress	Energy Florida	Energy Ohio	Energy Indiana
<b>Change in Projected Benefit Obligation</b>								
Accumulated post-retirement benefit obligation at prior measurement date	\$	916	\$ 220	\$ 379	\$ 207	\$ 170	\$ 39	\$ 96
Service cost		6	1	1	1	1	—	1
Interest cost		36	9	15	8	7	2	4
Plan participants' contributions		20	4	7	4	3	1	2
Actuarial (gains) losses		(39)	(18)	(1)	(13)	11	(3)	1
Transfers		—	2	—	—	—	—	—
Plan amendments		(9)	—	—	—	—	(1)	(4)
Benefits paid		(100)	(18)	(47)	(19)	(28)	(3)	(13)
Obligations transferred with the Midwest Generation Disposal Group		(3)	—	—	—	—	—	—
Accrued retiree drug subsidy		1	—	—	—	—	—	—
Accumulated post-retirement benefit obligation at measurement date	\$	828	\$ 200	\$ 354	\$ 188	\$ 164	\$ 35	\$ 87
<b>Change in Fair Value of Plan Assets</b>								
Plan assets at prior measurement date	\$	227	\$ 145	\$ —	\$ (1)	\$ —	\$ 8	\$ 23
Actual return on plan assets		(1)	(1)	1	1	1	—	(1)
Benefits paid		(100)	(18)	(47)	(19)	(28)	(3)	(13)
Employer contributions		62	4	39	15	25	2	8
Plan participants' contributions		20	4	7	4	3	1	2
Plan assets at measurement date	\$	208	\$ 134	\$ —	\$ —	\$ 1	\$ 8	\$ 19

**Amounts Recognized in the Consolidated Balance Sheets**

(in millions)	December 31, 2016							
		Duke	Duke	Duke	Duke	Duke	Duke	
		Energy	Energy Carolinas	Progress Energy	Energy Progress	Energy Florida	Energy Ohio	Energy Indiana
Current post-retirement liability <sup>(a)</sup>	\$	38	\$ —	\$ 31	\$ 17	\$ 15	\$ 2	\$ —
Noncurrent post-retirement liability <sup>(b)</sup>		586	64	325	174	149	23	63
Total accrued post-retirement liability	\$	624	\$ 64	\$ 356	\$ 191	\$ 164	\$ 25	\$ 63
Regulatory assets	\$	54	\$ —	\$ 48	\$ 38	\$ 10	\$ —	\$ 51
Regulatory liabilities	\$	174	\$ 46	\$ —	\$ —	\$ —	\$ 19	\$ 71
Accumulated other comprehensive (income) loss								
Deferred income tax liability	\$	5	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Prior service credit		(5)	—	—	—	—	—	—
Net actuarial gain		(10)	—	—	—	—	—	—
Net amounts recognized in accumulated other comprehensive income	\$	(10)	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Amounts to be recognized in net periodic pension expense in the next year								
Unrecognized net actuarial loss (gain)	\$	10	\$ (2)	\$ 21	\$ 12	\$ 9	\$ (2)	\$ (6)
Unrecognized prior service credit		(115)	(10)	(85)	(55)	(30)	—	(1)



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(in millions)	December 31, 2015						
	Duke	Duke	Duke	Duke	Duke	Duke	Duke
	Energy	Energy Carolinas	Progress Energy	Energy Progress	Energy Florida	Energy Ohio	Energy Indiana
Current post-retirement liability <sup>(a)</sup>	\$ 37	\$ —	\$ 31	\$ 16	\$ 15	\$ 2	\$ —
Noncurrent post-retirement liability <sup>(b)</sup>	583	66	323	172	149	25	68
<b>Total accrued post-retirement liability</b>	<b>\$ 620</b>	<b>\$ 66</b>	<b>\$ 354</b>	<b>\$ 188</b>	<b>\$ 164</b>	<b>\$ 27</b>	<b>\$ 68</b>
Regulatory assets	\$ 1	\$ —	\$ 1	\$ —	\$ 1	\$ —	\$ 57
Regulatory liabilities	\$ 288	\$ 68	\$ 51	\$ 25	\$ 26	\$ 21	\$ 83
Accumulated other comprehensive (income) loss							
Deferred income tax liability	\$ 7	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Prior service credit	(6)	—	(1)	—	—	—	—
Net actuarial gain	(13)	—	—	—	—	—	—
Net amounts recognized in accumulated other comprehensive income	\$ (12)	\$ —	\$ (1)	\$ —	\$ —	\$ —	\$ —

(a) Included in Other within Current Liabilities on the Consolidated Balance Sheets.

(b) Included in Accrued pension and other post-retirement benefit costs on the Consolidated Balance Sheets.

#### Assumptions Used for Other Post-Retirement Benefits Accounting

The discount rate used to determine the current year other post-retirement benefits obligation and following year's other post-retirement benefits expense is based on a bond selection-settlement portfolio approach. This approach develops a discount rate by selecting a portfolio of high quality corporate bonds that generate sufficient cash flow to provide for projected benefit payments of the plan. The selected bond portfolio is derived from a universe of non-callable corporate bonds rated Aa quality or higher. After the bond portfolio is selected, a single interest rate is determined that equates the present value of the plan's projected benefit payments discounted at this rate with the market value of the bonds selected. The average remaining service period of active covered employees is nine years for Duke Energy, 11 years for Duke Energy Carolinas, eight years for Duke Energy Ohio, nine years for Duke Energy Indiana and Duke Energy Kentucky, seven years for Progress Energy and Duke Energy Progress and eight years for Duke Energy Florida.

The following tables present the assumptions used for other post-retirement benefits accounting.

	December 31,		
	2016	2015	2014
<b>Benefit Obligations</b>			
Discount rate	4.10%	4.40%	4.10%
<b>Net Periodic Benefit Cost</b>			
Discount rate	4.40%	4.10%	4.70%
Expected long-term rate of return on plan assets	6.50%	6.50%	6.75%
Assumed tax rate	35%	35%	35%

#### Assumed Health Care Cost Trend Rate

	December 31,	
	2016	2015
Health care cost trend rate assumed for next year	7.00%	7.50%
Rate to which the cost trend is assumed to decline (the ultimate trend rate)	4.75%	4.75%
Year that rate reaches ultimate trend	2023	2023

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**Sensitivity to Changes in Assumed Health Care Cost Trend Rates**

(in millions)	Year Ended December 31, 2016						
	Duke Energy	Duke Energy Carolinas	Duke Energy Progress	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	<b>1-Percentage Point Increase</b>						
Effect on total service and interest costs	\$ 1	\$ —	\$ 1	\$ 1	\$ —	\$ —	\$ —
Effect on post-retirement benefit obligation	29	7	12	6	5	1	3
<b>1-Percentage Point Decrease</b>							
Effect on total service and interest costs	(1)	—	(1)	(1)	—	—	—
Effect on post-retirement benefit obligation	(25)	(6)	(10)	(6)	(5)	(1)	(2)

**Expected Benefit Payments**

(in millions)	Duke Energy	Duke Energy Carolinas	Duke Energy Progress	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	Years ending December 31,						
2017	\$ 85	\$ 18	\$ 32	\$ 17	\$ 15	\$ 4	\$ 10
2018	81	18	31	16	15	3	9
2019	78	18	31	16	14	3	9
2020	75	18	30	16	14	3	8
2021	72	18	29	15	13	3	7
2021 – 2025	310	76	126	67	58	12	31

**PLAN ASSETS****Description and Allocations****Duke Energy Master Retirement Trust**

Assets for both the qualified pension and other post-retirement benefits are maintained in the Duke Energy Master Retirement Trust. Piedmont also has qualified pension (Piedmont Pension Assets) and other post-retirement assets. Approximately 98 percent of the Duke Energy Master Retirement Trust assets were allocated to qualified pension plans and approximately 2 percent were allocated to other post-retirement plans (comprised of 401(h) accounts), as of December 31, 2016 and 2015. The investment objective of the Duke Energy Master Retirement Trust is to achieve reasonable returns, subject to a prudent level of portfolio risk, for the purpose of enhancing the security of benefits for plan participants.

As of December 31, 2016, Duke Energy assumes pension and other post-retirement plan assets will generate a long-term rate of return of 6.50 percent (6.75 percent for Piedmont Pension and OPEB Assets). The expected long-term rate of return was developed using a weighted average calculation of expected returns based primarily on future expected returns across asset classes considering the use of active asset managers, where applicable. The asset allocation targets were set after considering the investment objective and the risk profile. Equity securities are held for their higher expected return. Debt securities are primarily held to hedge the qualified pension plan liability. Hedge funds, real estate and other global securities are held for diversification. Investments within asset classes are diversified to achieve broad market participation and reduce the impact of individual managers or investments.

In 2013, Duke Energy adopted a de-risking investment strategy for the Duke Energy Master Retirement Trust. As the funded status of the pension plans increase, the targeted allocation to fixed-income assets may be increased to better manage Duke Energy's pension liability and reduce funded status volatility. Duke Energy regularly reviews its actual asset allocation and periodically rebalances its investments to the targeted allocation when considered appropriate.

The Duke Energy Master Retirement Trust is authorized to engage in the lending of certain plan assets. Securities lending is an investment management enhancement that utilizes certain existing securities of the Duke Energy Master Retirement Trust to earn additional income. Securities lending involves the loaning of securities to approved parties. In return for the loaned securities, the Duke Energy Master Retirement Trust receives collateral in the form of cash and securities as a safeguard against possible default of any borrower on the return of the loan under terms that permit the Duke Energy Master Retirement Trust to sell the securities. The Duke Energy Master Retirement Trust mitigates credit risk associated with securities lending arrangements by monitoring the fair value of the securities loaned, with additional collateral obtained or refunded as necessary. The fair value of securities on loan was approximately \$156 million and \$305 million at December 31, 2016 and 2015, respectively. Cash and securities obtained as collateral exceeded the fair value of the securities loaned at December 31, 2016 and 2015, respectively. Securities lending income earned by the Duke Energy Master Retirement Trust was immaterial for the years ended December 31, 2016, 2015 and 2014, respectively.

Qualified pension and other post-retirement benefits for the Subsidiary Registrants are derived from the Duke Energy Master Retirement Trust, as such, each are allocated their proportionate share of the assets discussed below.

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The following table includes the target asset allocations by asset class at December 31, 2016 and the actual asset allocations for the Duke Energy Master Retirement Trust.

	Target Allocation <sup>(a)</sup>	Actual Allocation at December 31,	
		2016 <sup>(a)</sup>	2015
U.S. equity securities	10%	11%	11%
Non-U.S. equity securities	8%	8%	8%
Global equity securities	10%	10%	10%
Global private equity securities	3%	2%	2%
Debt securities	63%	63%	63%
Hedge funds	2%	2%	2%
Real estate and cash	2%	2%	2%
Other global securities	2%	2%	2%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

(a) Excludes Piedmont Pension Assets, which have a targeted asset allocation of 60 percent return-seeking and 40 percent liability hedging fixed-income. Actual asset allocations were 61 percent return-seeking and 39 percent liability hedging fixed-income at December 31, 2016.

#### **Other post-retirement assets**

Duke Energy's other post-retirement assets (OPEB Assets) are comprised of Voluntary Employees' Beneficiary Association trusts and mutual funds within a Piedmont 401(h) account (OPEB Assets exclude 401(h) accounts within the Duke Energy Master Retirement Trust). Duke Energy's investment objective is to achieve sufficient returns, subject to a prudent level of portfolio risk, for the purpose of promoting the security of plan benefits for participants.

The following table presents target and actual asset allocations for the OPEB Assets at December 31, 2016.

	Target Allocation	Actual Allocation at December 31,	
		2016	2015
U.S. equity securities	38%	39%	29%
Real estate	2%	2%	—%
Debt securities	45%	37%	28%
Cash	15%	22%	43%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

#### **Fair Value Measurements**

Duke Energy classifies recurring and non-recurring fair value measurements based on the fair value hierarchy as discussed in Note 16.

Valuation methods of the primary fair value measurements disclosed below are as follows:

##### **Investments in equity securities**

Investments in equity securities are typically valued at the closing price in the principal active market as of the last business day of the reporting period. Principal active markets for equity prices include published exchanges such as NASDAQ and NYSE. Foreign equity prices are translated from their trading currency using the currency exchange rate in effect at the close of the principal active market. Prices have not been adjusted to reflect after-hours market activity. The majority of investments in equity securities are valued using Level 1 measurements. When the price of an institutional commingled fund is unpublished, it is not categorized in the fair value hierarchy, even though the funds are readily available at the fair value.

##### **Investments in corporate debt securities and U.S. government securities**

Most debt investments are valued based on a calculation using interest rate curves and credit spreads applied to the terms of the debt instrument (maturity and coupon interest rate) and consider the counterparty credit rating. Most debt valuations are Level 2 measurements. If the market for a particular fixed-income security is relatively inactive or illiquid, the measurement is Level 3. U.S. Treasury debt is typically Level 2.

##### **Investments in short-term investment funds**

Investments in short-term investment funds are valued at the net asset value of units held at year end and are readily redeemable at the measurement date. Investments in short-term investment funds with published prices are valued as Level 1. Investments in short-term investment funds with unpublished prices are valued as Level 2.

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**Investments in real estate limited partnerships**

Investments in real estate limited partnerships are valued by the trustee at each valuation date (monthly). As part of the trustee's valuation process, properties are externally appraised generally on an annual basis, conducted by reputable, independent appraisal firms, and signed by appraisers that are members of the Appraisal Institute, with the professional designation MAI. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. There are three valuation techniques that can be used to value investments in real estate assets: the market, income or cost approach. The appropriateness of each valuation technique depends on the type of asset or business being valued. In addition, the trustee may cause additional appraisals to be performed as warranted by specific asset or market conditions. Property valuations and the salient valuation-sensitive assumptions of each direct investment property are reviewed by the trustee quarterly and values are adjusted if there has been a significant change in circumstances related to the investment property since the last valuation. Value adjustments for interim capital expenditures are only recognized to the extent that the valuation process acknowledges a corresponding increase in fair value. An independent firm is hired to review and approve quarterly direct real estate valuations. Key inputs and assumptions used to determine fair value includes among others, rental revenue and expense amounts and related revenue and expense growth rates, terminal capitalization rates and discount rates. Development investments are valued using cost incurred to date as a primary input until substantive progress is achieved in terms of mitigating construction and leasing risk at which point a discounted cash flow approach is more heavily weighted. Key inputs and assumptions in addition to those noted above used to determine the fair value of development investments include construction costs and the status of construction completion and leasing. Investments in real estate limited partnerships are valued at net asset value of units held at year end and are not readily redeemable at the measurement date. Investments in real estate limited partnerships are not categorized within the fair value hierarchy.

**Duke Energy Master Retirement Trust**

The following tables provide the fair value measurement amounts for the Duke Energy Master Retirement Trust qualified pension and other post-retirement assets and Piedmont Pension Assets.

(in millions)	December 31, 2016					Not Categorized <sup>(b)</sup>
	Total Fair	Level 1	Level 2	Level 3	Value	
	Value					
Equity securities	\$ 2,472	\$ 1,677	\$ 27	\$ 9	\$ 759	
Corporate debt securities	4,330	8	4,322	—	—	
Short-term investment funds	476	211	265	—	—	
Partnership interests	157	—	—	—	157	
Hedge funds	232	—	—	—	232	
Real estate limited partnerships	144	17	—	—	127	
U.S. government securities	734	—	734	—	—	
Guaranteed investment contracts	29	—	—	29	—	
Governments bonds – foreign	32	—	32	—	—	
Cash	17	15	2	—	—	
Government and commercial mortgage backed securities	—	—	—	—	—	
Net pending transactions and other investments	32	1	6	—	25	
<b>Total assets<sup>(a)</sup></b>	<b>\$ 8,655</b>	<b>\$ 1,929</b>	<b>\$ 5,388</b>	<b>\$ 38</b>	<b>\$ 1,300</b>	

- (a) Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Florida, Duke Energy Ohio and Duke Energy Indiana were allocated approximately 27 percent, 30 percent, 15 percent, 15 percent, 5 percent and 8 percent, respectively, of the Duke Energy Master Retirement Trust and Piedmont Pension assets at December 31, 2016. Accordingly, all amounts included in the table above are allocable to the Subsidiary Registrants using these percentages.
- (b) Certain investments are not categorized. These investments are measured based on the fair value of the underlying investments but may not be readily redeemable at that fair value.

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(in millions)	December 31, 2015					Not Categorized <sup>(b)</sup>
	Total Fair				Value	
	Level 1	Level 2	Level 3	Value		
Equity securities	\$ 2,160	\$ 1,470	\$ 2	\$ —	\$ 688	688
Corporate debt securities	4,362	—	4,362	—	—	—
Short-term investment funds	404	192	212	—	—	—
Partnership interests	185	—	—	—	—	185
Hedge funds	210	—	—	—	—	210
Real estate limited partnerships	118	—	—	—	—	118
U.S. government securities	748	—	748	—	—	—
Guaranteed investment contracts	31	—	—	31	—	—
Governments bonds – foreign	34	—	34	—	—	—
Cash	10	10	—	—	—	—
Government and commercial mortgage backed securities	9	—	9	—	—	—
Net pending transactions and other investments	(28)	(36)	8	—	—	—
<b>Total assets<sup>(a)</sup></b>	<b>\$ 8,243</b>	<b>\$ 1,636</b>	<b>\$ 5,375</b>	<b>\$ 31</b>	<b>\$ 1,201</b>	

- (a) Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Florida, Duke Energy Ohio and Duke Energy Indiana were allocated approximately 28 percent, 32 percent, 15 percent, 16 percent, 5 percent and 8 percent, respectively, of the Duke Energy Master Retirement Trust assets at December 31, 2015. Accordingly, all amounts included in the table above are allocable to the Subsidiary Registrants using these percentages.
- (b) Certain investments are not categorized. These investments are measured based on the fair value of the underlying investments but may not be readily redeemable at that fair value.

The following table provides a reconciliation of beginning and ending balances of Duke Energy Master Retirement Trust qualified pension and other post-retirement assets and Piedmont Pension Assets at fair value on a recurring basis where the determination of fair value includes significant unobservable inputs (Level 3).

(in millions)	2016	2015
Balance at January 1	\$ 31	\$ 34
Combination of Piedmont Pension Assets	9	—
Sales	(2)	(2)
Total gains (losses) and other, net	—	(1)
<b>Balance at December 31</b>	<b>\$ 38</b>	<b>\$ 31</b>

**Other post-retirement assets**

The following tables provide the fair value measurement amounts for OPEB Assets.

(in millions)	December 31, 2016			
	Total Fair			
	Value	Level 1	Level 2	Level 3
Cash and cash equivalents	\$ 14	—	\$ 14	—
Real estate	1	—	1	—
Equity securities	26	—	26	—
Debt securities	25	—	25	—
<b>Total assets</b>	<b>\$ 66</b>	<b>—</b>	<b>\$ 66</b>	<b>—</b>

(in millions)	December 31, 2015			
	Total Fair			
	Value	Level 1	Level 2	Level 3
Cash and cash equivalents	\$ 18	—	\$ 18	—
Equity securities	12	—	12	—
Debt securities	12	—	12	—
<b>Total assets</b>	<b>\$ 42</b>	<b>—</b>	<b>\$ 42</b>	<b>—</b>

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**EMPLOYEE SAVINGS PLANS****Retirement Savings Plan**

Duke Energy or its affiliates sponsor, and the Subsidiary Registrants participate in, employee savings plans that cover substantially all U.S. employees. Most employees participate in a matching contribution formula where Duke Energy provides a matching contribution generally equal to 100 percent of employee before-tax and Roth 401(k) contributions of up to 6 percent of eligible pay per pay period (5 percent for Piedmont employees). Dividends on Duke Energy shares held by the savings plans are charged to retained earnings when declared and shares held in the plans are considered outstanding in the calculation of basic and diluted EPS.

As of January 1, 2014, for new and rehired non-union and certain unionized employees who are not eligible to participate in Duke Energy's defined benefit plans, an additional employer contribution of 4 percent of eligible pay per pay period, which is subject to a three-year vesting schedule, is provided to the employee's savings plan account.

The following table includes pretax employer matching contributions made by Duke Energy and expensed by the Subsidiary Registrants.

(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
Years ended December 31,							
2016	\$ 169	\$ 57	\$ 50	\$ 35	\$ 15	\$ 3	\$ 8
2015	159	54	48	34	13	3	7
2014	143	47	43	30	14	3	7

**Money Purchase Pension Plan**

Piedmont sponsors the MPP plan, which is a defined contribution pension plan that allows employees to direct investments and assume risk of investment returns. Under the MPP plan, Piedmont annually deposits a percentage of each participant's pay into an account of the MPP plan. This contribution equals 4 percent of the participant's compensation plus an additional 4 percent of compensation above the Social Security wage base up to the IRS compensation limit. The participant is vested in MPP plan after three years of service. No contributions were made to the MPP plan during the three months ended December 31, 2016. In January 2017, a \$2.2 million contribution was made to the MPP plan.

**22. INCOME TAXES****Income Tax Expense****Components of Income Tax Expense**

(in millions)	Year Ended December 31, 2016						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
Current income taxes							
Federal	\$ —	\$ 139	\$ 15	\$ (59)	\$ 76	\$ (7)	\$ 7
State	(15)	25	(19)	(25)	22	(13)	6
Foreign	2	—	—	—	—	—	—
Total current income taxes	(13)	164	(4)	(84)	98	(20)	13
Deferred income taxes							
Federal	1,064	430	486	350	199	88	202
State	117	45	50	40	25	11	11
Total deferred income taxes <sup>(a)</sup>	1,181	475	536	390	224	99	213
Investment tax credit amortization	(12)	(5)	(5)	(5)	—	(1)	(1)
Income tax expense from continuing operations	1,156	634	527	301	322	78	225
Tax (benefit) expense from discontinued operations	(30)	—	1	—	—	(36)	—
Total income tax expense included in Consolidated Statements of Operations	\$ 1,126	\$ 634	\$ 528	\$ 301	\$ 322	\$ 42	\$ 225

- (a) Includes benefits of net operating loss (NOL) carryforwards and tax credit carryforwards of \$648 million at Duke Energy, \$4 million at Duke Energy Carolinas, \$190 million at Progress Energy, \$60 million at Duke Energy Progress, \$49 million at Duke Energy Florida, \$26 million at Duke Energy Ohio and \$58 million at Duke Energy Indiana.

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(in millions)	Year Ended December 31, 2015						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
<b>Current income taxes</b>							
Federal	\$ —	\$ 216	\$ (193)	\$ (56)	\$ 1	\$ (18)	\$ (86)
State	(12)	14	1	(4)	(7)	(1)	(12)
Foreign	4	—	—	—	—	—	—
<b>Total current income taxes</b>	<b>(8)</b>	<b>230</b>	<b>(192)</b>	<b>(60)</b>	<b>(6)</b>	<b>(19)</b>	<b>(98)</b>
<b>Deferred income taxes</b>							
Federal	1,097	345	694	334	290	96	245
State	181	57	27	27	58	5	17
<b>Total deferred income taxes<sup>(a)</sup></b>	<b>1,278</b>	<b>402</b>	<b>721</b>	<b>361</b>	<b>348</b>	<b>101</b>	<b>262</b>
Investment tax credit amortization	(14)	(5)	(7)	(7)	—	(1)	(1)
<b>Income tax expense from continuing operations</b>	<b>1,256</b>	<b>627</b>	<b>522</b>	<b>294</b>	<b>342</b>	<b>81</b>	<b>163</b>
Tax expense (benefit) from discontinued operations	89	—	(1)	—	—	22	—
<b>Total income tax expense included in Consolidated Statements of Operations</b>	<b>\$ 1,345</b>	<b>\$ 627</b>	<b>\$ 521</b>	<b>\$ 294</b>	<b>\$ 342</b>	<b>\$ 103</b>	<b>\$ 163</b>

- (a) Includes benefits of NOL carryforwards and utilization of NOL and tax credit carryforwards of \$264 million at Duke Energy, \$15 million at Duke Energy Carolinas, \$119 million at Progress Energy, \$21 million at Duke Energy Progress, \$84 million at Duke Energy Florida, \$3 million at Duke Energy Ohio and \$45 million at Duke Energy Indiana.

(in millions)	Year Ended December 31, 2014						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
<b>Current income taxes</b>							
Federal	\$ —	\$ 161	\$ (466)	\$ (184)	\$ (53)	\$ (73)	\$ (112)
State	56	51	(8)	14	1	3	1
Foreign	6	—	—	—	—	—	—
<b>Total current income taxes</b>	<b>62</b>	<b>212</b>	<b>(474)</b>	<b>(170)</b>	<b>(52)</b>	<b>(70)</b>	<b>(111)</b>
<b>Deferred income taxes</b>							
Federal	1,144	407	938	436	350	113	294
State	35	(25)	84	25	52	1	15
<b>Total deferred income taxes<sup>(a)(b)</sup></b>	<b>1,179</b>	<b>382</b>	<b>1,022</b>	<b>461</b>	<b>402</b>	<b>114</b>	<b>309</b>
Investment tax credit amortization	(16)	(6)	(8)	(6)	(1)	(1)	(1)
<b>Income tax expense from continuing operations</b>	<b>1,225</b>	<b>588</b>	<b>540</b>	<b>285</b>	<b>349</b>	<b>43</b>	<b>197</b>
Tax expense (benefit) from discontinued operations	149	—	(4)	—	—	(300)	—
<b>Total income tax expense (benefit) included in Consolidated Statements of Operations</b>	<b>\$ 1,374</b>	<b>\$ 588</b>	<b>\$ 536</b>	<b>\$ 285</b>	<b>\$ 349</b>	<b>\$ (257)</b>	<b>\$ 197</b>

- (a) There were no benefits of NOL carryforwards.  
(b) Includes utilization of NOL carryforwards of \$1,544 million at Duke Energy, \$345 million at Duke Energy Carolinas, \$530 million at Progress Energy, \$291 million at Duke Energy Progress, \$64 million at Duke Energy Florida, \$56 million at Duke Energy Ohio and \$141 million at Duke Energy Indiana.

**Duke Energy Income from Continuing Operations before Income Taxes**

(in millions)	Years Ended December 31,		
	2016	2015	2014
Domestic	\$ 3,689	\$ 3,831	\$ 3,637
Foreign	45	79	126
<b>Income from continuing operations before income taxes</b>	<b>\$ 3,734</b>	<b>\$ 3,910</b>	<b>\$ 3,763</b>



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**Taxes on Foreign Earnings**

During 2014, Duke Energy declared a taxable dividend of foreign earnings in the form of notes payable that was expected to result in the repatriation of approximately \$2.7 billion of cash held, and expected to be generated, by International businesses over a period of up to eight years. As a result of the decision to repatriate cumulative historical undistributed foreign earnings, Duke Energy recorded U.S. income tax expense of approximately \$373 million in 2014. As of December 31, 2014, Duke Energy's intention was to indefinitely reinvest any future undistributed foreign earnings.

In February 2016, Duke Energy announced it had initiated a process to divest the International Disposal Group and, accordingly, no longer intended to indefinitely reinvest post-2014 undistributed foreign earnings. This change in the Company's intent, combined with the extension of bonus depreciation by Congress in late 2015, allowed Duke Energy to more efficiently utilize foreign tax credits and reduce U.S. deferred tax liabilities associated with the historical unremitted foreign earnings by approximately \$95 million during the year ended December 31, 2016.

Due to the classification of the International Disposal Group as discontinued operations beginning in the fourth quarter of 2016, income tax amounts related to the International Disposal Group's foreign earnings are presented within (Loss) Income from Discontinued Operations, net of tax on the Consolidated Statements of Operations. In December 2016, Duke Energy closed on the sale of the International Disposal Group in two separate transactions to execute the divestiture. See Note 2 for additional information on the sale.

**Statutory Rate Reconciliation**

The following tables present a reconciliation of income tax expense at the U.S. federal statutory tax rate to the actual tax expense from continuing operations.

(in millions)	Year Ended December 31, 2016						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
Income tax expense, computed at the statutory rate of 35 percent	\$ 1,307	\$ 630	\$ 548	\$ 315	\$ 306	\$ 95	\$ 212
State income tax, net of federal income tax effect	64	46	20	10	30	(2)	11
AFUDC equity income	(70)	(36)	(26)	(17)	(9)	(2)	(6)
Renewable energy production tax credits	(97)	—	—	—	—	—	—
Audit adjustment	5	3	—	—	—	—	—
Tax true-up	(14)	(14)	(11)	(3)	(9)	(16)	2
Other items, net	(39)	5	(4)	(4)	4	3	6
Income tax expense from continuing operations	\$ 1,156	\$ 634	\$ 527	\$ 301	\$ 322	\$ 78	\$ 225
Effective tax rate	31.0%	35.2%	33.7%	33.4%	36.9%	28.9%	37.1%

(in millions)	Year Ended December 31, 2015						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
Income tax expense, computed at the statutory rate of 35 percent	\$ 1,369	\$ 598	\$ 555	\$ 302	\$ 330	\$ 81	\$ 168
State income tax, net of federal income tax effect	109	46	18	15	33	2	2
AFUDC equity income	(58)	(34)	(19)	(17)	(3)	(1)	(4)
Renewable energy production tax credits	(72)	—	(1)	—	—	—	—
Audit adjustment	(22)	—	(23)	1	(24)	—	—
Tax true-up	2	2	(3)	(4)	2	(5)	(9)
Other items, net	(72)	15	(5)	(3)	4	4	6
Income tax expense from continuing operations	\$ 1,256	\$ 627	\$ 522	\$ 294	\$ 342	\$ 81	\$ 163
Effective tax rate	32.1%	36.7%	32.9%	34.2%	36.3%	35.2%	34.0%



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(in millions)	Year Ended December 31, 2014							
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	
Income tax expense, computed at the statutory rate of 35 percent	\$ 1,317	\$ 581	\$ 497	\$ 263	\$ 314	\$ 39	\$ 195	
State income tax, net of federal income tax effect	59	17	49	25	34	3	10	
AFUDC equity income	(47)	(32)	(9)	(9)	—	(1)	(5)	
Renewable energy production tax credits	(67)	—	—	—	—	—	—	
Other items, net	(37)	22	3	6	1	2	(3)	
Income tax expense from continuing operations	\$ 1,225	\$ 588	\$ 540	\$ 285	\$ 349	\$ 43	\$ 197	
Effective tax rate	32.6%	35.4%	38.0%	37.9%	38.9%	38.9%	35.5%	

Valuation allowances have been established for certain state NOL carryforwards and state income tax credits that reduce deferred tax assets to an amount that will be realized on a more-likely-than-not basis. The net change in the total valuation allowance is included in the State income tax, net of federal income tax effect in the above tables.

**DEFERRED TAXES****Net Deferred Income Tax Liability Components**

(in millions)	December 31, 2016							
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	
Deferred credits and other liabilities	\$ 382	\$ 66	\$ 126	\$ 40	\$ 93	\$ 21	\$ 4	
Capital lease obligations	60	8	—	—	—	—	1	
Pension, post-retirement and other employee benefits	561	16	199	91	96	22	37	
Progress Energy merger purchase accounting adjustments <sup>(a)</sup>	918	—	—	—	—	—	—	
Tax credits and NOL carryforwards	4,682	192	1,165	222	232	49	278	
Investments and other assets	—	—	—	—	—	3	—	
Other	205	16	35	8	—	5	9	
Valuation allowance	(96)	—	(12)	—	—	—	—	
Total deferred income tax assets	6,712	298	1,513	361	421	100	329	
Investments and other assets	(1,892)	(1,149)	(597)	(313)	(297)	—	(21)	
Accelerated depreciation rates	(14,872)	(4,664)	(4,490)	(2,479)	(2,038)	(1,404)	(1,938)	
Regulatory assets and deferred debits, net	(4,103)	(1,029)	(1,672)	(892)	(780)	(139)	(270)	
Total deferred income tax liabilities	(20,867)	(6,842)	(6,759)	(3,684)	(3,115)	(1,543)	(2,229)	
Net deferred income tax liabilities	\$ (14,155)	\$ (6,544)	\$ (5,246)	\$ (3,323)	\$ (2,694)	\$ (1,443)	\$ (1,900)	

(a) Primarily related to capital lease obligations and debt fair value adjustments.

The following table presents the expiration of tax credits and NOL carryforwards.

(in millions)	December 31, 2016			
	Amount	Expiration Year		
Investment tax credits	\$ 1,143	2027	—	2036
Alternative minimum tax credits	1,151	Indefinite		
Federal NOL carryforwards	1,267	2020	—	2036
State NOL carryforwards and credits <sup>(a)</sup>	248	2017	—	2036
Foreign NOL carryforwards <sup>(b)</sup>	12	2026	—	2036
Foreign Tax Credits	859	2024	—	2026
Charitable Carryforwards	2	2017	—	2019
Total tax credits and NOL carryforwards	\$ 4,682			

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- (a) A valuation allowance of \$84 million has been recorded on the state NOL carryforwards, as presented in the Net Deferred Income Tax Liability Components table.
- (b) A valuation allowance of \$12 million has been recorded on the foreign NOL carryforwards, as presented in the Net Deferred Income Tax Liability Components table.

(in millions)	December 31, 2015						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
Deferred credits and other liabilities	\$ 201	\$ 38	\$ 115	\$ 25	\$ 66	\$ 29	\$ 5
Capital lease obligations	63	9	—	—	—	—	2
Pension, post-retirement and other employee benefits	580	46	186	92	82	24	40
Progress Energy merger purchase accounting adjustments <sup>(a)</sup>	1,009	—	—	—	—	—	—
Tax credits and NOL carryforwards	3,631	170	997	163	177	25	215
Investments and other assets	—	—	—	—	—	3	—
Other	206	20	48	2	46	37	20
Valuation allowance	(93)	—	(38)	—	—	—	—
<b>Total deferred income tax assets</b>	<b>5,597</b>	<b>283</b>	<b>1,308</b>	<b>282</b>	<b>371</b>	<b>118</b>	<b>282</b>
Investments and other assets	(1,573)	(1,057)	(412)	(228)	(201)	—	(7)
Accelerated depreciation rates	(12,939)	(4,429)	(4,169)	(2,325)	(1,868)	(1,356)	(1,797)
Regulatory assets and deferred debits, net	(3,633)	(943)	(1,517)	(756)	(762)	(169)	(135)
<b>Total deferred income tax liabilities</b>	<b>(18,145)</b>	<b>(6,429)</b>	<b>(6,098)</b>	<b>(3,309)</b>	<b>(2,831)</b>	<b>(1,525)</b>	<b>(1,939)</b>
<b>Net deferred income tax liabilities</b>	<b>\$ (12,548)</b>	<b>\$ (6,146)</b>	<b>\$ (4,790)</b>	<b>\$ (3,027)</b>	<b>\$ (2,460)</b>	<b>\$ (1,407)</b>	<b>\$ (1,657)</b>

- (a) Primarily related to capital lease obligations and debt fair value adjustments.

On August 6, 2015, pursuant to N.C. Gen. Stat. 105-130.3C, the North Carolina Department of Revenue announced the North Carolina corporate income tax rate would be reduced from a statutory rate of 5.0 percent to 4.0 percent beginning January 1, 2016. Duke Energy recorded a net reduction of approximately \$95 million to its North Carolina deferred tax liability in the third quarter of 2015. The significant majority of this deferred tax liability reduction was offset by recording a regulatory liability pending NCUC determination of the disposition of amounts related to Duke Energy Carolinas and Duke Energy Progress. The impact did not have a significant impact on the financial position, results of operation, or cash flows of Duke Energy, Duke Energy Carolinas, Progress Energy or Duke Energy Progress.

On August 4, 2016, pursuant to N.C. Gen. Stat. 105-130.3C, the North Carolina Department of Revenue announced the North Carolina corporate income tax rate would be reduced from a statutory rate of 4.0 percent to 3.0 percent beginning January 1, 2017. Duke Energy recorded a net reduction of approximately \$80 million to its North Carolina deferred tax liability in the third quarter of 2016. The significant majority of this deferred tax liability reduction was offset by recording a regulatory liability pending NCUC determination of the disposition of amounts related to Duke Energy Carolinas and Duke Energy Progress. The impact did not have a significant impact on the financial position, results of operation, or cash flows of Duke Energy, Duke Energy Carolinas, Progress Energy or Duke Energy Progress.

#### UNRECOGNIZED TAX BENEFITS

The following tables present changes to unrecognized tax benefits.

(in millions)	Year Ended December 31, 2016					
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Ohio	Duke Energy Indiana
Unrecognized tax benefits – January 1	\$ 88	\$ 72	\$ 1	\$ 3	\$ —	\$ 1
Unrecognized tax benefits increases (decreases)						
Gross increases – tax positions in prior periods	—	—	—	—	4	—
Gross decreases – tax positions in prior periods	(4)	(4)	(1)	(1)	—	—
Decreases due to settlements	(68)	(67)	—	—	—	(1)
Reduction due to lapse of statute of limitations	1	—	2	—	—	—
<b>Total changes</b>	<b>(71)</b>	<b>(71)</b>	<b>1</b>	<b>(1)</b>	<b>4</b>	<b>(1)</b>
<b>Unrecognized tax benefits – December 31</b>	<b>\$ 17</b>	<b>\$ 1</b>	<b>\$ 2</b>	<b>\$ 2</b>	<b>\$ 4</b>	<b>\$ —</b>

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(in millions)	Year Ended December 31, 2015					
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Indiana
Unrecognized tax benefits – January 1	\$ 213	\$ 160	\$ 32	\$ 23	\$ 8	\$ 1
Unrecognized tax benefits increases (decreases)						
Gross increases – tax positions in prior periods	—	—	1	1	—	—
Gross decreases – tax positions in prior periods	(48)	(45)	—	—	—	—
Decreases due to settlements	(45)	(43)	—	—	—	—
Reduction due to lapse of statute of limitations	(32)	—	(32)	(21)	(8)	—
Total changes	(125)	(88)	(31)	(20)	(8)	—
Unrecognized tax benefits – December 31	\$ 88	\$ 72	\$ 1	\$ 3	\$ —	\$ 1

(in millions)	Year Ended December 31, 2014					
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Indiana
Unrecognized tax benefits – January 1	\$ 230	\$ 171	\$ 32	\$ 22	\$ 8	\$ 1
Unrecognized tax benefits increases (decreases)						
Gross increases — tax positions in prior periods	—	—	1	1	—	—
Gross decreases – tax positions in prior periods	(2)	—	—	—	—	—
Decreases due to settlements	(15)	(11)	(1)	—	—	—
Total changes	(17)	(11)	—	1	—	—
Unrecognized tax benefits – December 31	\$ 213	\$ 160	\$ 32	\$ 23	\$ 8	\$ 1

The following table includes additional information regarding the Duke Energy Registrants' unrecognized tax benefits. It is reasonably possible that Duke Energy could reflect an approximate \$8 million reduction and Duke Energy Carolinas could reflect an approximate \$1 million reduction in unrecognized tax benefits within the next 12 months. All other Duke Energy Registrants do not anticipate a material increase or decrease in unrecognized tax benefits within the next 12 months.

(in millions)	December 31, 2016						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
Amount that if recognized, would affect the effective tax rate or regulatory liability <sup>(a)</sup>	\$ 8	\$ 1	\$ 2	\$ 2	\$ —	\$ —	\$ —
Amount that if recognized, would be recorded as a component of discontinued operations	5	—	—	—	—	2	—

(a) Duke Energy, Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Florida and Duke Energy Indiana are unable to estimate the specific amounts that would affect the effective tax rate versus the regulatory liability.

#### OTHER TAX MATTERS

The following tables include interest recognized in the Consolidated Statements of Operations and the Consolidated Balance Sheets.

(in millions)	Year Ended December 31, 2016				
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida
Net interest income recognized related to income taxes	\$ —	\$ —	\$ 1	\$ —	\$ 2
Net interest expense recognized related to income taxes	—	7	—	—	—
Interest payable related to income taxes	4	23	1	1	—

DUKE ENERGY CORPORATION – DUKE ENERGY CAROLINAS, LLC – PROGRESS ENERGY, INC. –  
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**Combined Notes To Consolidated Financial Statements – (Continued)**

(in millions)	Year Ended December 31, 2015						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	Net interest income recognized related to income taxes	\$ 12	\$ —	\$ 2	\$ 2	\$ 1	\$ —
Net interest expense recognized related to income taxes	—	1	—	—	—	—	—
Interest receivable related to income taxes	3	—	—	—	—	—	3
Interest payable related to income taxes	—	14	—	1	—	—	—

(in millions)	Year Ended December 31, 2014						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	Net interest income recognized related to income taxes	\$ 6	\$ —	\$ 3	\$ —	\$ 1	\$ 4
Net interest expense recognized related to income taxes	—	1	—	1	—	—	—
Interest receivable related to income taxes	—	—	—	—	—	—	2
Interest payable related to income taxes	13	13	5	3	5	—	—

Duke Energy and its subsidiaries are no longer subject to U.S. federal examination for years before 2015. With few exceptions, Duke Energy and its subsidiaries are no longer subject to state, local or non-U.S. income tax examinations by tax authorities for years before 2004.

### 23. OTHER INCOME AND EXPENSES, NET

The components of Other income and expenses, net on the Consolidated Statements of Operations are as follows.

(in millions)	Year Ended December 31, 2016						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	Interest income	\$ 21	\$ 4	\$ 4	\$ 3	\$ 2	\$ 5
AFUDC equity	200	102	76	50	26	6	16
Post in-service equity returns	67	55	12	12	—	—	—
Nonoperating income (expense), other	36	1	22	6	16	(2)	—
Other income and expense, net	\$ 324	\$ 162	\$ 114	\$ 71	\$ 44	\$ 9	\$ 22

(in millions)	Year Ended December 31, 2015						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	Interest income	\$ 20	\$ 2	\$ 4	\$ 2	\$ 2	\$ 4
AFUDC equity	164	96	54	47	7	3	11
Post in-service equity returns	73	60	13	13	—	—	—
Nonoperating income (expense), other	33	2	26	9	15	(1)	(6)
Other income and expense, net	\$ 290	\$ 160	\$ 97	\$ 71	\$ 24	\$ 6	\$ 11

(in millions)	Year Ended December 31, 2014						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
	Interest income	\$ 16	\$ 4	\$ 3	\$ —	\$ 2	\$ 8
AFUDC equity	135	91	26	25	—	4	14
Post in-service equity returns	89	71	17	17	—	—	—
Nonoperating income (expense), other	80	6	31	9	18	(2)	2
Other income and expense, net	\$ 320	\$ 172	\$ 77	\$ 51	\$ 20	\$ 10	\$ 22

## 24. SUBSEQUENT EVENTS

For information on subsequent events related to regulatory matters, commitments and contingencies, and debt and credit facilities see Notes 4, 5 and 6, respectively.

## 25. QUARTERLY FINANCIAL DATA (UNAUDITED)

### DUKE ENERGY

Quarterly EPS amounts may not sum to the full-year total due to changes in the weighted average number of common shares outstanding and rounding.

(in millions, except per share data)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
<b>2016</b>					
Operating revenues	\$ 5,377	\$ 5,213	\$ 6,576	\$ 5,577	\$ 22,743
Operating income	1,240	1,259	1,954	888	5,341
Income from continuing operations	577	624	1,001	376	2,578
Income (loss) from discontinued operations, net of tax	122	(112)	180	(598)	(408)
Net income (loss)	699	512	1,181	(222)	2,170
Net income (loss) attributable to Duke Energy Corporation	694	509	1,176	(227)	2,152
Earnings per share:					
Income from continuing operations attributable to Duke Energy Corporation common stockholders					
Basic	\$ 0.83	\$ 0.90	\$ 1.44	\$ 0.53	\$ 3.71
Diluted	\$ 0.83	\$ 0.90	\$ 1.44	\$ 0.53	\$ 3.71
Income (Loss) from discontinued operations attributable to Duke Energy Corporation common stockholders					
Basic	\$ 0.18	\$ (0.16)	\$ 0.26	\$ (0.86)	\$ (0.60)
Diluted	\$ 0.18	\$ (0.16)	\$ 0.26	\$ (0.86)	\$ (0.60)
Net income (loss) attributable to Duke Energy Corporation common stockholders					
Basic	\$ 1.01	\$ 0.74	\$ 1.70	\$ (0.33)	\$ 3.11
Diluted	\$ 1.01	\$ 0.74	\$ 1.70	\$ (0.33)	\$ 3.11
<b>2015</b>					
Operating revenues	\$ 5,792	\$ 5,302	\$ 6,202	\$ 5,075	\$ 22,371
Operating income	1,390	1,192	1,606	890	5,078
Income from continuing operations	755	576	890	433	2,654
Income (Loss) from discontinued operations, net of tax	112	(29)	45	49	177
Net income	867	547	935	482	2,831
Net income attributable to Duke Energy Corporation	864	543	932	477	2,816
Earnings per share:					
Income from continuing operations attributable to Duke Energy Corporation common stockholders					
Basic	\$ 1.06	\$ 0.83	\$ 1.29	\$ 0.62	\$ 3.80
Diluted	\$ 1.06	\$ 0.83	\$ 1.29	\$ 0.62	\$ 3.80
Income (Loss) from discontinued operations attributable to Duke Energy Corporation common stockholders					
Basic	\$ 0.16	\$ (0.05)	\$ 0.06	\$ 0.07	\$ 0.25
Diluted	\$ 0.16	\$ (0.05)	\$ 0.06	\$ 0.07	\$ 0.25
Net income attributable to Duke Energy Corporation common stockholders					
Basic	\$ 1.22	\$ 0.78	\$ 1.35	\$ 0.69	\$ 4.05
Diluted	\$ 1.22	\$ 0.78	\$ 1.35	\$ 0.69	\$ 4.05

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**Combined Notes To Consolidated Financial Statements – (Continued)**

The following table includes unusual or infrequently occurring items in each quarter during the two most recently completed fiscal years. All amounts discussed below are pretax.

(in millions)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
<b>2016</b>					
Costs to Achieve Mergers (see Note 2)	\$ (120)	\$ (111)	\$ (84)	\$ (208)	\$ (523)
Commercial Renewables Impairment (see Note 12)	—	—	(71)	—	(71)
Loss on Sale of International Disposal Group (see Note 2)	—	—	—	(514)	(514)
Impairment of Assets in Central America (see Note 2)	—	(194)	—	—	(194)
Cost Savings Initiatives (see Note 19)	(20)	(24)	(19)	(29)	(92)
<b>Total</b>	<b>\$ (140)</b>	<b>\$ (329)</b>	<b>\$ (174)</b>	<b>\$ (751)</b>	<b>\$ (1,394)</b>
<b>2015</b>					
Costs to Achieve Mergers	\$ (21)	\$ (22)	\$ (24)	\$ (30)	\$ (97)
Edwardsport Settlement (see Note 4)	—	—	(90)	(3)	(93)
Ash Basin Settlement and Penalties (see Note 5)	—	—	(7)	(7)	(14)
State Tax Adjustment related to Midwest Generation Sale	—	(41)	—	—	(41)
Cost Savings Initiatives (see Note 19)	—	—	—	(142)	(142)
<b>Total</b>	<b>\$ (21)</b>	<b>\$ (63)</b>	<b>\$ (121)</b>	<b>\$ (182)</b>	<b>\$ (387)</b>

**DUKE ENERGY CAROLINAS**

(in millions)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
<b>2016</b>					
Operating revenues	\$ 1,740	\$ 1,675	\$ 2,226	\$ 1,681	\$ 7,322
Operating income	481	464	815	302	2,062
Net income	271	261	494	140	1,166
<b>2015</b>					
Operating revenues	\$ 1,901	\$ 1,707	\$ 2,061	\$ 1,560	\$ 7,229
Operating income	515	483	666	296	1,960
Net income	292	265	383	141	1,081

The following table includes unusual or infrequently occurring items in each quarter during the two most recently completed fiscal years. All amounts discussed below are pretax.

(in millions)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
<b>2016</b>					
Costs to Achieve Mergers	\$ (11)	\$ (12)	\$ (13)	\$ (68)	\$ (104)
Cost Savings Initiatives (see Note 19)	(10)	(10)	(8)	(11)	(39)
<b>Total</b>	<b>\$ (21)</b>	<b>\$ (22)</b>	<b>\$ (21)</b>	<b>\$ (79)</b>	<b>\$ (143)</b>
<b>2015</b>					
Costs to Achieve Mergers	\$ (9)	\$ (11)	\$ (11)	\$ (16)	\$ (47)
Ash Basin Settlement and Penalties (see Note 5)	—	—	(1)	(7)	(8)
Cost Savings Initiatives (see Note 19)	—	—	—	(93)	(93)
<b>Total</b>	<b>\$ (9)</b>	<b>\$ (11)</b>	<b>\$ (12)</b>	<b>\$ (116)</b>	<b>\$ (148)</b>

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**Combined Notes To Consolidated Financial Statements – (Continued)**

**PROGRESS ENERGY**

(in millions)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
<b>2016</b>					
Operating revenues	\$ 2,332	\$ 2,348	\$ 2,965	\$ 2,208	\$ 9,853
Operating income	475	560	814	292	2,141
Income from continuing operations	212	274	449	104	1,039
Net income	212	274	449	106	1,041
Net income attributable to Parent	209	272	446	104	1,031
<b>2015</b>					
Operating revenues	\$ 2,536	\$ 2,476	\$ 2,929	\$ 2,336	\$ 10,277
Operating income	549	504	756	351	2,160
Income from continuing operations	264	217	452	132	1,065
Net income	263	217	451	131	1,062
Net income attributable to Parent	260	215	448	128	1,051

The following table includes unusual or infrequently occurring items in each quarter during the two most recently completed fiscal years. All amounts discussed below are pretax.

(in millions)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
<b>2016</b>					
Costs to Achieve Mergers	\$ (7)	\$ (8)	\$ (10)	\$ (44)	\$ (69)
Cost Savings Initiatives (see Note 19)	(8)	(8)	(10)	(14)	(40)
Total	\$ (15)	\$ (16)	\$ (20)	\$ (58)	\$ (109)
<b>2015</b>					
Costs to Achieve Mergers	\$ (8)	\$ (8)	\$ (8)	\$ (10)	\$ (34)
Ash Basin Settlement and Penalties (see Note 5)	—	—	(6)	—	(6)
Cost Savings Initiatives (see Note 19)	—	—	—	(36)	(36)
Total	\$ (8)	\$ (8)	\$ (14)	\$ (46)	\$ (76)

**DUKE ENERGY PROGRESS**

(in millions)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
<b>2016</b>					
Operating revenues	\$ 1,307	\$ 1,213	\$ 1,583	\$ 1,174	\$ 5,277
Operating income	258	255	438	135	1,086
Net income	137	131	271	60	599
<b>2015</b>					
Operating revenues	\$ 1,449	\$ 1,193	\$ 1,488	\$ 1,160	\$ 5,290
Operating income	316	184	394	130	1,024
Net income	183	85	229	69	566

The following table includes unusual or infrequently occurring items in each quarter during the two most recently completed fiscal years. All amounts discussed below are pretax.

(in millions)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
<b>2016</b>					
Costs to Achieve Mergers	\$ (5)	\$ (5)	\$ (6)	\$ (40)	\$ (56)
Cost Savings Initiatives (see Note 19)	(5)	(5)	(7)	(6)	(23)
Total	\$ (10)	\$ (10)	\$ (13)	\$ (46)	\$ (79)
<b>2015</b>					
Costs to Achieve Mergers	\$ (5)	\$ (5)	\$ (6)	\$ (6)	\$ (22)
Ash Basin Settlement and Penalties (see Note 5)	—	—	(6)	—	(6)
Cost Savings Initiatives (see Note 19)	—	—	—	(28)	(28)
Total	\$ (5)	\$ (5)	\$ (12)	\$ (34)	\$ (56)

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**Combined Notes To Consolidated Financial Statements – (Continued)**

**DUKE ENERGY FLORIDA**

(in millions)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
<b>2016</b>					
Operating revenues	\$ 1,024	\$ 1,133	\$ 1,381	\$ 1,030	\$ 4,568
Operating income	213	300	373	155	1,041
Net income	110	171	206	64	551
<b>2015</b>					
Operating revenues	\$ 1,086	\$ 1,281	\$ 1,436	\$ 1,174	\$ 4,977
Operating income	227	315	357	216	1,115
Net income	113	165	216	105	599

The following table includes unusual or infrequently occurring items in each quarter during the two most recently completed fiscal years. All amounts discussed below are pretax.

(in millions)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
<b>2016</b>					
Costs to Achieve Mergers	\$ (2)	\$ (3)	\$ (4)	\$ (4)	\$ (13)
Cost Savings Initiatives (see Note 19)	(2)	(3)	(3)	(9)	(17)
Total	\$ (4)	\$ (6)	\$ (7)	\$ (13)	\$ (30)
<b>2015</b>					
Costs to Achieve Mergers	\$ (3)	\$ (3)	\$ (3)	\$ (4)	\$ (13)
Cost Savings Initiatives (see Note 19)	—	—	—	(8)	(8)
Total	\$ (3)	\$ (3)	\$ (3)	\$ (12)	\$ (21)

**DUKE ENERGY OHIO**

(in millions)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
<b>2016</b>					
Operating revenues	\$ 516	\$ 428	\$ 489	\$ 511	\$ 1,944
Operating income	96	55	106	90	347
Income from discontinued operations, net of tax	2	—	34	—	36
Net income	59	23	89	57	228
<b>2015</b>					
Operating revenues	\$ 586	\$ 405	\$ 462	\$ 452	\$ 1,905
Operating income	111	43	76	73	303
Income (Loss) from discontinued operations, net of tax	90	(65)	(2)	—	23
Net income (loss)	149	(52)	32	43	172

The following table includes unusual or infrequently occurring items in each quarter during the two most recently completed fiscal years. All amounts discussed below are pretax.

(in millions)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
<b>2016</b>					
Costs to Achieve Mergers	\$ (1)	\$ (1)	\$ (2)	\$ (2)	\$ (6)
Cost Savings Initiatives (see Note 19)	(1)	(1)	—	(1)	(3)
Total	\$ (2)	\$ (2)	\$ (2)	\$ (3)	\$ (9)
<b>2015</b>					
Costs to Achieve Mergers	\$ (1)	\$ (1)	\$ (1)	\$ (1)	\$ (4)
Cost Savings Initiatives (see Note 19)	—	—	—	(2)	(2)
Total	\$ (1)	\$ (1)	\$ (1)	\$ (3)	\$ (6)



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**Combined Notes To Consolidated Financial Statements – (Continued)**

**DUKE ENERGY INDIANA**

(in millions)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
<b>2016</b>					
Operating revenues	\$ 714	\$ 702	\$ 809	\$ 733	\$ 2,958
Operating income	176	174	239	176	765
Net income	95	85	129	72	381
<b>2015</b>					
Operating revenues	\$ 788	\$ 686	\$ 749	\$ 667	\$ 2,890
Operating income	210	146	117	171	644
Net income	108	68	46	94	316

The following table includes unusual or infrequently occurring items in each quarter during the two most recently completed fiscal years. All amounts discussed below are pretax.

(in millions)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Total
<b>2016</b>					
Costs to Achieve Mergers	\$ (1)	\$ (2)	\$ (3)	\$ (3)	\$ (9)
Cost Savings Initiatives (see Note 19)	(1)	(4)	(1)	(1)	(7)
Total	\$ (2)	\$ (6)	\$ (4)	\$ (4)	\$ (16)
<b>2015</b>					
Costs to Achieve Mergers	\$ (2)	\$ (1)	\$ (2)	\$ (2)	\$ (7)
Edwardsport Settlement (see Note 4)	—	—	(90)	(3)	(93)
Cost Savings Initiatives (see Note 19)	—	—	—	(6)	(6)
Total	\$ (2)	\$ (1)	\$ (92)	\$ (11)	\$ (106)

**ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE**

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None.

**ITEM 9A. CONTROLS AND PROCEDURES**

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**Disclosure Controls and Procedures**

Disclosure controls and procedures are controls and other procedures that are designed to ensure that information required to be disclosed by the Duke Energy Registrants in the reports they file or submit under the Securities Exchange Act of 1934 (Exchange Act) is recorded, processed, summarized and reported, within the time periods specified by the SEC rules and forms.

Disclosure controls and procedures include, without limitation, controls and procedures designed to provide reasonable assurance that information required to be disclosed by the Duke Energy Registrants in the reports they file or submit under the Exchange Act is accumulated and communicated to management, including the Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Under the supervision and with the participation of management, including the Chief Executive Officer and Chief Financial Officer, the Duke Energy Registrants have evaluated the effectiveness of their disclosure controls and procedures (as such term is defined in Rule 13a-15(e) and 15d-15(e) under the Exchange Act) as of December 31, 2016, and, based upon this evaluation, the Chief Executive Officer and Chief Financial Officer have concluded that these controls and procedures are effective in providing reasonable assurance of compliance.

**Changes in Internal Control Over Financial Reporting**

Under the supervision and with the participation of management, including the Chief Executive Officer and Chief Financial Officer, the Duke Energy Registrants have evaluated changes in internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the fiscal quarter ended December 31, 2016, and have concluded no change has materially affected, or is reasonably likely to materially affect, internal control over financial reporting.

**Management's Annual Report On Internal Control Over Financial Reporting**

The Duke Energy Registrants' management is responsible for establishing and maintaining an adequate system of internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). The Duke Energy Registrants' internal control system was designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes, in accordance with generally accepted accounting principles in the United States. Due to inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness of the internal control over financial reporting to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with policies and procedures may deteriorate.

The Duke Energy Registrants' management, including their Chief Executive Officer and Chief Financial Officer, has conducted an evaluation of the effectiveness of their internal control over financial reporting as of December 31, 2016, based on the framework in the Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on that evaluation, management concluded that its internal controls over financial reporting were effective as of December 31, 2016.

Deloitte & Touche LLP, Duke Energy's independent registered public accounting firm, has issued an attestation report on the effectiveness of Duke Energy's internal control over financial reporting. This attestation report is included in Part II, Item 8 of this Form 10-K. This report is not applicable to the Subsidiary Registrants as these companies are not accelerated or large accelerated filers.

## ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information regarding Duke Energy's Executive Officers is set forth in Part I, Item 1, "Business – Executive Officers of the Registrants," in this Annual Report on Form 10-K. Duke Energy will provide information that is responsive to the remainder of this Item 10 in its definitive proxy statement or in an amendment to this Annual Report not later than 120 days after the end of the fiscal year covered by this Annual Report. That information is incorporated in this Item 10 by reference.

## ITEM 11. EXECUTIVE COMPENSATION

Duke Energy will provide information that is responsive to this Item 11 in its definitive proxy statement or in an amendment to this Annual Report not later than 120 days after the end of the fiscal year covered by this Annual Report. That information is incorporated in this Item 11 by reference.

## ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

### Equity Compensation Plan Information

The following table shows information as of December 31, 2016, about securities to be issued upon exercise of outstanding options, warrants and rights under Duke Energy's equity compensation plans, along with the weighted average exercise price of the outstanding options, warrants and rights and the number of securities remaining available for future issuance under the plans.

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted average exercise price of outstanding options, warrants and rights (b) <sup>(1)</sup>	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	3,224,537 <sup>(2)</sup>	n/a	8,661,659 <sup>(3)</sup>
Equity compensation plans not approved by security holders	191,181 <sup>(4)</sup>	n/a	n/a <sup>(5)</sup>
Total	3,415,718	n/a	8,661,659

(1) As of December 31, 2016, no options were outstanding under equity compensation plans.

(2) Includes restricted stock units and performance shares (assuming the maximum payout level) granted under the Duke Energy Corporation 2010 Long-Term Incentive Plan or the Duke Energy Corporation 2015 Long-Term Incentive Plan, as well as shares that could be payable with respect to certain compensation deferred under the Duke Energy Corporation Executive Savings Plan (Executive Savings Plan) and the Duke Energy Corporation Directors' Savings Plan (Directors' Savings Plan).

(3) Includes shares remaining for issuance pursuant to stock awards under the Duke Energy Corporation 2015 Long-Term Incentive Plan.

(4) Includes shares that could be payable with respect to certain compensation deferred under the Executive Savings Plan and the Directors' Savings Plan, each of which is a non-qualified deferred compensation plan described in more detail below. Upon the acquisition of Piedmont Natural Gas Company, Inc., performance shares granted prior to the acquisition under the Piedmont Natural Gas Company, Inc. Incentive Compensation Plan were converted to restricted stock units payable in shares of Duke Energy common stock. As of December 31, 2016, 109,023 such restricted stock units were outstanding. Following the acquisition, no further stock awards were permitted to be granted under the Piedmont Natural Gas Company, Inc. Incentive Compensation Plan. These converted awards are not listed in the table above.

(5) The number of shares remaining available for future issuance under equity compensation plans not approved by security holders cannot be determined because it is based on the amount of future voluntary deferrals, if any, under the Executive Savings Plan and the Directors' Savings Plan.

Under the Executive Savings Plan, participants can elect to defer a portion of their base salary and short-term incentive compensation. Participants also receive a company matching contribution in excess of the contribution limits prescribed by the Internal Revenue Code under the Duke Energy Retirement Savings Plan, which is the 401(k) plan in which the named executive officers participate. In general, payments are made following the termination of employment or death in the form of a lump sum or installments, as selected by the participant. Participants may direct the deemed investment of base deferrals, short-term incentive compensation deferrals and matching contributions among investment options available under the Duke Energy Retirement Savings Plan, including the Duke Energy Common Stock Fund. Participants may change their investment elections on a daily basis. Deferrals of equity awards are credited with earnings and losses based on the performance of the Duke Energy Common Stock Fund. The benefits payable under the plan are unfunded and subject to claims of Duke Energy's creditors.

Under the Directors' Savings Plan, outside directors may elect to defer all or a portion of their annual compensation, consisting of retainers and attendance fees. Deferred amounts are credited to an unfunded account, the balance of which is adjusted for the performance of phantom investment options, including the Duke Energy Common Stock Fund, as elected by the director, and generally are paid when the director terminates his or her service from the Board of Directors.

**ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE**

Duke Energy will provide information that is responsive to this Item 13 in its definitive proxy statement or in an amendment to this Annual Report not later than 120 days after the end of the fiscal year covered by this Annual Report. That information is incorporated in this Item 13 by reference.

**ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES**

Deloitte & Touche LLP and the member firms of Deloitte Touche Tohmatsu and their respective affiliates (collectively, Deloitte) provided professional services to the Duke Energy Registrants. The following tables present the Deloitte fees for services rendered to the Duke Energy Registrants during 2016 and 2015.

(in millions)	Year Ended December 31, 2016						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
<b>Types of Fees</b>							
Audit Fees <sup>(a)</sup>	\$ 13.8	\$ 4.9	\$ 5.2	\$ 3.0	\$ 2.2	\$ 0.8	\$ 1.4
Audit-Related Fees <sup>(b)</sup>	0.7	—	—	—	—	—	—
Tax Fees <sup>(c)</sup>	0.4	0.1	0.1	0.1	—	—	0.1
Other Fees	0.2	0.1	0.1	0.1	—	—	—
<b>Total Fees</b>	<b>\$ 15.1</b>	<b>\$ 5.1</b>	<b>\$ 5.4</b>	<b>\$ 3.2</b>	<b>\$ 2.2</b>	<b>\$ 0.8</b>	<b>\$ 1.5</b>

(in millions)	Year Ended December 31, 2015						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
<b>Types of Fees</b>							
Audit Fees <sup>(a)</sup>	\$ 12.4	\$ 4.6	\$ 5.1	\$ 2.9	\$ 2.2	\$ 0.8	\$ 1.3
Audit-Related Fees <sup>(b)</sup>	2.4	—	—	—	—	1.2	—
Tax Fees <sup>(c)</sup>	0.2	0.1	—	—	—	—	—
Other Fees	0.1	—	—	—	—	—	—
<b>Total Fees</b>	<b>\$ 15.1</b>	<b>\$ 4.7</b>	<b>\$ 5.1</b>	<b>\$ 2.9</b>	<b>\$ 2.2</b>	<b>\$ 2.0</b>	<b>\$ 1.3</b>

- (a) Audit Fees are fees billed or expected to be billed for professional services for the audit of the Duke Energy Registrants' financial statements included in the Annual Report on Form 10-K and the review of financial statements included in quarterly reports on Form 10-Q, for services that are normally provided by Deloitte in connection with statutory, regulatory or other filings or engagements, or for any other service performed by Deloitte to comply with generally accepted auditing standards. Total Fees for Duke Energy in 2016 include amounts for audit work related to Piedmont. For additional information related to acquisition of Piedmont see Note 2 to the Consolidated Financial Statements, "Acquisitions and Dispositions."
- (b) Audit-Related Fees are fees billed, or expected to be billed, for assurance and related services that are reasonably related to the performance of an audit or review of financial statements, including assistance with acquisitions and divestitures and internal control reviews.
- (c) Tax Fees are fees for tax return assistance and preparation, tax examination assistance and professional services related to tax planning and tax strategy.

To safeguard the continued independence of the independent auditor, the Audit Committee of the Board of Directors of Duke Energy adopted a policy that all services provided by the independent auditor require preapproval by the Audit Committee. Pursuant to the policy, certain audit services, audit-related services, tax services and other services have been specifically preapproved up to fee limits. In the event the cost of any of these services may exceed the fee limits, the Audit Committee must preapprove the service. All services performed in 2016 and 2015 by the independent accountant were approved by the Audit Committee pursuant to their preapproval policy.

**ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES**

- (a) Consolidated Financial Statements, Supplemental Financial Data and Supplemental Schedules included in Part II of this annual report are as follows:

**Duke Energy Corporation**

Consolidated Financial Statements  
 Consolidated Statements of Operations for the Years Ended December 31, 2016, 2015 and 2014  
 Consolidated Statements of Comprehensive Income for the Years Ended December 31, 2016, 2015 and 2014  
 Consolidated Balance Sheets as of December 31, 2016 and 2015  
 Consolidated Statements of Cash Flows for the Years Ended December 31, 2016, 2015 and 2014  
 Consolidated Statements of Changes in Equity for the Years Ended December 31, 2016, 2015 and 2014  
 Notes to the Consolidated Financial Statements  
 Quarterly Financial Data, (unaudited, included in Note 25 to the Consolidated Financial Statements)  
 Report of Independent Registered Public Accounting Firm  
 All other schedules are omitted because they are not required, or because the required information is included in the Consolidated Financial Statements or Notes.

**Duke Energy Carolinas, LLC**

Consolidated Financial Statements  
 Consolidated Statements of Operations and Comprehensive Income for the Years Ended December 31, 2016, 2015 and 2014  
 Consolidated Balance Sheets as of December 31, 2016 and 2015  
 Consolidated Statements of Cash Flows for the Years Ended December 31, 2016, 2015 and 2014  
 Consolidated Statements of Changes in Equity for the Years Ended December 31, 2016, 2015 and 2014  
 Notes to the Consolidated Financial Statements  
 Quarterly Financial Data, (unaudited, included in Note 25 to the Consolidated Financial Statements)  
 Report of Independent Registered Public Accounting Firm  
 All other schedules are omitted because they are not required, or because the required information is included in the Consolidated Financial Statements or Notes.

**Progress Energy, Inc.**

Consolidated Financial Statements  
 Consolidated Statements of Operations and Comprehensive Income for the Years Ended December 31, 2016, 2015 and 2014  
 Consolidated Balance Sheets as of December 31, 2016 and 2015  
 Consolidated Statements of Cash Flows for the Years Ended December 31, 2016, 2015 and 2014  
 Consolidated Statements of Changes in Equity for the Years Ended December 31, 2016, 2015 and 2014  
 Notes to the Consolidated Financial Statements  
 Quarterly Financial Data, (unaudited, included in Note 25 to the Consolidated Financial Statements)  
 Report of Independent Registered Public Accounting Firm  
 All other schedules are omitted because they are not required, or because the required information is included in the Consolidated Financial Statements or Notes.

**Duke Energy Progress, LLC**

Consolidated Financial Statements  
 Consolidated Statements of Operations and Comprehensive Income for the Years Ended December 31, 2016, 2015 and 2014  
 Consolidated Balance Sheets as of December 31, 2016 and 2015  
 Consolidated Statements of Cash Flows for the Years Ended December 31, 2016, 2015 and 2014  
 Consolidated Statements of Changes in Equity for the Years Ended December 31, 2016, 2015 and 2014  
 Notes to the Consolidated Financial Statements  
 Quarterly Financial Data, (unaudited, included in Note 25 to the Consolidated Financial Statements)  
 Report of Independent Registered Public Accounting Firm  
 All other schedules are omitted because they are not required, or because the required information is included in the Consolidated Financial Statements or Notes.

**Duke Energy Florida, LLC**

Consolidated Financial Statements  
 Consolidated Statements of Operations and Comprehensive Income for the Years Ended December 31, 2016, 2015 and 2014  
 Consolidated Balance Sheets as of December 31, 2016 and 2015  
 Consolidated Statements of Cash Flows for the Years Ended December 31, 2016, 2015 and 2014  
 Consolidated Statements of Changes in Equity for the Years Ended December 31, 2016, 2015 and 2014  
 Notes to the Consolidated Financial Statements  
 Quarterly Financial Data, (unaudited, included in Note 25 to the Consolidated Financial Statements)  
 Report of Independent Registered Public Accounting Firm  
 All other schedules are omitted because they are not required, or because the required information is included in the Consolidated Financial Statements or Notes.

**Duke Energy Ohio, Inc.**

Consolidated Financial Statements

Consolidated Statements of Operations and Comprehensive Income for the Years Ended December 31, 2016, 2015 and 2014

Consolidated Balance Sheets as of December 31, 2016 and 2015

Consolidated Statements of Cash Flows for the Years Ended December 31, 2016, 2015 and 2014

Consolidated Statements of Changes in Equity for the Years Ended December 31, 2016, 2015 and 2014

Notes to the Consolidated Financial Statements

Quarterly Financial Data, (unaudited, included in Note 25 to the Consolidated Financial Statements)

Report of Independent Registered Public Accounting Firm

All other schedules are omitted because they are not required, or because the required information is included in the Consolidated Financial Statements or Notes.

**Duke Energy Indiana, LLC**

Consolidated Financial Statements

Consolidated Statements of Operations and Comprehensive Income for the Years Ended December 31, 2016, 2015 and 2014

Consolidated Balance Sheets as of December 31, 2016 and 2015

Consolidated Statements of Cash Flows for the Years Ended December 31, 2016, 2015 and 2014

Consolidated Statements of Changes in Equity for the Years Ended December 31, 2016, 2015 and 2014

Notes to the Consolidated Financial Statements

Quarterly Financial Data, (unaudited, included in Note 25 to the Consolidated Financial Statements)

Report of Independent Registered Public Accounting Firm

All other schedules are omitted because they are not required, or because the required information is included in the Consolidated Financial Statements or Notes.

(b) Exhibits – See Exhibit Index immediately following the signature page.

**SIGNATURES**

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrants have duly caused this report to be signed on their behalf by the undersigned, thereunto duly authorized.

Date: February 24, 2017

DUKE ENERGY CORPORATION  
(Registrant)

By:

/s/ LYNN J. GOOD

Lynn J. Good  
Chairman, President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the date indicated.

(i) /s/ LYNN J. GOOD

Lynn J. Good

Chairman, President and Chief Executive Officer (Principal Executive Officer and Director)

(ii) /s/ STEVEN K. YOUNG

Steven K. Young

Executive Vice President and Chief Financial Officer (Principal Financial Officer)

(iii) /s/ WILLIAM E. CURRENS JR.

William E. Currens Jr.

Senior Vice President, Chief Accounting Officer and Controller (Principal Accounting Officer)

(iv) Directors:

Michael J. Angelakis\*

William E. Kennard\*

Michael G. Browning\*

E. Marie McKee\*

Daniel R. DiMicco\*

Charles W. Moorman IV\*

John H. Forsgren\*

Carlos A. Saladrigas\*

Ann Maynard Gray\*

Thomas E. Skains\*

John T. Herron\*

William E. Webster, Jr.\*

James B. Hylar, Jr.\*

Steven K. Young, by signing his name hereto, does hereby sign this document on behalf of the registrant and on behalf of each of the above-named persons previously indicated by asterisk (\*) pursuant to a power of attorney duly executed by the registrant and such persons, filed with the Securities and Exchange Commission as an exhibit hereto.

By:

/s/ STEVEN K. YOUNG

Attorney-In-Fact

Date: February 24, 2017

**SIGNATURES**

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: February 24, 2017

DUKE ENERGY  
CAROLINAS, LLC  
(Registrant)

By:

/s/ LYNN J. GOOD

Lynn J. Good  
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the date indicated.

- (i) /s/ LYNN J. GOOD  
Lynn J. Good  
Chief Executive Officer (Principal Executive Officer)
- (ii) /s/ STEVEN K. YOUNG  
Steven K. Young  
Executive Vice President and Chief Financial Officer (Principal Financial Officer)
- (iii) /s/ WILLIAM E. CURRENS JR.  
William E. Currens Jr.  
Senior Vice President, Chief Accounting Officer and Controller (Principal Accounting Officer)
- (iv) Directors:
  - /s/ LYNN J. GOOD  
Lynn J. Good
  - /s/ DHIAA M. JAMIL  
Dhiaa M. Jamil
  - /s/ LLOYD M. YATES  
Lloyd M. Yates

Date: February 24, 2017





**SIGNATURES**

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: February 24, 2017

DUKE ENERGY  
PROGRESS, LLC  
(Registrant)

By:

/s/ LYNN J. GOOD

Lynn J. Good  
Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the date indicated.

- (i) /s/ LYNN J. GOOD  
Lynn J. Good  
Chief Executive Officer (Principal Executive Officer)
  
- (ii) /s/ STEVEN K. YOUNG  
Steven K. Young  
Executive Vice President and Chief Financial Officer (Principal Financial Officer)
  
- (iii) /s/ WILLIAM E. CURRENS JR.  
William E. Currens Jr.  
Senior Vice President, Chief Accounting Officer and Controller (Principal Accounting Officer)
  
- (iv) Directors:
  - /s/ DOUGLAS F ESAMANN  
Douglas F Esamann
  
  - /s/ LYNN J. GOOD  
Lynn J. Good
  
  - /s/ DHIAA M. JAMIL  
Dhiala M. Jamil
  
  - /s/ JULIA S. JANSON  
Julia S. Janson
  
  - /s/ LLOYD M. YATES  
Lloyd M. Yates

Date: February 24, 2017







## EXHIBIT INDEX

Exhibits filed herewithin are designated by an asterisk (\*). All exhibits not so designated are incorporated by reference to a prior filing, as indicated. Items constituting management contracts or compensatory plans or arrangements are designated by a double asterisk (\*\*). The Company agrees to furnish upon request to the Commission a copy of any omitted schedules or exhibits upon request on all items designated by a triple asterisk (\*\*\*)

Exhibit Number		Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana
2.1	Agreement and Plan of Merger between Duke Energy Corporation, Diamond Acquisition Corporation and Progress Energy, Inc., dated as of January 8, 2011 (incorporated by reference to Exhibit 2.1 to Duke Energy Corporation's Current Report on Form 8-K filed on January 11, 2011, File No. 1-32853).	X						
2.2	Agreement and Plan of Merger between Piedmont Natural Gas Company, Duke Energy Corporation and Forest Subsidiary, Inc. (incorporated by reference to Exhibit 2.1 to Duke Energy Corporation's Current Report on Form 8-K filed on October 26, 2015, File No. 1-32853).	X						
3.1	Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to Duke Energy Corporation's Current Report on Form 8-K filed on May 20, 2014, File No. 1-32853).	X						
3.2	Amended and Restated By-Laws of Duke Energy Corporation (incorporated by reference to Exhibit 3.1 to Duke Energy Corporation's Current Report on Form 8-K filed on January 4, 2016, File No. 1-32853).	X						
3.3	Articles of Organization including Articles of Conversion (incorporated by reference to Exhibit 3.1 to Duke Energy Carolinas, LLC's Current Report on Form 8-K filed on April 7, 2006, File No. 1-4928).		X					
3.3.1	Amended Articles of Organization, effective October 1, 2006 (incorporated by reference to Exhibit 3.1 to Duke Energy Carolinas, LLC's Quarterly Report on Form 10-Q for the quarter ended September 30, 2006 filed on November 13, 2006, File No. 1-4928).		X					
3.4	Amended Articles of Consolidation of Duke Energy Ohio, Inc. (formerly The Cincinnati Gas & Electric Company), effective October 23, 1996 (incorporated by reference to Exhibit 3(a) to registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 1996 filed on November 13, 1996, File No. 1-1232).						X	
3.4.1	Amended Articles of Consolidation, effective October 1, 2006 (incorporated by reference to Exhibit 3.1 to Duke Energy Ohio, Inc.'s (formerly The Cincinnati Gas & Electric Company) Quarterly Report on Form 10-Q for the quarter ended September 30, 2006 filed on November 17, 2006, File No. 1-1232).						X	
3.5	Certificate of Conversion of Duke Energy Indiana, LLC (incorporated by reference to Exhibit 3.1 to registrant's Current Report on Form 8-K filed on January 4, 2016, File No. 1-3543).							X
3.5.1	Articles of Entity Conversion of Duke Energy Indiana, LLC (incorporated by reference to Exhibit 3.2 to registrant's Current Report on Form 8-K filed on January 4, 2016, File No. 1-3543).							X
3.5.2	Plan of Entity Conversion of Duke Energy Indiana, LLC (incorporated by reference to Exhibit 3.3 to registrant's Current Report on Form 8-K filed on January 4, 2016, File No. 1-3543).							X
3.5.3	Articles of Organization of Duke Energy Indiana, LLC (incorporated by reference to Exhibit 3.4 to registrant's Current Report on Form 8-K filed on January 4, 2016, File No. 1-3543).							X
3.5.4	Limited Liability Company Operating Agreement of Duke Energy Indiana, LLC (incorporated by reference to Exhibit 3.5 to registrant's Current Report on Form 8-K filed on January 4, 2016, File No. 1-3543).							X
3.6	Limited Liability Company Operating Agreement of Duke Energy Carolinas, LLC (incorporated by reference to Exhibit 3.2 to registrant's Current Report on Form 8-K filed on April 7, 2006, File No. 1-4928).		X					

3.7	Regulations of Duke Energy Ohio, Inc. (formerly The Cincinnati Gas & Electric Company), effective July 23, 2003 (incorporated by reference to Exhibit 3.2 to registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2003 filed on August 13, 2003, File No. 1-1232).		X
3.8	Articles of Organization including Articles of Conversion for Duke Energy Progress, LLC (incorporated by reference to Exhibit 3.1 to registrant's Current Report on Form 8-K filed on August 4, 2015, File No. 1-3382).		X
3.8.1	Plan of Conversion of Duke Energy Progress, Inc. (incorporated by reference to Exhibit 3.2 to registrant's Current Report on Form 8-K filed on August 4, 2015, File No. 1-3382).		X
3.8.2	Limited Liability Company Operating Agreement of Duke Energy Progress, LLC (incorporated by reference to Exhibit 3.3 to registrant's Current Report on Form 8-K filed on August 4, 2015, File No. 1-3382).		X
3.9	Amended and Restated Articles of Incorporation of Progress Energy, Inc. (formerly CP&L Energy, Inc.), effective June 15, 2000 (incorporated by reference to Exhibit 3(a)(1) to registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2000 filed on August 14, 2000, File No. 1-3382).	X	
3.9.1	Articles of Amendment to the Amended and Restated Articles of Incorporation of Progress Energy, Inc. (formerly CP&L Energy, Inc.), effective December 4, 2000 (incorporated by reference to Exhibit 3(b)(1) to registrant's Annual Report on Form 10-K for the year ended December 31, 2001 filed on March 28, 2002, File No. 1-3382).	X	
3.9.2	Articles of Amendment to the Amended and Restated Articles of Incorporation of Progress Energy, Inc. (formerly CP&L Energy, Inc.), effective May 10, 2006 (incorporated by reference to Exhibit 3(a) to registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2006 filed on August 9, 2006, File No. 1-15929).	X	
3.9.3	By-Laws of Progress Energy, Inc. (formerly CP&L Energy, Inc.), effective May 10, 2006 (incorporated by reference to Exhibit 3(b) to registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2006 filed on August 9, 2006, File No. 1-15929).	X	
4.1	Articles of Conversion for Duke Energy Florida, LLC (incorporated by reference to Exhibit 3.4 to registrant's Current Report on Form 8-K filed on August 4, 2015, File No. 1-3274).		X
4.1.1	Articles of Organization for Duke Energy Florida, LLC (incorporated by reference to Exhibit 3.5 to registrant's Current Report on Form 8-K filed on August 4, 2015, File No. 1-3274).		X
4.1.2	Plan of Conversion of Duke Energy Florida, Inc. (incorporated by reference to Exhibit 3.6 to registrant's Current Report on Form 8-K filed on August 4, 2015, File No. 1-3274).		X
4.1.3	Limited Liability Company Operating Agreement of Duke Energy Florida, LLC (incorporated by reference to Exhibit 3.7 to registrant's Current Report on Form 8-K filed on August 4, 2015, File No. 1-3274).		X
4.2	Indenture between Duke Energy Corporation and The Bank of New York Mellon Trust Company, N.A., as Trustee, dated as of June 3, 2008 (incorporated by reference to Exhibit 4.1 to Duke Energy Corporation's Current Report on Form 8-K filed on June 16, 2008, File No. 1-32853).	X	
4.2.1	First Supplemental Indenture, dated as of June 16, 2008 (incorporated by reference to Exhibit 4.2 to Duke Energy Corporation's Current Report on Form 8-K filed on June 16, 2008, File No. 1-32853).	X	
4.2.2	Second Supplemental Indenture, dated as of January 26, 2009 (incorporated by reference to Exhibit 4.1 to Duke Energy Corporation's Current Report on Form 8-K filed on January 26, 2009, File No. 1-32853).	X	
4.2.3	Third Supplemental Indenture, dated as of August 28, 2009 (incorporated by reference to Exhibit 4.1 to Duke Energy Corporation's Current Report on Form 8-K filed on August 28, 2009, File No. 1-32853).	X	
4.2.4	Fourth Supplemental Indenture, dated as of March 25, 2010 (incorporated by reference to Exhibit 4.1 to Duke Energy Corporation's Current Report on Form 8-K filed on March 25, 2010, File No. 1-32853).	X	

4.2.5	Fifth Supplemental Indenture, dated as of August 25, 2011 (incorporated by reference to Exhibit 4.1 to Duke Energy Corporation's Current Report on Form 8-K filed on August 25, 2011, File No. 1-32853).	X
4.2.6	Sixth Supplemental Indenture, dated as of November 17, 2011 (incorporated by reference to Exhibit 4.1 to Duke Energy Corporation's Current Report on Form 8-K filed on November 17, 2011, File No. 1-32853).	X
4.2.7	Seventh Supplemental Indenture, dated as of August 16, 2012 (incorporated by reference to Exhibit 4.1 to Duke Energy Corporation's Current Report on Form 8-K filed on August 16, 2012, File No. 1-32853).	X
4.2.8	Eighth Supplemental Indenture, dated as of January 14, 2013 (incorporated by reference to Exhibit 2 to Duke Energy Corporation's Form 8-A filed on January 14, 2013, File No. 1-32853).	X
4.2.9	Ninth Supplemental Indenture, dated as of June 13, 2013 (incorporated by reference to Exhibit 4.1 to Duke Energy Corporation's Current Report on Form 8-K filed on June 13, 2013, File No. 1-32853).	X
4.2.10	Tenth Supplemental Indenture, dated as of October 11, 2013 (incorporated by reference to Exhibit 4.1 to Duke Energy Corporation's Current Report on Form 8-K filed on October 11, 2013, File No. 1-32853).	X
4.2.11	Eleventh Supplemental Indenture, dated as of April 4, 2014 (incorporated by reference to Exhibit 4.1 to Duke Energy Corporation's Current Report on Form 8-K filed on April 4, 2014, File No. 1-32853).	X
4.2.12	Twelfth Supplemental Indenture, dated as of November 19, 2015 (incorporated by reference to Exhibit 4.2 to Duke Energy Corporation's Current Report on Form 8-K filed on November 19, 2015, File No. 1-32853).	X
4.2.13	Thirteenth Supplemental Indenture, dated as of April 18, 2016, to the indenture dated as of June 3, 2008, between Duke Energy Corporation and The Bank of New York Mellon Trust Company, N.A., as Trustee (incorporated by reference to Exhibit 4.1 to Duke Energy Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2016 filed on May 5, 2016, File No. 1-32853).	X
4.2.14	Fourteenth Supplemental Indenture, dated as of August 12, 2016 (incorporated by reference to Exhibit 4.1 to registrant's Current Report on Form 8-K filed on August 12, 2016, File No. 1-32853).	X
4.3	Senior Indenture between Duke Energy Carolinas, LLC and The Bank of New York Mellon Trust Company, N.A., as successor trustee to JPMorgan Chase Bank (formerly known as The Chase Manhattan Bank), dated as of September 1, 1998 (incorporated by reference to Exhibit 4-D-1 to registrant's Post-Effective Amendment No. 2 to Registration Statement on Form S-3 filed on April 7, 1999, File No. 333-14209).	X
4.3.1	Fifteenth Supplemental Indenture, dated as of April 3, 2006 (incorporated by reference to Exhibit 4.4.1 to registrant's Registration Statement on Form S-3 filed on October 3, 2007, File No. 333-146483-03).	X
4.3.2	Sixteenth Supplemental Indenture, dated as of June 5, 2007 (incorporated by reference to Exhibit 4.1 registrant's Current Report on Form 8-K filed on June 6, 2007, File No. 1-4928).	X
4.4	First and Refunding Mortgage from Duke Energy Carolinas, LLC to The Bank of New York Mellon Trust Company, N.A., successor trustee to Guaranty Trust Company of New York, dated as of December 1, 1927 (incorporated by reference to Exhibit 7(a) to registrant's Form S-1, effective October 15, 1947, File No. 2-7224).	X
4.4.1	Instrument of Resignation, Appointment and Acceptance among Duke Energy Carolinas, LLC, JPMorgan Chase Bank, N.A., as Trustee, and The Bank of New York Mellon Trust Company, N.A., as Successor Trustee, dated as of September 24, 2007 (incorporated by reference to Exhibit 4.6.1 to registrant's Registration Statement on Form S-3 filed on October 3, 2007, File No. 333-146483).	X
4.4.2	Ninth Supplemental Indenture, dated as of February 1, 1949 (incorporated by reference to Exhibit 7(j) to registrant's Form S-1 filed on February 3, 1949, File No. 2-7808).	X



## PART IV

4.4.3	Twentieth Supplemental Indenture, dated as of June 15, 1964 (incorporated by reference to Exhibit 4-B-20 to registrant's Form S-1 filed on August 23, 1966, File No. 2-25367).	X
4.4.4	Twenty-third Supplemental Indenture, dated as of February 1, 1968 (incorporated by reference to Exhibit 2-B-26 to registrant's Form S-9 filed on January 21, 1969, File No. 2-31304).	X
4.4.5	Sixtieth Supplemental Indenture, dated as of March 1, 1990 (incorporated by reference to Exhibit 4-B-61 to registrant's Annual Report on Form 10-K for the year ended December 31, 1990, File No.1-4928).	X
4.4.6	Sixty-third Supplemental Indenture, dated as of July 1, 1991 (incorporated by reference to Exhibit 4-B-64 to registrant's Registration Statement on Form S-3 filed on February 13, 1992, File No. 33-45501).	X
4.4.7	Eighty-fourth Supplemental Indenture, dated as of March 20, 2006 (incorporated by reference to Exhibit 4.6.9 to registrant's Registration Statement on Form S-3 filed on October 3, 2007, File No. 333-146483-03).	X
4.4.8	Eighty-fifth Supplemental Indenture, dated as of January 10, 2008 (incorporated by reference to Exhibit 4.1 to Duke Energy Carolinas, LLC's Current Report on Form 8-K filed on January 11, 2008, File No.1-4928).	X
4.4.9	Eighty-seventh Supplemental Indenture, dated as of April 14, 2008 (incorporated by reference to Exhibit 4.1 to Duke Energy Carolinas, LLC's Current Report on Form 8-K filed on April 15, 2008, File No.1-4928).	X
4.4.10	Eighty-eighth Supplemental Indenture, dated as of November 17, 2008 (incorporated by reference to Exhibit 4.1 to Duke Energy Carolinas, LLC's Current Report on Form 8-K filed on November 20, 2008, File No.1-4928).	X
4.4.11	Ninetieth Supplemental Indenture, dated as of November 19, 2009 (incorporated by reference to Exhibit 4.1 to Duke Energy Carolinas, LLC's Current Report on Form 8-K filed on November 19, 2009, File No.1-4928).	X
4.4.12	Ninety-first Supplemental Indenture, dated as of June 7, 2010 (incorporated by reference to Exhibit 4.1 to Duke Energy Carolinas, LLC's Current Report on Form 8-K filed on June 7, 2010, File No.1-4928).	X
4.4.13	Ninety-third Supplemental Indenture, dated as of May 19, 2011 (incorporated by reference to Exhibit 4.1 to Duke Energy Carolinas, LLC's Current Report on Form 8-K filed on May 19, 2011, File No.1-4928).	X
4.4.14	Ninety-fourth Supplemental Indenture, dated as of December 8, 2011 (incorporated by reference to Exhibit 4.1 to Duke Energy Carolinas, LLC's Current Report on Form 8-K filed on December 8, 2011, File No.1-4928).	X
4.4.15	Ninety-fifth Supplemental Indenture, dated as of September 21, 2012 (incorporated by reference to Exhibit 4.1 to Duke Energy Carolinas, LLC's Current Report on Form 8-K filed on September 21, 2012, File No.1-4928).	X
4.4.16	Ninety-sixth Supplemental Indenture, dated as of March 12, 2015, between Duke Energy Carolinas, LLC and The Bank of New York Mellon Trust Company, N.A., as Trustee (incorporated by reference to Exhibit 4.1 to Duke Energy Carolinas, LLC's Current Report on Form 8-K filed on March 12, 2015, File No. 1-4928).	X
4.4.17	Ninety-seventh Supplemental Indenture, dated as of March 11, 2016 (incorporated by reference to Exhibit 4.1 to Duke Energy Carolinas, LLC's Current Report on Form 8-K filed on March 11, 2016, File No. 1-4928).	X
4.4.18	Ninety-eighth Supplemental Indenture, dated as of November 17, 2016 (incorporated by reference to Exhibit 4.1 to Duke Energy Carolinas, LLC's Current Report on Form 8-K filed on November 17, 2016, File No. 1-4928).	X
4.5	Mortgage and Deed of Trust between Duke Energy Progress, Inc. (formerly Carolina Power & Light Company) and The Bank of New York Mellon (formerly Irving Trust Company) and Frederick G. Herbst (Tina D. Gonzalez, successor), as Trustees, dated as of May 1, 1940.	X

4.5.1	First through Fifth Supplemental Indentures thereto (Exhibit 2(b), File No. 2-64189); the Sixth through Sixty-sixth Supplemental Indentures (Exhibit 2(b)-5, File No. 2-16210; Exhibit 2(b)-6, File No. 2-16210; Exhibit 4(b)-8, File No. 2-19118; Exhibit 4(b)-2, File No. 2-22439; Exhibit 4(b)-2, File No. 2-24624; Exhibit 2(c), File No. 2-27297; Exhibit 2(c), File No. 2-30172; Exhibit 2(c), File No. 2-35694; Exhibit 2(c), File No. 2-37505; Exhibit 2(c), File No. 2-39002; Exhibit 2(c), File No. 2-41738; Exhibit 2(c), File No. 2-43439; Exhibit 2(c), File No. 2-47751; Exhibit 2(c), File No. 2-49347; Exhibit 2(c), File No. 2-53113; Exhibit 2(d), File No. 2-53113; Exhibit 2(c), File No. 2-59511; Exhibit 2(c), File No. 2-61611; Exhibit 2(d), File No. 2-64189; Exhibit 2(c), File No. 2-65514; Exhibits 2(c) and 2(d), File No. 2-66851; Exhibits 4(b)-1, 4(b)-2, and 4(b)-3, File No. 2-81299; Exhibits 4(c)-1 through 4(c)-8, File No. 2-95505; Exhibits 4(b) through 4(h), File No. 33-25560; Exhibits 4(b) and 4(c), File No. 33-33431; Exhibits 4(b) and 4(c), File No. 33-38298; Exhibits 4(h) and 4(i), File No. 33-42869; Exhibits 4(e)-(g), File No. 33-48607; Exhibits 4(e) and 4(f), File No. 33-55060; Exhibits 4(e) and 4(f), File No. 33-60014; Exhibits 4(a) and 4(b) to Post-Effective Amendment No. 1, File No. 33-38349; Exhibit 4(e), File No. 33-50597; Exhibit 4(e) and 4(f) to Registration Statement on Form S-3, File No. 33-57835, filed on February 24, 1995; Exhibit to the Current Report on Form 8-K filed on August 28, 1997, File No. 1-3382; Exhibit 4(b) to Registration Statement on Form S-3, File No. 333-69237, filed on December 18, 1998; and Exhibit 4(c) to the Current Report on Form 8-K filed on March 19, 1999, File No. 1-3382).	X
4.5.2	Seventy-second Supplemental Indenture, dated as of September 1, 2003 (incorporated by reference to Exhibit 4 to Duke Energy Progress, Inc.'s (formerly Carolina Power & Light Company (d/b/a Progress Energy Carolinas, Inc.)) Current Report on Form 8-K filed on September 12, 2003, File No. 1-3382).	X
4.5.3	Seventy-third Supplemental Indenture, dated as of March 1, 2005 (incorporated by reference to Exhibit 4 to Duke Energy Progress, Inc.'s (formerly Carolina Power & Light Company (d/b/a Progress Energy Carolinas, Inc.)) Current Report on Form 8-K filed on March 22, 2005, File No. 1-3382).	X
4.5.4	Seventy-fourth Supplemental Indenture, dated as of November 1, 2005 (incorporated by reference to Exhibit 4 to Duke Energy Progress, Inc.'s (formerly Carolina Power & Light Company (d/b/a Progress Energy Carolinas, Inc.)) Current Report on Form 8-K filed on November 30, 2005, File No. 1-3382).	X
4.5.5	Seventy-fifth Supplemental Indenture, dated as of March 1, 2008 (incorporated by reference to Exhibit 4 to Duke Energy Progress, Inc.'s (formerly Carolina Power & Light Company (d/b/a Progress Energy Carolinas, Inc.)) Current Report on Form 8-K filed on March 13, 2008, File No. 1-3382).	X
4.5.6	Seventy-sixth Supplemental Indenture, dated as of January 1, 2009 (incorporated by reference to Exhibit 4 to Duke Energy Progress, Inc.'s (formerly Carolina Power & Light Company (d/b/a Progress Energy Carolinas, Inc.)) Current Report on Form 8-K filed on January 15, 2009, File No. 1-3382).	X
4.5.7	Seventy-seventh Supplemental Indenture, dated as of June 18, 2009 (incorporated by reference to Exhibit 4 to Duke Energy Progress, Inc.'s (formerly Carolina Power & Light Company (d/b/a Progress Energy Carolinas, Inc.)) Current Report on Form 8-K filed on June 23, 2009, File No. 1-3382).	X
4.5.8	Seventy-eighth Supplemental Indenture, dated as of September 1, 2011 (incorporated by reference to Exhibit 4 to Duke Energy Progress, Inc.'s (formerly Carolina Power & Light Company (d/b/a Progress Energy Carolinas, Inc.)) Current Report on Form 8-K filed on September 15, 2011, File No. 1-3382).	X
4.5.9	Seventy-ninth Supplemental Indenture, dated as of May 1, 2012 (incorporated by reference to Exhibit 4 to Duke Energy Progress, Inc.'s (formerly Carolina Power & Light Company (d/b/a Progress Energy Carolinas, Inc.)) Current Report on Form 8-K filed on May 18, 2012, File No. 1-3382).	X
4.5.10	Eightieth Supplemental Indenture, dated as of March 1, 2013 (incorporated by reference to Exhibit 4.1 to Duke Energy Progress, Inc.'s (formerly Carolina Power & Light Company (d/b/a Progress Energy Carolinas, Inc.)) Current Report on Form 8-K filed on March 12, 2013, File No. 1-3382).	X

4.5.11	Eighty-second Supplemental Indenture, dated as of March 1, 2014, between the Company and The Bank of New York Mellon (formerly Irving Trust Company) and Tina D. Gonzalez (successor to Frederick G. Herbst) and forms of global notes (incorporated by reference to Exhibit 4.1 to Duke Energy Progress, Inc.'s Current Report on Form 8-K filed on March 6, 2014, File No. 1-3382).	X
4.5.12	Eighty-third Supplemental Indenture, dated as of November 1, 2014, between the Company and The Bank of New York Mellon (formerly Irving Trust Company) and Tina D. Gonzalez (successor to Frederick G. Herbst) and forms of global notes (incorporated by reference to Exhibit 4.1 to Duke Energy Progress, Inc.'s Current Report on Form 8-K filed on November 20, 2014, File No. 1-3382).	X
4.5.13	Eighty-fifth Supplemental Indenture, dated as of August 1, 2015 (incorporated by reference to Exhibit 4.1 to Duke Energy Progress, LLC's Current Report on Form 8-K filed on August 13, 2015, File No. 1-3382).	X
4.5.14	Eighty-sixth Supplemental Indenture, dated as of September 1, 2016 (incorporated by reference to Exhibit 4.1 to registrant's Current Report on Form 8-K filed on September 16, 2016, File No. 1-15929).	X
4.6	Indenture (for Debt Securities) between Duke Energy Progress, Inc. (formerly Carolina Power & Light Company) and The Bank of New York Mellon (successor in interest to The Chase Manhattan Bank), as Trustee (incorporated by reference to Exhibit 4(a) to registrant's Current Report on Form 8-K filed on November 5, 1999, File No. 1-3382).	X
4.7	Indenture (for [Subordinated] Debt Securities) (open ended) (incorporated by reference to Exhibit 4(a)(2) to Duke Energy Progress, Inc.'s (formerly Carolina Power & Light Company (d/b/a Progress Energy Carolinas, Inc.)) Registration Statement on Form S-3 filed on November 18, 2008, File No. 333-155418).	X
4.8	Indenture (for First Mortgage Bonds) between Duke Energy Florida, Inc. (formerly Florida Power Corporation) and The Bank of New York Mellon (as successor to Guaranty Trust Company of New York and The Florida National Bank of Jacksonville), as Trustee, dated as of January 1, 1944 (incorporated by reference to Exhibit B-18 to registrant's Form A-2, File No. 2-5293).	X
4.8.1	Seventh Supplemental Indenture (incorporated by reference to Exhibit 4(b) to Duke Energy Florida, Inc.'s (formerly Florida Power Corporation) Registration Statement on Form S-3 filed on September 27, 1991, File No. 33-16788).	X
4.8.2	Eighth Supplemental Indenture (incorporated by reference to Exhibit 4(c) to Duke Energy Florida, Inc.'s (formerly Florida Power Corporation) Registration Statement on Form S-3 filed on September 27, 1991, File No. 33-16788).	X
4.8.3	Sixteenth Supplemental Indenture (incorporated by reference to Exhibit 4(d) to Duke Energy Florida, Inc.'s (formerly Florida Power Corporation) Registration Statement on Form S-3 filed on September 27, 1991, File No. 33-16788).	X
4.8.4	Twenty-ninth Supplemental Indenture (incorporated by reference to Exhibit 4(c) to Duke Energy Florida, Inc.'s (formerly Florida Power Corporation) Registration Statement on Form S-3 filed on September 17, 1982, File No. 2-79832).	X
4.8.5	Thirty-eighth Supplemental Indenture, dated as of July 25, 1994 (incorporated by reference to exhibit 4(f) to Duke Energy Florida, Inc.'s (formerly Florida Power Corporation) Registration Statement on Form S-3 filed on August 29, 1994, File No. 33-55273).	X
4.8.6	Forty-first Supplemental Indenture, dated as of February 1, 2003 (incorporated by reference to Exhibit 4 to Duke Energy Florida, Inc.'s (formerly Duke Energy Florida Power Corporation (d/b/a Progress Energy Florida, Inc.)) Current Report on Form 8-K filed on February 21, 2003, File No. 1-3274).	X
4.8.7	Forty-second Supplemental Indenture, dated as of April 1, 2003 (incorporated by reference to Exhibit 4 to Duke Energy Florida, Inc.'s (formerly Florida Power Corporation (d/b/a Progress Energy Florida, Inc.)) Quarterly Report on Form 10-Q for the quarter ended June 30, 2003 filed on August 11, 2003, File No. 1-3274).	X
4.8.8	Forty-third Supplemental Indenture, dated as of November 1, 2003 (incorporated by reference to Exhibit 4 to Duke Energy Florida, Inc.'s (formerly Florida Power Corporation (d/b/a Progress Energy Florida, Inc.)) Current Report on Form 8-K filed on November 21, 2003, File No. 1-3274).	X

4.8.9	Forty-fourth Supplemental Indenture, dated as of August 1, 2004 (incorporated by reference to Exhibit 4(m) to Duke Energy Florida, Inc.'s (formerly Florida Power Corporation (d/b/a Progress Energy Florida, Inc.)) Annual Report on Form 10-K for the year ended December 31, 2004 filed on March 16, 2005, File No. 1-3274).	X
4.8.10	Forty-sixth Supplemental Indenture, dated as of September 1, 2007 (incorporated by reference to Exhibit 4 to Duke Energy Florida, Inc.'s (formerly Florida Power Corporation (d/b/a Progress Energy Florida, Inc.)) Current Report on Form 8-K filed on September 19, 2007, File No. 1-3274).	X
4.8.11	Forty-seventh Supplemental Indenture, dated as of December 1, 2007 (incorporated by reference to Exhibit 4 to Duke Energy Florida, Inc.'s (formerly Florida Power Corporation (d/b/a Progress Energy Florida, Inc.)) Current Report on Form 8-K filed on December 13, 2007, File No. 1-3274).	X
4.8.12	Forty-eighth Supplemental Indenture, dated as of June 1, 2008 (incorporated by reference to Exhibit 4 to Duke Energy Florida, Inc.'s (formerly Florida Power Corporation (d/b/a Progress Energy Florida, Inc.)) Current Report on Form 8-K filed on June 18, 2008, File No. 1-3274).	X
4.8.13	Forty-ninth Supplemental Indenture, dated as of March 1, 2010 (incorporated by reference to Exhibit 4 to Duke Energy Florida, Inc.'s (formerly Florida Power Corporation (d/b/a Progress Energy Florida, Inc.)) Current Report on Form 8-K filed on March 25, 2010, File No. 1-3274).	X
4.8.14	Fiftieth Supplemental Indenture, dated as of August 11, 2011 (incorporated by reference to Exhibit 4 to Duke Energy Florida, Inc.'s (formerly Florida Power Corporation (d/b/a Progress Energy Florida, Inc.)) Current Report on Form 8-K filed on August 18, 2011, File No. 1-3274).	X
4.8.15	Fifty-first Supplemental Indenture, dated as of November 1, 2012 (incorporated by reference to Exhibit 4.1 to Duke Energy Florida, Inc.'s (formerly Florida Power Corporation (d/b/a Progress Energy Florida, Inc.)) Current Report on Form 8-K filed on November 20, 2012, File No. 1-3274).	X
4.8.16	Fifty-third Supplemental Indenture, dated as of September 1, 2016 (incorporated by reference to Exhibit 4.1 to registrant's Current Report on Form 8-K filed on September 9, 2016, File No. 1-03274).	X
4.9	Indenture (for Debt Securities) between Duke Energy Florida, Inc. (formerly Florida Power Corporation (d/b/a Progress Energy Florida, Inc.)) and The Bank of New York Mellon Trust Company, National Association (successor in interest to J.P. Morgan Trust Company, National Association), as Trustee, dated as of December 7, 2005 (incorporated by reference to Exhibit 4(a) to registrant's Current Report on Form 8-K filed on December 13, 2005, File No. 1-3274).	X
4.10	Indenture (for [Subordinated] Debt Securities) (open ended) (incorporated by reference to Exhibit 4(a)(2) Duke Energy Florida, Inc.'s (formerly Florida Power Corporation (d/b/a Progress Energy Florida, Inc.)) Registration Statement on Form S-3 filed on November 18, 2008, File No. 333-155418).	X
4.11	Original Indenture (Unsecured Debt Securities) between Duke Energy Ohio, Inc. (formerly The Cincinnati Gas & Electric Company) and The Bank of New York Mellon Trust Company, N.A., as Successor Trustee, dated as of May 15, 1995 (incorporated by reference to Exhibit 3 to registrant's Form 8-A filed on July 27, 1995, File No. 1-1232).	X
4.11.1	First Supplemental Indenture, dated as of June 1, 1995 (incorporated by reference to Exhibit 4 B to Duke Energy Ohio, Inc.'s (formerly The Cincinnati Gas & Electric Company) Quarterly Report on Form 10-Q for the quarter ended June 30, 1995 filed on August 11, 1995, File No. 1-1232).	X
4.11.2	Seventh Supplemental Indenture, dated as of June 15, 2003 (incorporated by reference to Exhibit 4.1 to Duke Energy Ohio, Inc.'s (formerly The Cincinnati Gas & Electric Company) Quarterly Report on Form 10-Q for the quarter ended June 30, 2003 filed on August 13, 2003, File No. 1-1232).	X
4.12	Original Indenture (First Mortgage Bonds) between Duke Energy Ohio, Inc. (formerly The Cincinnati Gas & Electric Company) and The Bank of New York Mellon Trust Company, N.A., as Successor Trustee, dated as of August 1, 1936 (incorporated by reference to an exhibit to registrant's Registration Statement No. 2-2374).	X
4.12.1	Fortieth Supplemental Indenture, dated as of March 23, 2009 (incorporated by reference to Exhibit 4.1 to Duke Energy Ohio, Inc.'s (formerly The Cincinnati Gas & Electric Company) Current Report on Form 8-K filed on March 24, 2009, File No. 1-1232).	X

4.12.2	Forty-second Supplemental Indenture, dated as of September 6, 2013 (incorporated by reference to Exhibit 4.1 to Duke Energy Ohio, Inc.'s (formerly The Cincinnati Gas & Electric Company) Current Report on Form 8-K filed on September 6, 2013, File No. 1-1232).	X
4.12.3	Forty-fourth Supplemental Indenture, dated as of June 23, 2016 (incorporated by reference to Exhibit 4.1 registrant's Current Report on Form 8-K filed on June 23, 2016, File No. 1-1232).	X
4.13	Indenture between Duke Energy Indiana, LLC (formerly PSI Energy, Inc.) and The Bank of New York Mellon Trust Company, N.A., as Successor Trustee, dated as of November 15, 1996 (incorporated by reference to Exhibit 4(v) to registrant's Annual Report on Form 10-K for the year ended December 31, 1996 filed on March 27, 1997, File No. 1-3543).	X
4.13.1	Third Supplemental Indenture, dated as of March 15, 1998 (incorporated by reference to Exhibit 4 to Duke Energy Indiana, LLC's (formerly PSI Energy, Inc.) Annual Report on Form 10-K for the year ended December 31, 1997 filed on March 27, 1998, File No. 1-3543).	X
4.13.2	Eighth Supplemental Indenture, dated as of September 23, 2003 (incorporated by reference to Exhibit 4.2 to Duke Energy Indiana, LLC's (formerly PSI Energy, Inc.) Quarterly Report on Form 10-Q for the quarter ended September 30, 2003 filed on November 13, 2003, File No. 1-3543).	X
4.13.3	Ninth Supplemental Indenture, dated as of October 21, 2005 (incorporated by reference to Exhibit 4.7.3 to Duke Energy Indiana, LLC's (formerly PSI Energy, Inc.) Registration Statement on Form S-3 filed on September 29, 2010, File No. 333-169633).	X
4.13.4	Tenth Supplemental Indenture, dated as of June 9, 2006 (incorporated by reference to Exhibit 4.1 to Duke Energy Indiana, LLC's (formerly PSI Energy, Inc.) Current Report on Form 8-K filed on June 15, 2006, File No. 1-3543).	X
4.14	Original Indenture (First Mortgage Bonds) between Duke Energy Indiana, LLC (formerly PSI Energy, Inc.) and Deutsche Bank National Trust Company, as Successor Trustee, dated as of September 1, 1939 (filed as an exhibit in File No. 70-258).	X
4.14.1	Tenth Supplemental Indenture, dated as of July 1, 1952 (filed as an exhibit in File No. 2-9687).	X
4.14.2	Twenty-third Supplemental Indenture, dated as of January 1, 1977 (filed as an exhibit in File No. 2-57828).	X
4.14.3	Twenty-fifth Supplemental Indenture, dated as of September 1, 1978 (filed as an exhibit in File No. 2-62543).	X
4.14.4	Twenty-sixth Supplemental Indenture, dated as of September 1, 1978 (filed as an exhibit in File No. 2-62543).	X
4.14.5	Thirtieth Supplemental Indenture, dated as of August 1, 1980 (filed as an exhibit in File No. 2-68562).	X
4.14.6	Thirty-fifth Supplemental Indenture, dated as of March 30, 1984 (filed as an exhibit to registrant's Annual Report on Form 10-K for the year ended December 31, 1984, File No. 1-3543).	X
4.14.7	Forty-sixth Supplemental Indenture, dated as of June 1, 1990 (filed as an exhibit to registrant's Annual Report on Form 10-K for the year ended December 31, 1991, File No. 1-3543).	X
4.14.8	Forty-seventh Supplemental Indenture, dated as of July 15, 1991 (filed as an exhibit to registrant's Annual Report on Form 10-K for the year ended December 31, 1991, File No. 1-3543).	X
4.14.9	Forty-eighth Supplemental Indenture, dated as of July 15, 1992 (filed as an exhibit to registrant's Annual Report on Form 10-K for the year ended December 31, 1992, File No. 1-3543).	X
4.14.10	Fifty-second Supplemental Indenture, dated as of April 30, 1999 (incorporated by reference to Exhibit 4 to Duke Energy Indiana, LLC's (formerly PSI Energy, Inc.) Quarterly Report on Form 10-Q for the quarter ended March 31, 1999 filed on May 13, 1999, File No. 1-3543).	X
4.14.11	Fifty-seventh Supplemental Indenture, dated as of August 21, 2008 (incorporated by reference to Exhibit 4.1 to Duke Energy Indiana, LLC's (formerly PSI Energy, Inc.) Current Report Form 8-K filed on August 21, 2008, File No. 1-3543).	X

## PART IV

4.14.12	Fifty-eighth Supplemental Indenture, dated as of December 19, 2008 (incorporated by reference to Exhibit 4.8.12 to Duke Energy Indiana, LLC's (formerly PSI Energy, Inc.) Registration Statement on Form S-3 filed on September 29, 2010, File No. 333-169633-02).		X
4.14.13	Fifty-ninth Supplemental Indenture, dated as of March 23, 2009 (incorporated by reference to Exhibit 4.1 to Duke Energy Indiana, LLC's (formerly PSI Energy, Inc.) Current Report on Form 8-K filed on March 24, 2009, File No. 1-3543).		X
4.14.14	Sixtieth Supplemental Indenture, dated as of June 1, 2009 (incorporated by reference to Exhibit 4.8.14 to Duke Energy Indiana, LLC's (formerly PSI Energy, Inc.) Registration Statement on Form S-3 filed on September 29, 2010, File No. 333-169633-02).		X
4.14.15	Sixty-first Supplemental Indenture, dated as of October 1, 2009 (incorporated by reference to Exhibit 4.8.15 to Duke Energy Indiana, LLC's (formerly PSI Energy, Inc.) Registration Statement on Form S-3 filed on September 29, 2010, File No. 333-169633-02).		X
4.14.16	Sixty-second Supplemental Indenture, dated as of July 9, 2010 (incorporated by reference to Exhibit 4.1 to Duke Energy Indiana, LLC's (formerly PSI Energy, Inc.) Current Report on Form 8-K filed on July 9, 2010, File No. 1-3543).		X
4.14.17	Sixty-third Supplemental Indenture, dated as of September 23, 2010 (incorporated by reference to Exhibit 4.8.17 to Duke Energy Indiana, LLC's (formerly PSI Energy, Inc.) Registration Statement on Form S-3 filed on September 29, 2010, File No. 333-169633-02).		X
4.14.18	Sixty-fourth Supplemental Indenture, dated as of December 1, 2011 (incorporated by reference to Exhibit 4(d)(2)(xviii) to Duke Energy Indiana, LLC's (formerly PSI Energy, Inc.) Registration Statement on Form S-3 filed on September 30, 2013, File No. 333-191462-03).		X
4.14.19	Sixty-fifth Supplemental Indenture, dated as of March 15, 2012 (incorporated by reference to Exhibit 4.1 to Duke Energy Indiana, LLC's (formerly PSI Energy, Inc.) Current Report on Form 8-K filed on March 15, 2012, File No. 1-3543).		X
4.14.20	Sixty-sixth Supplemental Indenture, dated as of July 11, 2013 (incorporated by reference to Exhibit 4.1 to Duke Energy Indiana, LLC's (formerly PSI Energy, Inc.) Current Report on Form 8-K filed on July 11, 2013, File No. 1-3543).		X
4.14.21	Sixty-seventh Supplemental Indenture, dated as of January 1, 2016, between Duke Energy Indiana, Inc. and Deutsche Bank National Trust Company, as Trustee, supplementing and amending the Indenture of Mortgage or Deed of Trust, dated September 1, 1939, between Duke Energy Indiana, Inc. and Deutsche Bank National Trust Company, as Trustee (incorporated by reference to Exhibit 4.2 to Duke Energy Indiana, LLC's (formerly PSI Energy, Inc.) Quarterly Report on Form 10-Q for the quarter ended March 31, 2016 filed on May 5, 2016, File No. 1-3543).		X
4.14.22	Sixty-eighth Supplemental Indenture, dated as of May 12, 2016 (incorporated by reference to Exhibit 4.1 to registrant's Current Report on Form 8-K filed on May 12, 2016, File No. 1-3543).		X
4.15	Repayment Agreement between Duke Energy Ohio, Inc. (formerly The Cincinnati Gas & Electric Company) and The Dayton Power and Light Company, dated as of December 23, 1992, (filed with registrant's Annual Report on Form 10-K for the year ended December 31, 1992, File No. 1-1232).	X	
4.16	Unsecured Promissory Note between Duke Energy Indiana, LLC (formerly PSI Energy, Inc.) and the Rural Utilities Service, dated as of October 14, 1998 (incorporated by reference to Exhibit 4 to registrant's Annual Report on Form 10-K for the year ended December 31, 1998 filed on March 8, 1999, File No. 1-3543).		X
4.17	6.302% Subordinated Note between Duke Energy Indiana, LLC (formerly PSI Energy, Inc.) and Cinergy Corp., dated as of February 5, 2003 (incorporated by reference to Exhibit 4(yyy) to registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2003 filed on May 12, 2003, File No. 1-3543).		X
4.18	6.403% Subordinated Note between Duke Energy Indiana, LLC (formerly PSI Energy, Inc.) and Cinergy Corp., dated as of February 5, 2003 (incorporated by reference to Exhibit 4(zzz) to registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2003 filed on May 12, 2003, File No. 1-3543).		X



4.19	Form of Duke Energy InterNote (Fixed Rate), dated as of November 13, 2012 (incorporated by reference to Exhibit 4.1 to Duke Energy Corporation's Current Report on Form 8-K filed on November 14, 2012, File No. 1-32853).	X	
4.20	Form of Duke Energy InterNote (Floating Rate), dated as of November 13, 2012 (incorporated by reference to Exhibit 4.2 to Duke Energy Corporation's Current Report on Form 8-K filed on November 14, 2012, File No. 1-32853).	X	
4.21	Contingent Value Obligation Agreement between Progress Energy, Inc. (formerly CP&L Energy, Inc.) and The Chase Manhattan Bank, as Trustee, dated as of November 30, 2000 (incorporated by reference to Exhibit 4.1 to registrant's Current Report on Form 8-K filed on December 1, 2000, File No. 1-3382).		X
10.1	Purchase and Sale Agreement between Duke Energy Americas, LLC and LSP Bay II Harbor Holding, LLC, dated as of January 8, 2006 (incorporated by reference to Exhibit 10.2 to registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2006 filed on May 10, 2006, File No. 1-32853).	X	X
10.1.1	Amendment to Purchase and Sale Agreement between Duke Energy Americas, LLC, LS Power Generation, LLC (formerly LSP Bay II Harbor Holding, LLC), LSP Gen Finance Co, LLC, LSP South Bay Holdings, LLC, LSP Oakland Holdings, LLC, and LSP Morro Bay Holdings, LLC, dated as of May 4, 2006 (incorporated by reference to Exhibit 10.2.1 to registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2006 filed on May 10, 2006, File No.1-32853).	X	X
10.2**	Directors' Charitable Giving Program (incorporated by reference to Exhibit 10-P to Duke Energy Carolinas, LLC's Annual Report on Form 10-K for the year ended December 31, 1992, File No. 1-4928).	X	
10.2.1**	Amendment to Directors' Charitable Giving Program, dated as of June 18, 1997 (incorporated by reference to Exhibit 1-1.1 to Duke Energy Carolinas, LLC's Annual Report on Form 10-K for the year ended December 31, 2003 filed on March 15, 2004, File No. 1-4928).	X	
10.2.2**	Amendment to Directors' Charitable Giving Program, dated as of July 28, 1997 (incorporated by reference to Exhibit 10-1.2 to Duke Energy Carolinas, LLC's Annual Report on Form 10-K for the year ended December 31, 2003 filed on March 15, 2004, File No. 1-4928).	X	
10.2.3**	Amendment to Directors' Charitable Giving Program, dated as of February 18, 1998 (incorporated by reference to Exhibit 10-1.3 to Duke Energy Carolinas, LLC's Annual Report on Form 10-K for the year ended December 31, 2003 filed on March 15, 2004, File No. 1-4928).	X	
10.3	Agreements with Piedmont Electric Membership Corporation, Rutherford Electric Membership Corporation and Blue Ridge Electric Membership Corporation to provide wholesale electricity and related power scheduling services from September 1, 2006 through December 31, 2021 (incorporated by reference to Exhibit 10.15 to Duke Energy Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2006 filed on August 9, 2006, File No. 1-32853).	X	
10.4	Asset Purchase Agreement between Saluda River Electric Cooperative, Inc., as Seller, and Duke Energy Carolinas, LLC, as Purchaser, dated as of December 20, 2006 (incorporated by reference to Exhibit 10.1 to registrant's Current Report on Form 8-K filed on December 27, 2006, File No. 1-4928).		X
10.5	Settlement between Duke Energy Corporation, Duke Energy Carolinas, LLC and the U.S. Department of Justice resolving Duke Energy's used nuclear fuel litigation against the U.S. Department of Energy, dated as of March 6, 2007 (incorporated by reference to Item 8.01 to registrant's Current Report on Form 8-K filed on March 12, 2007, File No. 1-4928).		X
10.6	Engineering, Procurement and Construction Agreement between Duke Energy Carolinas, LLC and Stone & Webster National Engineering P.C., dated as of July 11, 2007 (incorporated by reference to Exhibit 10.1 to registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2007, filed on November 12, 2007, File No. 1-4928). (Portions of the exhibit have been omitted and filed separately with the Securities and Exchange Commission pursuant to a request for confidential treatment pursuant to Rule 24b-2 under the Securities Exchange Act of 1934, as amended.)		X

10.7	Amended and Restated Engineering, Procurement and Construction Agreement between Duke Energy Carolinas, LLC and Stone & Webster National Engineering P.C., dated as of February 20, 2008 (incorporated by reference to Exhibit 10.1 to registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2008, filed on May 14, 2008, File No. 1-4928). (Portions of the exhibit have been omitted and filed separately with the Securities and Exchange Commission pursuant to a request for confidential treatment pursuant to Rule 24b-2 under the Securities Exchange Act of 1934, as amended.)	X
10.8	Asset Purchase Agreement between Cinergy Capital & Trading, Inc. (Capital & Trading), CinCap Madison, LLC and Duke Energy Indiana, LLC (formerly PSI Energy, Inc.), dated as of February 5, 2003 (incorporated by reference to Exhibit 10(tt) to registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2003 filed on May 12, 2003, File No. 1-3543).	X
10.9	Amended and Restated Engineering and Construction Agreement between Duke Energy Carolinas, LLC and Shaw North Carolina, Inc., dated as of December 21, 2009 (incorporated by reference to Item 1.01 to registrant's Current Report on Form 8-K filed on December 28, 2009, File No. 1-4928).	X
10.10	Asset Purchase Agreement between Capital & Trading, CinCap VII, LLC and Duke Energy Indiana, LLC (formerly PSI Energy, Inc.), dated as of February 5, 2003 (incorporated by reference to Exhibit 10(uu) to registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2003 filed on May 12, 2003, File No. 1-3543).	X
10.11	Asset Purchase Agreement between Duke Energy Indiana, LLC (formerly PSI Energy, Inc.) and Duke Energy Ohio, Inc. (formerly The Cincinnati Gas & Electric Company) and Allegheny Energy Supply Company, LLC, Allegheny Energy Supply Wheatland Generating Facility, LLC and Lake Acquisition Company, L.L.C., dated as of May 6, 2005 (incorporated by reference to registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2005 filed on August 4, 2005, File No. 1-1232).	X
10.12	Asset Purchase Agreement between Duke Energy Indiana, LLC (formerly PSI Energy, Inc.) and CG&E and Allegheny Energy Supply Company, LLC, Allegheny Energy Supply Wheatland Generating Facility, LLC and Lake Acquisition Company, L.L.C., dated as of May 6, 2005 (incorporated by reference to Exhibit 10(kkkk) to registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2005 filed on August 4, 2005, File No. 1-3543).	X
10.13	Keepwell Agreement between Duke Capital LLC and Duke Energy Ohio, Inc. (formerly The Cincinnati Gas & Electric Company), dated as of April 10, 2006 (incorporated by reference to Exhibit 10.1 to registrant's Current Report on Form 8-K filed on April 14, 2006, File No. 1-1232).	X
10.14	Agreements between Piedmont Electric Membership Corporation, Rutherford Electric Membership Corporation and Blue Ridge Electric Membership Corporation to provide wholesale electricity and related power scheduling services from September 1, 2006 through December 31, 2021 (incorporated by reference to Exhibit 10.15 to Duke Energy Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2006 filed on August 9, 2006, File No. 1-32853).	X
10.15	Asset Purchase Agreement between Duke Energy Indiana, LLC, (formerly PSI Energy, Inc.), as Seller, and Wabash Valley Power Association, Inc., as Buyer, dated as of December 1, 2006 (incorporated by reference to Exhibit 10.1 to registrant's Current Report on Form 8-K filed on December 7, 2006, File No. 1-3543).	X
10.16	Purchase and Sale Agreement between Cinergy Capital & Trading, Inc., as Seller, and Fortis Bank, S.A./N.V., as Buyer, dated as of June 26, 2006 (incorporated by reference to Exhibit 10.1 to Duke Energy Corporation's Current Report on Form 8-K filed on June 30, 2006, File No. 1-32853).	X
10.17	Engineering, Procurement and Construction Management Agreement between Duke Energy Indiana, LLC (formerly PSI Energy, Inc.) and Bechtel Power Corporation, dated as of December 15, 2008 (incorporated by reference to Exhibit 10.16 to registrant's Annual Report on Form 10-K for the year ended December 31, 2008, filed on March 13, 2009, File No. 1-3543). (Portions of the exhibit have been omitted and filed separately with the Securities and Exchange Commission pursuant to a request for confidential treatment pursuant to Rule 24b-2 under the Securities Exchange Act of 1934, as amended.)	X



10.18	Formation and Sale Agreement between Duke Ventures, LLC, Crescent Resources, LLC, Morgan Stanley Real Estate Fund V U.S. L.P., Morgan Stanley Real Estate Fund V Special U.S., L.P., Morgan Stanley Real Estate Investors V U.S., L.P., MSP Real Estate Fund V, L.P., and Morgan Stanley Strategic Investments, Inc., dated as of September 7, 2006 (incorporated by reference to Exhibit 10.3 to Duke Energy Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2006 filed on November 9, 2006, File No. 1-32853).	X	
10.19	Engineering, Procurement and Construction Agreement between Duke Energy Carolinas, LLC and Stone & Webster National Engineering P.C., dated as of July 11, 2007 (incorporated by reference to Exhibit 10.2 to Duke Energy Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2007 filed on November 9, 2007, File No. 1-32853). (Portions of the exhibit have been omitted and filed separately with the Securities and Exchange Commission pursuant to a request for confidential treatment pursuant to Rule 24b-2 under the Securities Exchange Act of 1934, as amended.)	X	
10.20	Amended and Restated Engineering, Procurement and Construction Agreement between Duke Energy Carolinas, LLC and Stone & Webster National Engineering P.C., dated as of February 20, 2008, (incorporated by reference to Exhibit 10.1 to Duke Energy Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2008, filed on May 9, 2008, File No. 1-32853). (Portions of the exhibit have been omitted and filed separately with the Securities and Exchange Commission pursuant to a request for confidential treatment pursuant to Rule 24b-2 under the Securities Exchange Act of 1934, as amended.)	X	
10.21	Agreement and Plan of Merger between DEGS Wind I, LLC, DEGS Wind Vermont, Inc., Catamount Energy Corporation, dated as of June 25, 2008 (incorporated by reference to Exhibit 10.2 to Duke Energy Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2008 filed on August 11, 2008, File No. 1-32853).	X	
10.22	Amended and Restated Engineering and Construction Agreement between Duke Energy Carolinas, LLC and Shaw North Carolina, Inc., dated as of December 21, 2009 (incorporated by reference to Exhibit 10.41 to Duke Energy Corporation's Annual Report on Form 10-K for the year ended December 31, 2009 filed on February 26, 2010, File No.1-32853).	X	
10.23	Operating Agreement of Pioneer Transmission, LLC (incorporated by reference to Exhibit 10.1 to Duke Energy Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2008 filed on November 7, 2008, File No. 1-32853).	X	
10.24**	Amended and Restated Duke Energy Corporation Directors' Saving Plan, dated as of January 1, 2014 (incorporated by reference to Exhibit 10.32 to Duke Energy Corporation's Annual Report on Form 10-K for the year ended December 31, 2013 filed on February 28, 2014, File No. 1-32853).	X	
10.25	Engineering, Procurement and Construction Management Agreement between Duke Energy Indiana, LLC (formerly PSI Energy, Inc.) and Bechtel Power Corporation, dated as of December 15, 2008 (incorporated by reference to Item 1.01 to registrant's Current Report on Form 8-K filed on December 19, 2008, File Nos. 1-32853 and 1-3543). (Portions of the exhibit have been omitted and filed separately with the Securities and Exchange Commission pursuant to a request for confidential treatment pursuant to Rule 24b-2 under the Securities Exchange Act of 1934, as amended.)	X	X
10.26	Amended and Restated Engineering and Construction Agreement between Duke Energy Carolinas, LLC and Shaw North Carolina, Inc., dated as of March 8, 2010 (incorporated by reference to Exhibit 10.1 to registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2010 filed on May 7, 2010, File Nos. 1-32853 and 1-4928).	X	X
10.27**	Duke Energy Corporation Executive Severance Plan (incorporated by reference to Exhibit 10.1 to registrant's Current Report on Form 8-K filed on January 10, 2011, File No. 1-32853).	X	

10.28	\$6,000,000,000 Five-Year Credit Agreement between Duke Energy Corporation, Duke Energy Carolinas, LLC, Duke Energy Ohio, Inc., Duke Energy Indiana, LLC, Duke Energy Kentucky, Inc., Carolina Power and Light Company d/b/a Duke Energy Progress, Inc. and Florida Power Corporation, d/b/a Duke Energy Florida, Inc., as Borrowers, the lenders listed therein, Wells Fargo Bank, National Association, as Administrative Agent, Bank of America, N.A. and The Royal Bank of Scotland plc, as Co-Syndication Agents and Bank of China, New York Branch, Barclays Bank PLC, Citibank, N.A., Credit Suisse AG, Cayman Islands Branch, Industrial and Commercial Bank of China Limited, New York Branch, JPMorgan Chase Bank, N.A. and UBS Securities LLC, as Co-Documentation Agents, dated as of November 18, 2011 (incorporated by reference to Exhibit 10.1 to registrant's Current Report on Form 8-K filed on November 25, 2011, File Nos. 1-32853, 1-4928, 1-1232 and 1-3543).	X	X			X	X
10.28.1	Amendment No. 1 and Consent between Duke Energy Corporation, Duke Energy Carolinas, LLC, Duke Energy Ohio, Inc., Duke Energy Indiana, LLC, Duke Energy Kentucky, Inc., Duke Energy Progress, Inc., Duke Energy Florida, Inc., and Wells Fargo Bank, National Association, dated as of December 18, 2013 (incorporated by reference to Exhibit 10.1 to registrant's Current Report on Form 8-K filed on December 23, 2013, File Nos. 1-32853, 1-4928, 1-3382, 1-3274, 1-1232 and 1-3543).	X	X	X	X	X	X
10.28.2	Amendment No. 2 and Consent between Duke Energy Corporation, Duke Energy Carolinas, LLC, Duke Energy Ohio, Inc., Duke Energy Indiana, LLC, Duke Energy Kentucky, Inc., Duke Energy Progress, Inc., and Duke Energy Florida, Inc., the Lenders party hereto, the issuing Lenders party hereto, Wells Fargo Bank, National Association, as Administrative Agent and Swingline Lender, dated as of January 30, 2015 (incorporated by reference to Exhibit 10.1 of registrant's Current Report on Form 8-K filed on February 5, 2015, File Nos. 1-32853, 1-4928, 1-1232, 1-3543, 1-3382 and 1-3274).	X	X	X	X	X	X
10.29**	Duke Energy Corporation 2010 Long-Term Incentive Plan (incorporated by reference to Appendix A to registrant's Form DEF 14A filed on March 22, 2010, File No. 1-32853).	X					
10.29.1**	Amendment to Duke Energy Corporation 2010 Long-Term Incentive Plan (incorporated by reference to Exhibit 10.3 to registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2012 filed on August 8, 2012, File No. 1-32853).	X					
10.30**	Duke Energy Corporation 2015 Long-Term Incentive Plan (incorporated by reference to Appendix A to registrant's DEF 14A filed on March 26, 2015, File No. 1-32853).	X					
10.31**	Form of Restricted Stock Unit Award Agreement of Duke Energy Corporation under the Duke Energy Corporation 2015 Long-Term Incentive Plan (incorporated by reference to Exhibit 10.1 to registrant's Current Report on Form 8-K filed on May 12, 2015, File No. 1-32853).	X					
10.32**	Form of Performance Award Agreement of Duke Energy Corporation under the Duke Energy Corporation 2015 Long-Term Incentive Plan (incorporated by reference to Exhibit 10.2 to registrant's Current Report on Form 8-K filed on May 12, 2015, File No. 1-32853).	X					
10.33**	Form of Performance Award Agreement of Duke Energy Corporation under the Duke Energy Corporation 2015 Long-Term Incentive Plan (incorporated by reference to Exhibit 10.1 to registrant's Current Report on Form 8-K filed on February 18, 2016, File No. 1-32853).	X					
10.34**	Form of Restricted Stock Unit Award Agreement of Duke Energy Corporation under the Duke Energy Corporation 2015 Long-Term Incentive Plan (incorporated by reference to Exhibit 10.2 to registrant's Current Report on Form 8-K filed on February 18, 2016, File No. 1-32853).	X					
10.35	Settlement Agreement between Duke Energy Corporation, the North Carolina Utilities Commission Staff and the North Carolina Public Staff, dated as of November 28, 2012 (incorporated by reference to Exhibit 10.1 to registrant's Current Report on Form 8-K filed on November 29, 2012, File No. 1-32853).	X					
10.36	Settlement Agreement between Duke Energy Corporation and the North Carolina Attorney General, dated as of December 3, 2012 (incorporated by reference to Item 7.01 to registrant's Current Report on Form 8-K filed on December 3, 2012, File No. 1-32853).	X					

10.37**	Form of Change-in-Control Agreement (incorporated by reference to Exhibit 10.58 to Duke Energy Corporation's Annual Report on Form 10-K for the year ended December 31, 2012 filed on March 1, 2013, File No. 1-32853).	X			
10.38**	Amended and Restated Duke Energy Corporation Executive Cash Balance Plan, dated as of January 1, 2014 (incorporated by reference to Exhibit 10.52 to Duke Energy Corporation's Annual Report on Form 10-K for the year ended December 31, 2013 filed on February 28, 2014, File No. 1-32852).	X			
10.39	Purchase, Construction and Ownership Agreement, dated as of July 30, 1981, between Duke Energy Progress, Inc. (formerly Carolina Power & Light Company) and North Carolina Municipal Power Agency Number 3 and Exhibits, together with resolution, dated as of December 16, 1981, changing name to North Carolina Eastern Municipal Power Agency, amending letter, dated as of February 18, 1982, and amendment, dated as of February 24, 1982 (incorporated by reference to Exhibit 10(a) to registrant's File No. 33-25560).			X	
10.40	Operating and Fuel Agreement, dated as of July 30, 1981, between Duke Energy Progress, Inc. (formerly Carolina Power & Light Company) and North Carolina Municipal Power Agency Number 3 and Exhibits, together with resolution, dated as of December 16, 1981, changing name to North Carolina Eastern Municipal Power Agency, amending letters, dated as of August 21, 1981 and December 15, 1981, and amendment, dated as of February 24, 1982 (incorporated by reference to Exhibit 10(b) to registrant's File No. 33-25560).			X	
10.41	Power Coordination Agreement, dated as of July 30, 1981, between Duke Energy Progress, Inc. (formerly Carolina Power & Light Company) and North Carolina Municipal Power Agency Number 3 and Exhibits, together with resolution, dated as of December 16, 1981, changing name to North Carolina Eastern Municipal Power Agency and amending letter, dated as of January 29, 1982 (incorporated by reference to Exhibit 10(c) to registrant's File No. 33-25560).			X	
10.42	Amendment, dated as of December 16, 1982, to Purchase, Construction and Ownership Agreement, dated as of July 30, 1981, between Duke Energy Progress, Inc. (formerly Carolina Power & Light Company) and North Carolina Eastern Municipal Power Agency (incorporated by reference to Exhibit 10(d) to registrant's File No. 33-25560).			X	
10.43**	Progress Energy, Inc. 2007 Equity Incentive Plan (incorporated by reference to Exhibit C to registrant's Form DEF 14A filed on March 30, 2007, File No. 1-15929).			X	
10.44**	Form of Letter Agreement executed by certain officers of Progress Energy, Inc., waiving certain rights under Progress Energy, Inc.'s Management Change-in-Control Plan and their employment agreements, dated as of January 8, 2011 (incorporated by reference to Exhibit 10.1 to registrant's Current Report on Form 8-K filed on January 8, 2011, File No. 1-15929).			X	
10.45**	Progress Energy, Inc. Management Change-in-Control Plan, Amended and Restated, effective July 13, 2011 (incorporated by reference to Exhibit 10(d) to registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2011 filed on November 8, 2011, File Nos. 1-15929, 1-3382 and 1-3274).		X	X	X

10.46	Precedent and Related Agreements between Duke Energy Florida, Inc. (formerly Florida Power Corporation d/b/a Progress Energy Florida, Inc. ("PEF")), Southern Natural Gas Company, Florida Gas Transmission Company ("FGT"), and BG LNG Services, LLC ("BG"), including: a) Precedent Agreement between Southern Natural Gas Company and PEF, dated as of December 2, 2004; b) Gas Sale and Purchase Contract between BG and PEF, dated as of December 1, 2004; c) Interim Firm Transportation Service Agreement by and between FGT and PEF, dated as of December 2, 2004; d) Letter Agreement between FGT and PEF, dated as of December 2, 2004 and Firm Transportation Service Agreement between FGT and PEF to be entered into upon satisfaction of certain conditions precedent; e) Discount Agreement between FGT and PEF, dated as of December 2, 2004; f) Amendment to Gas Sale and Purchase Contract between BG and PEF, dated as of January 28, 2005; and g) Letter Agreement between FGT and PEF, dated as of January 31, 2005 (incorporated by reference to Exhibit 10.1 to registrant's Current Report on Form 8-K/A filed on March 15, 2005, File Nos. 1-15929 and 1-3274). (Portions of the exhibit have been omitted and filed separately with the Securities and Exchange Commission pursuant to a request for confidential treatment pursuant to Rule 24b-2 under the Securities Exchange Act of 1934, as amended.)		X		X
10.47	Engineering, Procurement and Construction Agreement between Duke Energy Florida, Inc. (formerly Florida Power Corporation d/b/a/ Progress Energy Florida, Inc.), as owner, and a consortium consisting of Westinghouse Electric Company LLC and Stone & Webster, Inc., as contractor, for a two-unit AP1000 Nuclear Power Plant, dated as of December 31, 2008 (incorporated by reference to Exhibit 10.1 to registrant's Current Report on Form 8-K filed on March 2, 2009, File Nos. 1-15929 and 1-3274). (Portions of the exhibit have been omitted and filed separately with the Securities and Exchange Commission pursuant to a request for confidential treatment pursuant to Rule 24b-2 under the Securities Exchange Act of 1934, as amended.)		X		X
10.48**	Employment Agreement between Duke Energy Corporation and Lynn J. Good, dated as of June 17, 2013 (incorporated by reference to Exhibit 10.1 to Duke Energy Corporation's Current Report on Form 8-K filed on June 18, 2013, File No. 1-32853).	X			
10.48.1**	Amendment to Employment Agreement between Duke Energy Corporation and Lynn J. Good, dated as of June 25, 2015 (incorporated by reference to Exhibit 10.1 to Duke Energy Corporation's Current Report on Form 8-K filed on June 29, 2015, File No. 1-32853).	X			
10.49**	Duke Energy Corporation Executive Short-Term Incentive Plan, effective February 25, 2013 (incorporated by reference to Exhibit 10.1 to Duke Energy Corporation's Current Report on Form 8-K filed on May 7, 2013, File No. 1-32853).	X			
10.50**	Duke Energy Corporation 2016 Director Compensation Program Summary (incorporated by reference to Exhibit 10.55 to Duke Energy Corporation's Annual Report on Form 10-K for the year ended December 31, 2015 filed on February 25, 2016, File No. 1-32853).	X			
10.51**	Amended and Restated Duke Energy Corporation Executive Savings Plan, dated as of January 1, 2014 (incorporated by reference to Exhibit 10.82 to Duke Energy Corporation's Annual Report on Form 10-K for the year ended December 31, 2013 filed on February 28, 2014, File No. 1-32853).	X			
10.52	Agreement between Duke Energy SAM, LLC, Duke Energy Ohio, Inc., Duke Energy Commercial Enterprise, Inc. and Dynegy Resource I, LLC, dated as of August 21, 2014 (incorporated by reference to Exhibit 10.61 to Duke Energy Corporation's Annual Report on Form 10-K for the year ended December 31, 2014 filed on March 2, 2015, File No. 1-32853).	X			X
10.53	Asset Purchase Agreement between Duke Energy Progress, Inc. and North Carolina Eastern Municipal Power Agency, dated as of September 5, 2014 (incorporated by reference to Exhibit 10.62 to Duke Energy Corporation's Annual Report on Form 10-K for the year ended December 31, 2014 filed on March 2, 2015, File No. 1-32853).	X		X	
10.54	Change in Control Agreement between Duke Energy Corporation and Lloyd M. Yates, dated as of April 30, 2014 (incorporated by reference to Exhibit 10.1 to Duke Energy Corporation's Current Report on Form 8-K filed on May 6, 2014, File No. 1-32853).	X			

10.55	Accelerated Stock Repurchase Program executed by Goldman, Sachs & Co., and JPMorgan Chase Bank, N.A. on April 6, 2015, under an agreement with Duke Energy Corporation (incorporated by reference to Exhibit 10.1 to Duke Energy Corporation's Current Report on Form 8-K filed on April 6, 2015, File No. 1-32853).	X
10.56	Plea Agreement between Duke Energy Corporation and the Court of the Eastern District of North Carolina in connection with the May 14, 2015, Dan River Grand Jury Settlement (incorporated by reference to Exhibit 10.3 to Duke Energy Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2015, filed on August 7, 2015, File No. 1-32853).	X
10.57	Plea Agreement between Duke Energy Corporation and the Court of the Eastern District of North Carolina in connection with the May 14, 2015, Dan River Grand Jury Settlement (incorporated by reference to Exhibit 10.4 to Duke Energy Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2015 filed on August 7, 2015, File No. 1-32853).	X
10.58	\$1,500,000,000 Amended and Restated Term Loan Agreement among Duke Energy Corporation, as Borrower, the Lenders listed therein, The Bank of Tokyo-Mitsubishi UFJ, Ltd., as Administrative Agent, and The Bank of Tokyo-Mitsubishi UFJ, Ltd., Santander Bank, N.A. and TD Bank, N.A., as Joint Lead Arrangers and Bookrunners, dated as of August 1, 2016 (incorporated by reference to Exhibit 10.1 to Duke Energy Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2016 filed on August 4, 2016, File No. 1-32853).	X
10.59	Purchase and Sale Agreement by and among Duke Energy International Group S.à.r.l., Duke Energy International Brazil Holdings S.à.r.l. and China Three Gorges (Luxembourg) Energy S.à.r.l., dated as of October 10, 2016 (incorporated by reference to Exhibit 2.1 to registrant's Current Report on Form 8-K filed on October 13, 2016, File No. 1-32853).	X
10.60	Purchase and Sale Agreement by and among Duke Energy Brazil Holdings II, C.V., Duke Energy International Uruguay Investments SRL, Duke Energy International Group S.à.r.l., Duke Energy International España Holdings SL, Duke Energy International Investments No. 2 Ltd., ISQ Enerlam Aggregator, L.P., and Enerlam (UK) Holdings Ltd., dated as of October 10, 2016 (incorporated by reference to Exhibit 2.2. to registrant's Current Report on Form 8-K filed on October 13, 2016, File No. 1-32853).	X
10.61**	Amended and Restated Employment Agreement, dated May 25, 2012, between Piedmont Natural Gas Company, Inc. and Franklin H. Yoho (incorporated by reference to Exhibits 10.12 and 10.13 to registrant's Annual Report on Form 10-K for the year ended October 31, 2015 filed on December 23, 2015, File No. 1-06196).	X
10.62**	Severance Agreements with Thomas E. Skains and Franklin H. Yoho, dated September 4, 2007 (incorporate by reference to Exhibits 10.2 and 10.3, respectively, to registrant's Annual Report on Form 10-K for the year ended October 31, 2015 filed on December 23, 2015, File No. 1-06196).	X
10.63**	Piedmont Natural Gas Company, Inc. Defined Contribution Restoration Plan, dated as of December 8, 2008, effective January 1, 2009 (incorporated by reference to Exhibit 10.2 to registrant's Quarterly Report on Form 10-Q for the quarter ended January 31, 2009 filed on March 9, 2009, File No. 1-06196).	X
10.63.1**	Instrument of Amendment for Piedmont Natural Gas Company, Inc. Defined Contribution Restoration Plan, dated as of January 23, 2012, by Piedmont Natural Gas Company, Inc. (incorporated by reference to Exhibit 10.1 to registrant's Quarterly Report on Form 10-Q for the quarter ended January 31, 2012 filed on March 9, 2012, File No. 1-06196).	X
*10.63.2**	Instrument of Second Amendment for Piedmont Natural Gas Company, Inc. Defined Contribution Restoration Plan, dated September 15, 2016.	X
*10.64**	Piedmont Natural Gas Company, Inc. Incentive Compensation Plan.	X
10.64.1**	First Amendment to Piedmont Natural Gas Company, Inc. Incentive Compensation Plan (incorporated by reference to Exhibit 4.2 to registrant's Registration Statement on Form S-8 filed on October 3, 2016, File No. 1-32853).	X
10.65**	Form of Performance Unit Award Agreement (incorporated by reference to Exhibit 10.4 to registrant's Quarterly Report on Form 10-Q for the quarter ended January 31, 2016 filed on March 9, 2016, File No. 1-06196).	X

## PART IV

*10.66**	Waiver of Certain Rights to Terminate for Good Reason between Duke Energy Corporation and Franklin H. Yoho.	X			
*10.67**	Notice of Non-Renewal of Employment Agreement between Duke Energy Corporation and Franklin H. Yoho.	X			
*10.68**	Retention Award Agreement, dated as of October 24, 2015, between Duke Energy Corporation and Franklin H. Yoho.	X			
10.69	Confirmation of Forward Sale Transaction, dated as of March 1, 2016, between Duke Energy Corporation and Barclays Capital Inc. (incorporated by reference to Exhibit 10.1 to registrant's Current Report on Form 8-K filed on March 7, 2016, File No. 1-32853).	X			
10.69.1	Additional Confirmation of Forward Sale Transaction, dated as of March 2, 2016, between Duke Energy Corporation and Barclays Capital Inc. (incorporated by reference to Exhibit 10.2 to registrant's Current Report on Form 8-K filed on March 7, 2016, File No. 1-32853).	X			
*12.1	Computation of Ratio of Earnings to Fixed Charges – DUKE ENERGY CORPORATION	X			
*12.2	Computation of Ratio of Earnings to Fixed Charges – DUKE ENERGY CAROLINAS, LLC		X		
*12.3	Computation of Ratio of Earnings to Fixed Charges – PROGRESS ENERGY, INC.			X	
*12.4	Computation of Ratio of Earnings to Fixed Charges – DUKE ENERGY PROGRESS, LLC				X
*12.5	Computation of Ratio of Earnings to Fixed Charges – DUKE ENERGY FLORIDA, LLC				X
*12.6	Computation of Ratio of Earnings to Fixed Charges – DUKE ENERGY OHIO, INC.				X
*12.7	Computation of Ratio of Earnings to Fixed Charges – DUKE ENERGY INDIANA, LLC				X
*21	List of Subsidiaries	X			
*23.1.1	Consent of Independent Registered Public Accounting Firm.	X			
*23.1.2	Consent of Independent Registered Public Accounting Firm.		X		
*23.1.3	Consent of Independent Registered Public Accounting Firm.			X	
*23.1.4	Consent of Independent Registered Public Accounting Firm.				X
*23.1.5	Consent of Independent Registered Public Accounting Firm.				X
*23.1.6	Consent of Independent Registered Public Accounting Firm.				X
*24.1	Power of attorney authorizing Lynn J. Good and others to sign the annual report on behalf of the registrant and certain of its directors and officers.	X			
*24.2	Certified copy of resolution of the Board of Directors of the registrant authorizing power of attorney.	X			
*31.1.1	Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	X			
*31.1.2	Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.		X		
*31.1.3	Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.			X	
*31.1.4	Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
*31.1.5	Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
*31.1.6	Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
*31.1.7	Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X



## PART IV

*31.2.1	Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	X						
*31.2.2	Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.		X					
*31.2.3	Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.			X				
*31.2.4	Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X			
*31.2.5	Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.					X		
*31.2.6	Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.						X	
*31.2.7	Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.							X
*32.1.1	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	X						
*32.1.2	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.		X					
*32.1.3	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.			X				
*32.1.4	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X			
*32.1.5	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X		
*32.1.6	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.						X	
*32.1.7	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.							X
*32.2.1	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	X						
*32.2.2	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.		X					
*32.2.3	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.			X				
*32.2.4	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X			
*32.2.5	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X		
*32.2.6	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.						X	
*32.2.7	Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.							X
*101.INS	XBRL Instance Document	X	X	X	X	X	X	X
*101.SCH	XBRL Taxonomy Extension Schema Document	X	X	X	X	X	X	X
*101.CAL	XBRL Taxonomy Calculation Linkbase Document	X	X	X	X	X	X	X
*101.LAB	XBRL Taxonomy Label Linkbase Document	X	X	X	X	X	X	X

*101.PRE	XBRL Taxonomy Presentation Linkbase Document	X	X	X	X	X	X	X
*101.DEF	XBRL Taxonomy Definition Linkbase Document	X	X	X	X	X	X	X

The total amount of securities of the registrant or its subsidiaries authorized under any instrument with respect to long-term debt not filed as an exhibit does not exceed 10 percent of the total assets of the registrant and its subsidiaries on a consolidated basis. The registrant agrees, upon request of the SEC, to furnish copies of any or all of such instruments to it.



**UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549**

**FORM 10-Q**

(Mark One)

**QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended September 30, 2017

OR

**TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

<b>Commission file number</b>	<b>Registrant, State of Incorporation or Organization, Address of Principal Executive Offices and Telephone Number</b>	<b>IRS Employer Identification No.</b>
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1-32853

**DUKE ENERGY CORPORATION**  
(a Delaware corporation)  
550 South Tryon Street  
Charlotte, North Carolina 28202-1803  
704-382-3853

20-2777218

<b>Commission file number</b>	<b>Registrant, State of Incorporation or Organization, Address of Principal Executive Offices, Telephone Number and IRS Employer Identification Number</b>	<b>Commission file number</b>	<b>Registrant, State of Incorporation or Organization, Address of Principal Executive Offices, Telephone Number and IRS Employer Identification Number</b>
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1-4928

**DUKE ENERGY CAROLINAS, LLC**  
(a North Carolina limited liability company)  
526 South Church Street  
Charlotte, North Carolina 28202-1803  
704-382-3853  
56-0205520

1-3274

**DUKE ENERGY FLORIDA, LLC**  
(a Florida limited liability company)  
299 First Avenue North  
St. Petersburg, Florida 33701  
704-382-3853  
59-0247770

1-15929

**PROGRESS ENERGY, INC.**  
(a North Carolina corporation)  
410 South Wilmington Street  
Raleigh, North Carolina 27601-1748  
704-382-3853  
56-2155481

1-1232

**DUKE ENERGY OHIO, INC.**  
(an Ohio corporation)  
299 East Fourth Street  
Cincinnati, Ohio 45202  
704-382-3853  
31-0240030

1-3382

**DUKE ENERGY PROGRESS, LLC**  
(a North Carolina limited liability company)  
410 South Wilmington Street  
Raleigh, North Carolina 27601-1748  
704-382-3853  
56-0165465

1-3543

**DUKE ENERGY INDIANA, LLC**  
(an Indiana limited liability company)  
1000 East Main Street  
Plainfield, Indiana 46168  
704-382-3853  
35-0594457

1-6196

**PIEDMONT NATURAL GAS COMPANY, INC.**  
(a North Carolina corporation)  
4720 Piedmont Row Drive  
Charlotte, North Carolina 28210  
704-364-3120  
56-0556998

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Duke Energy Corporation (Duke Energy)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Duke Energy Florida, LLC (Duke Energy Florida)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Duke Energy Carolinas, LLC (Duke Energy Carolinas)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Duke Energy Ohio, Inc. (Duke Energy Ohio)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Progress Energy, Inc. (Progress Energy)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Duke Energy Indiana, LLC (Duke Energy Indiana)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Duke Energy Progress, LLC (Duke Energy Progress)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Piedmont Natural Gas Company, Inc. (Piedmont)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Duke Energy	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Duke Energy Florida	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Duke Energy Carolinas	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Duke Energy Ohio	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Progress Energy	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Duke Energy Indiana	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Duke Energy Progress	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Piedmont	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Duke Energy	Large accelerated filer <input checked="" type="checkbox"/>	Accelerated filer <input type="checkbox"/>	Non-accelerated filer <input type="checkbox"/>	Smaller reporting company <input type="checkbox"/>	Emerging Growth Company <input type="checkbox"/>
Duke Energy Carolinas	Large accelerated filer <input type="checkbox"/>	Accelerated filer <input type="checkbox"/>	Non-accelerated filer <input checked="" type="checkbox"/>	Smaller reporting company <input type="checkbox"/>	Emerging Growth Company <input type="checkbox"/>
Progress Energy	Large accelerated filer <input type="checkbox"/>	Accelerated filer <input type="checkbox"/>	Non-accelerated filer <input checked="" type="checkbox"/>	Smaller reporting company <input type="checkbox"/>	Emerging Growth Company <input type="checkbox"/>
Duke Energy Progress	Large accelerated filer <input type="checkbox"/>	Accelerated filer <input type="checkbox"/>	Non-accelerated filer <input checked="" type="checkbox"/>	Smaller reporting company <input type="checkbox"/>	Emerging Growth Company <input type="checkbox"/>
Duke Energy Florida	Large accelerated filer <input type="checkbox"/>	Accelerated filer <input type="checkbox"/>	Non-accelerated filer <input checked="" type="checkbox"/>	Smaller reporting company <input type="checkbox"/>	Emerging Growth Company <input type="checkbox"/>
Duke Energy Ohio	Large accelerated filer <input type="checkbox"/>	Accelerated filer <input type="checkbox"/>	Non-accelerated filer <input checked="" type="checkbox"/>	Smaller reporting company <input type="checkbox"/>	Emerging Growth Company <input type="checkbox"/>
Duke Energy Indiana	Large accelerated filer <input type="checkbox"/>	Accelerated filer <input type="checkbox"/>	Non-accelerated filer <input checked="" type="checkbox"/>	Smaller reporting company <input type="checkbox"/>	Emerging Growth Company <input type="checkbox"/>
Piedmont	Large accelerated filer <input type="checkbox"/>	Accelerated filer <input type="checkbox"/>	Non-accelerated filer <input checked="" type="checkbox"/>	Smaller reporting company <input type="checkbox"/>	Emerging Growth Company <input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Duke Energy	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Duke Energy Florida	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Duke Energy Carolinas	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Duke Energy Ohio	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Progress Energy	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Duke Energy Indiana	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Duke Energy Progress	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Piedmont	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Number of shares of Common stock outstanding at September 30, 2017:

Registrant	Description	Shares
Duke Energy	Common stock, \$0.001 par value	699,975,614

This combined Form 10-Q is filed separately by eight registrants: Duke Energy, Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Florida, Duke Energy Ohio, Duke Energy Indiana and Piedmont (collectively the Duke Energy Registrants). Information contained herein relating to any individual registrant is filed by such registrant solely on its own behalf. Each registrant makes no representation as to information relating exclusively to the other registrants.

Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Florida, Duke Energy Ohio, Duke Energy Indiana and Piedmont meet the conditions set forth in General Instructions H(1)(a) and (b) of Form 10-Q and are therefore filing this form with the reduced disclosure format specified in General Instructions H(2) of Form 10-Q.

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## CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

This document includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements are based on management's beliefs and assumptions and can often be identified by terms and phrases that include "anticipate," "believe," "intend," "estimate," "expect," "continue," "should," "could," "may," "plan," "project," "predict," "will," "potential," "forecast," "target," "guidance," "outlook" or other similar terminology. Various factors may cause actual results to be materially different than the suggested outcomes within forward-looking statements; accordingly, there is no assurance that such results will be realized. These factors include, but are not limited to:

- State, federal and foreign legislative and regulatory initiatives, including costs of compliance with existing and future environmental requirements, including those related to climate change, as well as rulings that affect cost and investment recovery or have an impact on rate structures or market prices;
- The extent and timing of costs and liabilities to comply with federal and state laws, regulations and legal requirements related to coal ash remediation, including amounts for required closure of certain ash impoundments, are uncertain and difficult to estimate;
- The ability to recover eligible costs, including amounts associated with coal ash impoundment retirement obligations and costs related to significant weather events, and to earn an adequate return on investment through rate case proceedings and the regulatory process;
- The costs of decommissioning Crystal River Unit 3 and other nuclear facilities could prove to be more extensive than amounts estimated and all costs may not be fully recoverable through the regulatory process;
- Costs and effects of legal and administrative proceedings, settlements, investigations and claims;
- Industrial, commercial and residential growth or decline in service territories or customer bases resulting from sustained downturns of the economy and the economic health of our service territories or variations in customer usage patterns, including energy efficiency efforts and use of alternative energy sources, such as self-generation and distributed generation technologies;
- Federal and state regulations, laws and other efforts designed to promote and expand the use of energy efficiency measures and distributed generation technologies, such as private solar and battery storage, in Duke Energy service territories could result in customers leaving the electric distribution system, excess generation resources as well as stranded costs;
- Advancements in technology;
- Additional competition in electric and natural gas markets and continued industry consolidation;
- The influence of weather and other natural phenomena on operations, including the economic, operational and other effects of severe storms, hurricanes, droughts, earthquakes and tornadoes, including extreme weather associated with climate change;
- The ability to successfully operate electric generating facilities and deliver electricity to customers including direct or indirect effects to the company resulting from an incident that affects the U.S. electric grid or generating resources;
- The ability to complete necessary or desirable pipeline expansion or infrastructure projects in our natural gas business;
- Operational interruptions to our natural gas distribution and transmission activities;
- The availability of adequate interstate pipeline transportation capacity and natural gas supply;
- The impact on facilities and business from a terrorist attack, cybersecurity threats, data security breaches and other catastrophic events, such as fires, explosions, pandemic health events or other similar occurrences;
- The inherent risks associated with the operation and potential construction of nuclear facilities, including environmental, health, safety, regulatory and financial risks, including the financial stability of third-party service providers;
- The timing and extent of changes in commodity prices and interest rates and the ability to recover such costs through the regulatory process, where appropriate, and their impact on liquidity positions and the value of underlying assets;
- The results of financing efforts, including the ability to obtain financing on favorable terms, which can be affected by various factors, including credit ratings, interest rate fluctuations and general economic conditions;
- Credit ratings of the Duke Energy Registrants may be different from what is expected;
- Declines in the market prices of equity and fixed-income securities and resultant cash funding requirements for defined benefit pension plans, other post-retirement benefit plans and nuclear decommissioning trust funds;
- Construction and development risks associated with the completion of the Duke Energy Registrants' capital investment projects, including risks related to financing, obtaining and complying with terms of permits, meeting construction budgets and schedules and satisfying operating and environmental performance standards, as well as the ability to recover costs from customers in a timely manner, or at all;
- Changes in rules for regional transmission organizations, including changes in rate designs and new and evolving capacity markets, and risks related to obligations created by the default of other participants;
- The ability to control operation and maintenance costs;
- The level of creditworthiness of counterparties to transactions;
- Employee workforce factors, including the potential inability to attract and retain key personnel;
- The ability of subsidiaries to pay dividends or distributions to Duke Energy Corporation holding company (the Parent);
- The performance of projects undertaken by our nonregulated businesses and the success of efforts to invest in and develop new opportunities;

- The effect of accounting pronouncements issued periodically by accounting standard-setting bodies;
- Substantial revision to the U.S. tax code, such as changes to the corporate tax rate or material change in the deductibility of interest;
- The impact of potential goodwill impairments;
- The ability to successfully complete future merger, acquisition or divestiture plans;
- The ability to successfully integrate the natural gas businesses following the acquisition of Piedmont Natural Gas Company, Inc. and realize anticipated benefits; and
- The ability to implement our business strategy.

Additional risks and uncertainties are identified and discussed in the Duke Energy Registrants' reports filed with the SEC and available at the SEC's website at [www.sec.gov](http://www.sec.gov). In light of these risks, uncertainties and assumptions, the events described in the forward-looking statements might not occur or might occur to a different extent or at a different time than described. Forward-looking statements speak only as of the date they are made and the Duke Energy Registrants expressly disclaim an obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

**ITEM 1. FINANCIAL STATEMENTS**
**DUKE ENERGY CORPORATION**  
**Condensed Consolidated Statements of Operations**  
**(Unaudited)**

(in millions, except per-share amounts)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
<b>Operating Revenues</b>				
Regulated electric	\$ 6,091	\$ 6,303	\$ 16,122	\$ 16,321
Regulated natural gas	247	89	1,168	355
Nonregulated electric and other	144	184	476	490
Total operating revenues	6,482	6,576	17,766	17,166
<b>Operating Expenses</b>				
Fuel used in electric generation and purchased power	1,863	2,031	4,853	5,140
Cost of natural gas	68	6	402	64
Operation, maintenance and other	1,442	1,460	4,282	4,227
Depreciation and amortization	900	819	2,594	2,402
Property and other taxes	313	302	924	887
Impairment charges	207	10	216	14
Total operating expenses	4,793	4,628	13,271	12,734
<b>Gains on Sales of Other Assets and Other, net</b>	6	6	24	21
<b>Operating Income</b>	1,695	1,954	4,519	4,453
<b>Other Income and Expenses</b>				
Equity in earnings (losses) of unconsolidated affiliates	36	(60)	101	(37)
Other income and expenses, net	88	86	255	237
Total other income and expenses	124	26	356	200
<b>Interest Expense</b>	498	464	1,475	1,431
<b>Income From Continuing Operations Before Income Taxes</b>	1,321	1,516	3,400	3,222
<b>Income Tax Expense from Continuing Operations</b>	364	515	1,035	1,020
<b>Income From Continuing Operations</b>	957	1,001	2,365	2,202
<b>(Loss) Income From Discontinued Operations, net of tax</b>	(2)	180	(4)	190
<b>Net Income</b>	955	1,181	2,361	2,392
<b>Less: Net Income Attributable to Noncontrolling Interests</b>	1	5	5	13
<b>Net Income Attributable to Duke Energy Corporation</b>	\$ 954	\$ 1,176	\$ 2,356	\$ 2,379
<b>Earnings Per Share – Basic and Diluted</b>				
Income from continuing operations attributable to Duke Energy Corporation common stockholders				
Basic	\$ 1.36	\$ 1.44	\$ 3.37	\$ 3.19
Diluted	\$ 1.36	\$ 1.44	\$ 3.37	\$ 3.18
Income (Loss) from discontinued operations attributable to Duke Energy Corporation common stockholders				
Basic	\$ —	\$ 0.26	\$ (0.01)	\$ 0.26
Diluted	\$ —	\$ 0.26	\$ (0.01)	\$ 0.26
Net income attributable to Duke Energy Corporation common stockholders				
Basic	\$ 1.36	\$ 1.70	\$ 3.36	\$ 3.45
Diluted	\$ 1.36	\$ 1.70	\$ 3.36	\$ 3.44
Weighted average shares outstanding				
Basic	700	689	700	689
Diluted	700	691	700	690

DUKE ENERGY CORPORATION  
**Condensed Consolidated Statements of Comprehensive Income**  
(Unaudited)

(in millions)	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2017	2016	2017	2016
<b>Net Income</b>	\$ 955	\$ 1,181	\$ 2,361	\$ 2,392
<b>Other Comprehensive Income, net of tax</b>				
Foreign currency translation adjustments	—	(12)	—	95
Pension and OPEB adjustments	—	—	2	2
Net unrealized gains (losses) on cash flow hedges	2	6	(2)	(19)
Reclassification into earnings from cash flow hedges	(2)	1	3	3
Unrealized gains on available-for-sale securities	2	—	10	7
<b>Other Comprehensive Income (Loss), net of tax</b>	2	(5)	13	88
<b>Comprehensive Income</b>	957	1,176	2,374	2,480
<b>Less: Comprehensive Income Attributable to Noncontrolling Interests</b>	1	4	5	16
<b>Comprehensive Income Attributable to Duke Energy Corporation</b>	\$ 956	\$ 1,172	\$ 2,369	\$ 2,464

DUKE ENERGY CORPORATION  
**Condensed Consolidated Balance Sheets**  
(Unaudited)

(in millions)	September 30, 2017	December 31, 2016
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 282	\$ 392
Receivables (net of allowance for doubtful accounts of \$13 at 2017 and \$14 at 2016)	528	751
Receivables of VIEs (net of allowance for doubtful accounts of \$54 at 2017 and 2016)	2,089	1,893
Inventory	3,265	3,522
Regulatory assets (includes \$51 at 2017 and \$50 at 2016 related to VIEs)	1,109	1,023
Other	433	458
Total current assets	7,706	8,039
<b>Property, Plant and Equipment</b>		
Cost	125,582	121,397
Accumulated depreciation and amortization	(41,161)	(39,406)
Generation facilities to be retired, net	441	529
Net property, plant and equipment	84,862	82,520
<b>Other Noncurrent Assets</b>		
Goodwill	19,418	19,425
Regulatory assets (includes \$1,101 at 2017 and \$1,142 at 2016 related to VIEs)	13,367	12,878
Nuclear decommissioning trust funds	6,814	6,205
Investments in equity method unconsolidated affiliates	1,366	925
Other	2,792	2,769
Total other noncurrent assets	43,757	42,202
<b>Total Assets</b>	<b>\$ 136,325</b>	<b>\$ 132,761</b>
<b>LIABILITIES AND EQUITY</b>		
<b>Current Liabilities</b>		
Accounts payable	\$ 2,645	\$ 2,994
Notes payable and commercial paper	1,899	2,487
Taxes accrued	627	384
Interest accrued	538	503
Current maturities of long-term debt (includes \$215 at 2017 and \$260 at 2016 related to VIEs)	2,485	2,319
Asset retirement obligations	619	411
Regulatory liabilities	273	409
Other	1,734	2,044
Total current liabilities	10,820	11,551
<b>Long-Term Debt (includes \$4,219 at 2017 and \$3,587 at 2016 related to VIEs)</b>	<b>48,929</b>	<b>45,576</b>
<b>Other Noncurrent Liabilities</b>		
Deferred income taxes	15,058	14,155
Asset retirement obligations	9,586	10,200
Regulatory liabilities	7,027	6,881
Accrued pension and other post-retirement benefit costs	1,105	1,111
Investment tax credits	534	493
Other	1,624	1,753
Total other noncurrent liabilities	34,934	34,593
<b>Commitments and Contingencies</b>		
<b>Equity</b>		
Common stock, \$0.001 par value, 2 billion shares authorized; 700 million shares outstanding at 2017 and 2016	1	1
Additional paid-in capital	38,774	38,741
Retained earnings	2,936	2,384
Accumulated other comprehensive loss	(80)	(93)
Total Duke Energy Corporation stockholders' equity	41,631	41,033
Noncontrolling interests	11	8
Total equity	41,642	41,041
<b>Total Liabilities and Equity</b>	<b>\$ 136,325</b>	<b>\$ 132,761</b>



DUKE ENERGY CORPORATION  
**Condensed Consolidated Statements of Cash Flows**  
(Unaudited)

(in millions)	Nine Months Ended September 30,	
	2017	2016
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Net income	\$ 2,361	\$ 2,392
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation, amortization and accretion (including amortization of nuclear fuel)	2,990	2,847
Equity component of AFUDC	(175)	(140)
Gains on sales of other assets	(28)	(27)
Impairment charges	216	279
Deferred income taxes	1,016	648
Equity in earnings of unconsolidated affiliates	(101)	(34)
Accrued pension and other post-retirement benefit costs	19	12
Contributions to qualified pension plans	(8)	—
Payments for asset retirement obligations	(420)	(443)
(Increase) decrease in		
Net realized and unrealized mark-to-market and hedging transactions	4	36
Receivables	80	(276)
Inventory	248	455
Other current assets	(176)	(163)
Increase (decrease) in		
Accounts payable	(554)	(207)
Taxes accrued	233	417
Other current liabilities	(532)	(157)
Other assets	(160)	(64)
Other liabilities	(2)	36
Net cash provided by operating activities	5,011	5,611
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Capital expenditures	(5,841)	(5,252)
Contributions to equity method investments	(370)	(198)
Purchases of available-for-sale securities	(3,170)	(4,048)
Proceeds from sales and maturities of available-for-sale securities	3,199	4,107
Change in restricted cash	(29)	(34)
Other	(149)	(130)
Net cash used in investing activities	(6,360)	(5,555)
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Proceeds from the:		
Issuance of long-term debt	5,710	8,647
Issuance of common stock related to employee benefit plans	—	7
Payments for the redemption of long-term debt	(2,035)	(988)
Proceeds from the issuance of short-term debt with original maturities greater than 90 days	265	1,424
Payments for the redemption of short-term debt with original maturities greater than 90 days	(237)	(492)
Notes payable and commercial paper	(647)	(1,579)
Dividends paid	(1,825)	(1,731)
Other	8	(22)
Net cash provided by financing activities	1,239	5,266
Changes in cash and cash equivalents associated with assets held for sale	—	11
Net (decrease) increase in cash and cash equivalents	(110)	5,333
<b>Cash and cash equivalents at beginning of period</b>	<b>392</b>	<b>383</b>
<b>Cash and cash equivalents at end of period</b>	<b>\$ 282</b>	<b>\$ 5,716</b>
<b>Supplemental Disclosures:</b>		
Significant non-cash transactions:		
Accrued capital expenditures	\$ 740	\$ 631

DUKE ENERGY CORPORATION  
**Condensed Consolidated Statements of Changes in Equity**  
(Unaudited)

(in millions)	Common Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Loss					Total Duke Energy Corporation Stockholders' Equity	Noncontrolling Interests	Total Equity
	Shares	Common Stock			Foreign Currency Translation Adjustments	Net Losses on Cash Flow Hedges	Net Unrealized (Losses) Gains on Available-for-Sale Securities	Pension and OPEB Adjustments				
<b>Balance at December 31, 2015</b>	688	\$ 1	\$ 37,968	\$ 2,564	\$ (692)	\$ (50)	\$ (3)	\$ (61)	\$ 39,727	\$ 44	\$ 39,771	
Net income	—	—	—	2,379	—	—	—	—	2,379	13	2,392	
Other comprehensive income (loss)	—	—	—	—	92	(16)	7	2	85	3	88	
Common stock issuances, including dividend reinvestment and employee benefits	1	—	29	—	—	—	—	—	29	—	29	
Common stock dividends	—	—	—	(1,731)	—	—	—	—	(1,731)	—	(1,731)	
Distributions to noncontrolling interest in subsidiaries	—	—	—	—	—	—	—	—	—	(3)	(3)	
<b>Balance at September 30, 2016</b>	689	\$ 1	\$ 37,997	\$ 3,212	\$ (600)	\$ (66)	\$ 4	\$ (59)	\$ 40,489	\$ 57	\$ 40,546	
<b>Balance at December 31, 2016</b>	700	\$ 1	\$ 38,741	\$ 2,384	\$ —	\$ (20)	\$ (1)	\$ (72)	\$ 41,033	\$ 8	\$ 41,041	
Net income	—	—	—	2,356	—	—	—	—	2,356	5	2,361	
Other comprehensive income	—	—	—	—	—	1	10	2	13	—	13	
Common stock issuances, including dividend reinvestment and employee benefits	—	—	33	—	—	—	—	—	33	—	33	
Common stock dividends	—	—	—	(1,825)	—	—	—	—	(1,825)	—	(1,825)	
Distributions to noncontrolling interest in subsidiaries	—	—	—	—	—	—	—	—	—	(2)	(2)	
Other <sup>(a)</sup>	—	—	—	21	—	—	—	—	21	—	21	
<b>Balance at September 30, 2017</b>	700	\$ 1	\$ 38,774	\$ 2,936	\$ —	\$ (19)	\$ 9	\$ (70)	\$ 41,631	\$ 11	\$ 41,642	

(a) Cumulative-effect adjustment due to implementation of a new accounting standard related to stock-based compensation and the associated income taxes. See Note 1 for more information.

DUKE ENERGY CAROLINAS, LLC  
**Condensed Consolidated Statements of Operations and Comprehensive Income**  
(Unaudited)

(in millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
<b>Operating Revenues</b>	\$ 2,136	\$ 2,226	\$ 5,581	\$ 5,641
<b>Operating Expenses</b>				
Fuel used in electric generation and purchased power	531	581	1,394	1,391
Operation, maintenance and other	480	493	1,431	1,481
Depreciation and amortization	281	268	804	802
Property and other taxes	67	68	206	206
Total operating expenses	1,359	1,410	3,835	3,880
<b>Loss on Sales of Other Assets and Other, net</b>	—	(1)	—	(1)
<b>Operating Income</b>	777	815	1,746	1,760
<b>Other Income and Expenses, net</b>	26	39	99	121
<b>Interest Expense</b>	108	102	314	316
<b>Income Before Income Taxes</b>	695	752	1,531	1,565
<b>Income Tax Expense</b>	229	258	522	539
<b>Net Income</b>	\$ 466	\$ 494	\$ 1,009	\$ 1,026
<b>Other Comprehensive Income, net of tax</b>				
Reclassification into earnings from cash flow hedges	—	—	1	1
<b>Comprehensive Income</b>	\$ 466	\$ 494	\$ 1,010	\$ 1,027

DUKE ENERGY CAROLINAS, LLC  
**Condensed Consolidated Balance Sheets**  
(Unaudited)

(in millions)	September 30, 2017	December 31, 2016
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 18	\$ 14
Receivables (net of allowance for doubtful accounts of \$2 at 2017 and 2016)	180	160
Receivables of VIEs (net of allowance for doubtful accounts of \$7 at 2017 and 2016)	691	645
Receivables from affiliated companies	146	163
Notes receivable from affiliated companies	—	66
Inventory	1,000	1,055
Regulatory assets	237	238
Other	27	37
Total current assets	2,299	2,378
<b>Property, Plant and Equipment</b>		
Cost	42,321	41,127
Accumulated depreciation and amortization	(14,969)	(14,365)
Net property, plant and equipment	27,352	26,762
<b>Other Noncurrent Assets</b>		
Regulatory assets	3,077	3,159
Nuclear decommissioning trust funds	3,621	3,273
Other	910	943
Total other noncurrent assets	7,608	7,375
<b>Total Assets</b>	<b>\$ 37,259</b>	<b>\$ 36,515</b>
<b>LIABILITIES AND EQUITY</b>		
<b>Current Liabilities</b>		
Accounts payable	\$ 726	\$ 833
Accounts payable to affiliated companies	159	247
Notes payable to affiliated companies	468	—
Taxes accrued	368	143
Interest accrued	135	102
Current maturities of long-term debt	705	116
Asset retirement obligations	304	222
Regulatory liabilities	105	161
Other	435	468
Total current liabilities	3,405	2,292
<b>Long-Term Debt</b>	<b>8,520</b>	<b>9,187</b>
<b>Long-Term Debt Payable to Affiliated Companies</b>	<b>300</b>	<b>300</b>
<b>Other Noncurrent Liabilities</b>		
Deferred income taxes	6,796	6,544
Asset retirement obligations	3,297	3,673
Regulatory liabilities	2,884	2,840
Accrued pension and other post-retirement benefit costs	108	97
Investment tax credits	234	203
Other	559	607
Total other noncurrent liabilities	13,878	13,964
<b>Commitments and Contingencies</b>		
<b>Equity</b>		
Member's equity	11,164	10,781
Accumulated other comprehensive loss	(8)	(9)
Total equity	11,156	10,772
<b>Total Liabilities and Equity</b>	<b>\$ 37,259</b>	<b>\$ 36,515</b>

DUKE ENERGY CAROLINAS, LLC  
**Condensed Consolidated Statements of Cash Flows**  
(Unaudited)

(in millions)	Nine Months Ended September 30,	
	2017	2016
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Net income	\$ 1,009	\$ 1,026
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization (including amortization of nuclear fuel)	1,051	1,020
Equity component of AFUDC	(79)	(75)
Losses on sales of other assets and other, net	—	1
Deferred income taxes	330	382
Accrued pension and other post-retirement benefit costs	—	3
Payments for asset retirement obligations	(201)	(204)
(Increase) decrease in		
Net realized and unrealized mark-to-market and hedging transactions	1	4
Receivables	(40)	(191)
Receivables from affiliated companies	17	19
Inventory	50	217
Other current assets	8	81
Increase (decrease) in		
Accounts payable	(78)	(179)
Accounts payable to affiliated companies	(88)	(100)
Taxes accrued	225	248
Other current liabilities	(149)	51
Other assets	(18)	57
Other liabilities	(26)	(15)
Net cash provided by operating activities	2,012	2,345
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Capital expenditures	(1,747)	(1,531)
Purchases of available-for-sale securities	(1,660)	(2,070)
Proceeds from sales and maturities of available-for-sale securities	1,664	2,070
Notes receivable from affiliated companies	66	131
Other	(58)	(65)
Net cash used in investing activities	(1,735)	(1,465)
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Proceeds from the issuance of long-term debt	—	992
Payments for the redemption of long-term debt	(115)	(3)
Notes payable to affiliated companies	468	—
Distributions to parent	(625)	(1,800)
Other	(1)	—
Net cash used in financing activities	(273)	(811)
Net increase in cash and cash equivalents	4	69
<b>Cash and cash equivalents at beginning of period</b>	<b>14</b>	<b>13</b>
<b>Cash and cash equivalents at end of period</b>	<b>\$ 18</b>	<b>\$ 82</b>
<b>Supplemental Disclosures:</b>		
Significant non-cash transactions:		
Accrued capital expenditures	\$ 292	\$ 228

DUKE ENERGY CAROLINAS, LLC  
**Condensed Consolidated Statements of Changes in Equity**  
(Unaudited)

(in millions)	Member's Equity		Accumulated Other Comprehensive Loss		Total Equity
			Net Losses on Cash Flow Hedges		
<b>Balance at December 31, 2015</b>	\$	11,617	\$	(11)	\$ 11,606
Net income		1,026		—	1,026
Other comprehensive income		—		1	1
Distributions to parent		(1,800)		—	(1,800)
Other		(3)		—	(3)
<b>Balance at September 30, 2016</b>	\$	10,840	\$	(10)	\$ 10,830
<b>Balance at December 31, 2016</b>	\$	10,781	\$	(9)	\$ 10,772
Net income		1,009		—	1,009
Other comprehensive income		—		1	1
Distributions to parent		(625)		—	(625)
Other		(1)		—	(1)
<b>Balance at September 30, 2017</b>	\$	11,164	\$	(8)	\$ 11,156

PROGRESS ENERGY, INC.  
**Condensed Consolidated Statements of Operations and Comprehensive Income**  
(Unaudited)

(in millions)	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2017	2016	2017	2016
<b>Operating Revenues</b>	\$ 2,864	\$ 2,965	\$ 7,435	\$ 7,645
<b>Operating Expenses</b>				
Fuel used in electric generation and purchased power	1,031	1,120	2,588	2,832
Operation, maintenance and other	572	582	1,650	1,699
Depreciation and amortization	334	318	958	904
Property and other taxes	140	136	386	375
Impairment charges	135	1	137	4
Total operating expenses	2,212	2,157	5,719	5,814
<b>Gains on Sales of Other Assets and Other, net</b>	5	6	19	18
<b>Operating Income</b>	657	814	1,735	1,849
<b>Other Income and Expenses, net</b>	20	31	65	79
<b>Interest Expense</b>	193	177	595	497
<b>Income Before Income Taxes</b>	484	668	1,205	1,431
<b>Income Tax Expense</b>	141	219	384	496
<b>Net Income</b>	343	449	821	935
<b>Less: Net Income Attributable to Noncontrolling Interests</b>	2	3	7	8
<b>Net Income Attributable to Parent</b>	\$ 341	\$ 446	\$ 814	\$ 927
<b>Net Income</b>	\$ 343	\$ 449	\$ 821	\$ 935
<b>Other Comprehensive Income, net of tax</b>				
Pension and OPEB adjustments	3	—	5	2
Net unrealized (loss) gain on cash flow hedges	(2)	—	4	—
Reclassification into earnings from cash flow hedges	—	1	—	4
Unrealized gains on available-for-sale securities	1	1	3	2
<b>Other Comprehensive Income, net of tax</b>	2	2	12	8
<b>Comprehensive Income</b>	345	451	833	943
<b>Less: Comprehensive Income Attributable to Noncontrolling Interests</b>	2	3	7	8
<b>Comprehensive Income Attributable to Parent</b>	\$ 343	\$ 448	\$ 826	\$ 935

PROGRESS ENERGY, INC.  
**Condensed Consolidated Balance Sheets**  
(Unaudited)

(in millions)	September 30, 2017	December 31, 2016
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 30	\$ 46
Receivables (net of allowance for doubtful accounts of \$4 at 2017 and \$6 at 2016)	93	114
Receivables of VIEs (net of allowance for doubtful accounts of \$7 at 2017 and 2016)	900	692
Receivables from affiliated companies	—	106
Notes receivable from affiliated companies	170	80
Inventory	1,584	1,717
Regulatory assets (includes \$51 at 2017 and \$50 at 2016 related to VIEs)	440	401
Other	243	148
Total current assets	3,460	3,304
<b>Property, Plant and Equipment</b>		
Cost	46,659	44,864
Accumulated depreciation and amortization	(15,760)	(15,212)
Generation facilities to be retired, net	441	529
Net property, plant and equipment	31,340	30,181
<b>Other Noncurrent Assets</b>		
Goodwill	3,655	3,655
Regulatory assets (includes \$1,101 at 2017 and \$1,142 at 2016 related to VIEs)	6,438	5,722
Nuclear decommissioning trust funds	3,194	2,932
Other	909	856
Total other noncurrent assets	14,196	13,165
<b>Total Assets</b>	<b>\$ 48,996</b>	<b>\$ 46,650</b>
<b>LIABILITIES AND EQUITY</b>		
<b>Current Liabilities</b>		
Accounts payable	\$ 1,015	\$ 1,003
Accounts payable to affiliated companies	289	348
Notes payable to affiliated companies	576	729
Taxes accrued	227	83
Interest accrued	216	201
Current maturities of long-term debt (includes \$53 at 2017 and \$62 at 2016 related to VIEs)	770	778
Asset retirement obligations	250	189
Regulatory liabilities	121	189
Other	652	745
Total current liabilities	4,116	4,265
<b>Long-Term Debt (includes \$1,689 at 2017 and \$1,741 at 2016 related to VIEs)</b>	<b>16,717</b>	<b>15,590</b>
<b>Long-Term Debt Payable to Affiliated Companies</b>	<b>150</b>	<b>1,173</b>
<b>Other Noncurrent Liabilities</b>		
Deferred income taxes	6,463	5,246
Asset retirement obligations	5,189	5,286
Regulatory liabilities	2,511	2,395
Accrued pension and other post-retirement benefit costs	535	547
Other	298	341
Total other noncurrent liabilities	14,996	13,815
<b>Commitments and Contingencies</b>		
<b>Equity</b>		
Common stock, \$0.01 par value, 100 shares authorized and outstanding at 2017 and 2016	—	—
Additional paid-in capital	9,143	8,094
Retained earnings	3,906	3,764
Accumulated other comprehensive loss	(26)	(38)
Total Progress Energy, Inc. stockholders' equity	13,023	11,820
Noncontrolling interests	(6)	(13)
Total equity	13,017	11,807
<b>Total Liabilities and Equity</b>	<b>\$ 48,996</b>	<b>\$ 46,650</b>



PROGRESS ENERGY, INC.  
**Condensed Consolidated Statements of Cash Flows**  
(Unaudited)

(in millions)	Nine Months Ended September 30,	
	2017	2016
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Net income	\$ 821	\$ 935
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation, amortization and accretion (including amortization of nuclear fuel)	1,130	1,071
Equity component of AFUDC	(68)	(51)
Gains on sales of other assets	(20)	(23)
Impairment charges	137	4
Deferred income taxes	651	425
Accrued pension and other post-retirement benefit costs	(9)	(19)
Payments for asset retirement obligations	(190)	(203)
(Increase) decrease in		
Net realized and unrealized mark-to-market and hedging transactions	1	33
Receivables	(182)	(155)
Receivables from affiliated companies	102	329
Inventory	126	99
Other current assets	(279)	(30)
Increase (decrease) in		
Accounts payable	(281)	(24)
Accounts payable to affiliated companies	(59)	(109)
Taxes accrued	143	159
Other current liabilities	(184)	(156)
Other assets	(100)	(90)
Other liabilities	(85)	(4)
Net cash provided by operating activities	1,654	2,191
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Capital expenditures	(2,419)	(2,286)
Purchases of available-for-sale securities	(1,393)	(1,849)
Proceeds from sales and maturities of available-for-sale securities	1,411	1,899
Proceeds from insurance	4	58
Notes receivable from affiliated companies	(90)	(43)
Change in restricted cash	5	(6)
Other	(40)	(17)
Net cash used in investing activities	(2,522)	(2,244)
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Proceeds from the issuance of long-term debt	1,720	2,375
Payments for the redemption of long-term debt	(611)	(327)
Notes payable to affiliated companies	(129)	(798)
Dividends to parent	(125)	(1,075)
Other	(3)	(1)
Net cash provided by financing activities	852	174
Net (decrease) increase in cash and cash equivalents	(16)	121
<b>Cash and cash equivalents at beginning of period</b>	<b>46</b>	<b>44</b>
<b>Cash and cash equivalents at end of period</b>	<b>\$ 30</b>	<b>\$ 165</b>
<b>Supplemental Disclosures:</b>		
Significant non-cash transactions:		
Accrued capital expenditures	\$ 174	\$ 228
Equitization of certain notes payable to affiliates	1,047	—
Dividend to parent related to a legal entity restructuring	547	—

PROGRESS ENERGY, INC.  
**Condensed Consolidated Statements of Changes in Equity**  
(Unaudited)

(in millions)	Accumulated Other Comprehensive Loss						Total Progress Energy, Inc. Stockholders' Equity	Noncontrolling Interests	Total Equity
	Additional Paid-in Capital	Retained Earnings	Net Losses on Cash Flow Hedges	Net Unrealized Gains on Available-for-Sale Securities	Pension and OPEB Adjustments				
<b>Balance at December 31, 2015</b>	\$ 8,092	\$ 4,831	\$ (31)	\$ —	\$ (17)	\$ 12,875	\$ (22)	\$ 12,853	
Net income	—	927	—	—	—	927	8	935	
Other comprehensive income	—	—	4	2	2	8	—	8	
Distributions to noncontrolling interests	—	—	—	—	—	—	(1)	(1)	
Dividends to parent	—	(1,075)	—	—	—	(1,075)	—	(1,075)	
Other	4	—	—	—	—	4	(1)	3	
<b>Balance at September 30, 2016</b>	\$ 8,096	\$ 4,683	\$ (27)	\$ 2	\$ (15)	\$ 12,739	\$ (16)	\$ 12,723	
<b>Balance at December 31, 2016</b>	\$ 8,094	\$ 3,764	\$ (23)	\$ 1	\$ (16)	\$ 11,820	\$ (13)	\$ 11,807	
Net income	—	814	—	—	—	814	7	821	
Other comprehensive income	—	—	4	3	5	12	—	12	
Dividends to parent <sup>(a)</sup>	—	(672)	—	—	—	(672)	—	(672)	
Equitization of certain notes payable to affiliates	1,047	—	—	—	—	1,047	—	1,047	
Other	2	—	—	—	—	2	—	2	
<b>Balance at September 30, 2017</b>	\$ 9,143	\$ 3,906	\$ (19)	\$ 4	\$ (11)	\$ 13,023	\$ (6)	\$ 13,017	

(a) Includes a \$547 million non-cash dividend related to a legal entity restructuring.

DUKE ENERGY PROGRESS, LLC  
**Condensed Consolidated Statements of Operations and Comprehensive Income**  
(Unaudited)

(in millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
<b>Operating Revenues</b>	\$ 1,460	\$ 1,583	\$ 3,878	\$ 4,103
<b>Operating Expenses</b>				
Fuel used in electric generation and purchased power	475	569	1,214	1,441
Operation, maintenance and other	352	360	1,032	1,067
Depreciation and amortization	182	176	536	526
Property and other taxes	40	40	120	119
Impairment charges	—	1	—	1
Total operating expenses	1,049	1,146	2,902	3,154
<b>Gains on Sales of Other Assets and Other, net</b>	—	1	3	2
<b>Operating Income</b>	411	438	979	951
<b>Other Income and Expenses, net</b>	14	18	47	47
<b>Interest Expense</b>	65	61	217	188
<b>Income Before Income Taxes</b>	360	395	809	810
<b>Income Tax Expense</b>	114	124	262	271
<b>Net Income and Comprehensive Income</b>	\$ 246	\$ 271	\$ 547	\$ 539

DUKE ENERGY PROGRESS, LLC  
**Condensed Consolidated Balance Sheets**  
(Unaudited)

(in millions)	September 30, 2017	December 31, 2016
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 15	\$ 11
Receivables (net of allowance for doubtful accounts of \$1 at 2017 and \$4 at 2016)	29	51
Receivables of VIEs (net of allowance for doubtful accounts of \$5 at 2017 and 2016)	472	404
Receivables from affiliated companies	8	5
Notes receivable from affiliated companies	101	165
Inventory	1,018	1,076
Regulatory assets	230	188
Other	40	57
Total current assets	1,913	1,957
<b>Property, Plant and Equipment</b>		
Cost	29,104	28,419
Accumulated depreciation and amortization	(10,793)	(10,561)
Generation facilities to be retired, net	441	529
Net property, plant and equipment	18,752	18,387
<b>Other Noncurrent Assets</b>		
Regulatory assets	3,588	3,243
Nuclear decommissioning trust funds	2,463	2,217
Other	565	525
Total other noncurrent assets	6,616	5,985
<b>Total Assets</b>	<b>\$ 27,281</b>	<b>\$ 26,329</b>
<b>LIABILITIES AND EQUITY</b>		
<b>Current Liabilities</b>		
Accounts payable	\$ 271	\$ 589
Accounts payable to affiliated companies	207	227
Taxes accrued	137	104
Interest accrued	91	102
Current maturities of long-term debt	203	452
Asset retirement obligations	250	189
Regulatory liabilities	107	158
Other	318	365
Total current liabilities	1,584	2,186
<b>Long-Term Debt</b>	<b>7,204</b>	<b>6,409</b>
<b>Long-Term Debt Payable to Affiliated Companies</b>	<b>150</b>	<b>150</b>
<b>Other Noncurrent Liabilities</b>		
Deferred income taxes	3,606	3,323
Asset retirement obligations	4,426	4,508
Regulatory liabilities	2,097	1,946
Accrued pension and other post-retirement benefit costs	246	252
Investment tax credits	144	146
Other	44	51
Total other noncurrent liabilities	10,563	10,226
<b>Commitments and Contingencies</b>		
<b>Equity</b>		
<b>Member's Equity</b>	<b>7,780</b>	<b>7,358</b>
<b>Total Liabilities and Equity</b>	<b>\$ 27,281</b>	<b>\$ 26,329</b>

DUKE ENERGY PROGRESS, LLC  
**Condensed Consolidated Statements of Cash Flows**  
(Unaudited)

(in millions)	Nine Months Ended September 30,	
	2017	2016
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Net income	\$ 547	\$ 539
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization (including amortization of nuclear fuel)	691	679
Equity component of AFUDC	(35)	(34)
Gains on sales of other assets	(4)	(4)
Impairment charges	—	1
Deferred income taxes	287	325
Accrued pension and other post-retirement benefit costs	(15)	(24)
Payments for asset retirement obligations	(149)	(163)
(Increase) decrease in		
Net realized and unrealized mark-to-market and hedging transactions	(2)	—
Receivables	(47)	(78)
Receivables from affiliated companies	(3)	11
Inventory	52	91
Other current assets	(34)	37
Increase (decrease) in		
Accounts payable	(286)	(44)
Accounts payable to affiliated companies	(20)	(47)
Taxes accrued	33	76
Other current liabilities	(139)	37
Other assets	(49)	(32)
Other liabilities	(9)	(10)
Net cash provided by operating activities	818	1,360
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Capital expenditures	(1,247)	(1,106)
Purchases of available-for-sale securities	(995)	(1,470)
Proceeds from sales and maturities of available-for-sale securities	974	1,448
Notes receivable from affiliated companies	64	(65)
Other	(26)	(27)
Net cash used in investing activities	(1,230)	(1,220)
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Proceeds from the issuance of long-term debt	812	505
Payments for the redemption of long-term debt	(270)	(15)
Notes payable to affiliated companies	—	(209)
Distributions to parent	(125)	(301)
Other	(1)	1
Net cash provided by (used in) financing activities	416	(19)
Net increase in cash and cash equivalents	4	121
<b>Cash and cash equivalents at beginning of period</b>	<b>11</b>	<b>15</b>
<b>Cash and cash equivalents at end of period</b>	<b>\$ 15</b>	<b>\$ 136</b>
<b>Supplemental Disclosures:</b>		
Significant non-cash transactions:		
Accrued capital expenditures	\$ 116	\$ 66

DUKE ENERGY PROGRESS, LLC  
**Condensed Consolidated Statements of Changes in Equity**  
(Unaudited)

(in millions)	Member's Equity
<b>Balance at December 31, 2015</b>	\$ 7,059
Net income	539
Distributions to parent	(301)
<b>Balance at September 30, 2016</b>	\$ 7,297
<b>Balance at December 31, 2016</b>	\$ 7,358
Net income	547
Distributions to parent	(125)
<b>Balance at September 30, 2017</b>	\$ 7,780

DUKE ENERGY FLORIDA, LLC  
**Condensed Consolidated Statements of Operations and Comprehensive Income**  
(Unaudited)

(in millions)	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2017	2016	2017	2016
<b>Operating Revenues</b>	\$ 1,401	\$ 1,381	\$ 3,551	\$ 3,538
<b>Operating Expenses</b>				
Fuel used in electric generation and purchased power	557	550	1,374	1,391
Operation, maintenance and other	216	219	610	623
Depreciation and amortization	154	142	423	378
Property and other taxes	99	96	265	256
Impairment charges	135	1	137	4
Total operating expenses	1,161	1,008	2,809	2,652
<b>Operating Income</b>	<b>240</b>	<b>373</b>	<b>742</b>	<b>886</b>
<b>Other Income and Expenses, net</b>	<b>15</b>	<b>11</b>	<b>45</b>	<b>30</b>
<b>Interest Expense</b>	<b>71</b>	<b>62</b>	<b>211</b>	<b>143</b>
<b>Income Before Income Taxes</b>	<b>184</b>	<b>322</b>	<b>576</b>	<b>773</b>
<b>Income Tax Expense</b>	<b>64</b>	<b>116</b>	<b>208</b>	<b>286</b>
<b>Net Income</b>	<b>\$ 120</b>	<b>\$ 206</b>	<b>\$ 368</b>	<b>\$ 487</b>
<b>Other Comprehensive Income, net of tax</b>				
Unrealized gains on available-for-sale securities	1	1	3	2
<b>Comprehensive Income</b>	<b>\$ 121</b>	<b>\$ 207</b>	<b>\$ 371</b>	<b>\$ 489</b>

DUKE ENERGY FLORIDA, LLC  
**Condensed Consolidated Balance Sheets**  
(Unaudited)

(in millions)	September 30, 2017	December 31, 2016
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 8	\$ 16
Receivables (net of allowance for doubtful accounts of \$3 at 2017 and \$2 at 2016)	61	61
Receivables of VIEs (net of allowance for doubtful accounts of \$2 at 2017 and 2016)	428	288
Receivables from affiliated companies	—	5
Notes receivable from affiliated companies	70	—
Inventory	566	641
Regulatory assets (includes \$51 at 2017 and \$50 at 2016 related to VIEs)	211	213
Other (includes \$20 at 2017 and \$53 at 2016 related to VIEs)	154	125
Total current assets	1,498	1,349
<b>Property, Plant and Equipment</b>		
Cost	17,546	16,434
Accumulated depreciation and amortization	(4,960)	(4,644)
Net property, plant and equipment	12,586	11,790
<b>Other Noncurrent Assets</b>		
Regulatory assets (includes \$1,101 at 2017 and \$1,142 at 2016 related to VIEs)	2,850	2,480
Nuclear decommissioning trust funds	731	715
Other	293	278
Total other noncurrent assets	3,874	3,473
<b>Total Assets</b>	<b>\$ 17,958</b>	<b>\$ 16,612</b>
<b>LIABILITIES AND EQUITY</b>		
<b>Current Liabilities</b>		
Accounts payable	\$ 744	\$ 413
Accounts payable to affiliated companies	90	125
Notes payable to affiliated companies	—	297
Taxes accrued	143	33
Interest accrued	71	49
Current maturities of long-term debt (includes \$53 at 2017 and \$62 at 2016 related to VIEs)	567	326
Regulatory liabilities	14	31
Other	310	352
Total current liabilities	1,939	1,626
<b>Long-Term Debt (includes \$1,389 at 2017 and \$1,442 at 2016 related to VIEs)</b>	<b>6,129</b>	<b>5,799</b>
<b>Other Noncurrent Liabilities</b>		
Deferred income taxes	3,076	2,694
Asset retirement obligations	763	778
Regulatory liabilities	414	448
Accrued pension and other post-retirement benefit costs	257	262
Other	106	105
Total other noncurrent liabilities	4,616	4,287
<b>Commitments and Contingencies</b>		
<b>Equity</b>		
Member's equity	5,270	4,899
Accumulated other comprehensive income	4	1
Total equity	5,274	4,900
<b>Total Liabilities and Equity</b>	<b>\$ 17,958</b>	<b>\$ 16,612</b>



DUKE ENERGY FLORIDA, LLC  
**Condensed Consolidated Statements of Cash Flows**  
(Unaudited)

(in millions)	Nine Months Ended September 30,	
	2017	2016
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Net income	\$ 368	\$ 487
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation, amortization and accretion	431	383
Equity component of AFUDC	(33)	(16)
Impairment charges	137	4
Deferred income taxes	366	136
Accrued pension and other post-retirement benefit costs	3	2
Payments for asset retirement obligations	(41)	(41)
(Increase) decrease in		
Net realized and unrealized mark-to-market and hedging transactions	3	34
Receivables	(140)	(78)
Receivables from affiliated companies	1	41
Inventory	74	8
Other current assets	(162)	(32)
Increase (decrease) in		
Accounts payable	6	20
Accounts payable to affiliated companies	(35)	(55)
Taxes accrued	109	61
Other current liabilities	(45)	(183)
Other assets	(35)	(56)
Other liabilities	(71)	1
Net cash provided by operating activities	936	716
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Capital expenditures	(1,172)	(1,179)
Purchases of available-for-sale securities	(398)	(379)
Proceeds from sales and maturities of available-for-sale securities	437	450
Proceeds from insurance	4	58
Notes receivable from affiliated companies	(70)	—
Change in restricted cash	—	(6)
Other	(14)	10
Net cash used in investing activities	(1,213)	(1,046)
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Proceeds from the issuance of long-term debt	908	1,870
Payments for the redemption of long-term debt	(341)	(12)
Notes payable to affiliated companies	(297)	(750)
Distributions to parent	—	(774)
Other	(1)	(2)
Net cash provided by financing activities	269	332
Net (decrease) increase in cash and cash equivalents	(8)	2
<b>Cash and cash equivalents at beginning of period</b>	<b>16</b>	<b>8</b>
<b>Cash and cash equivalents at end of period</b>	<b>\$ 8</b>	<b>\$ 10</b>
<b>Supplemental Disclosures:</b>		
Significant non-cash transactions:		
Accrued capital expenditures	\$ 102	\$ 162

DUKE ENERGY FLORIDA, LLC  
**Condensed Consolidated Statements of Changes in Equity**  
(Unaudited)

(in millions)	Accumulated Other Comprehensive Income			Total Equity
	Member's Equity	Net Unrealized Gains on Available-for-Sale Securities		
<b>Balance at December 31, 2015</b>	\$ 5,121	\$ —	\$ —	\$ 5,121
Net income	487	—	—	487
Other comprehensive income	—	2	—	2
Distributions to parent	(774)	—	—	(774)
Other	3	—	—	3
<b>Balance at September 30, 2016</b>	\$ 4,837	\$ 2	\$ —	\$ 4,839
<b>Balance at December 31, 2016</b>	\$ 4,899	\$ 1	\$ —	\$ 4,900
Net income	368	—	—	368
Other comprehensive income	—	3	—	3
Other	3	—	—	3
<b>Balance at September 30, 2017</b>	\$ 5,270	\$ 4	\$ —	\$ 5,274

DUKE ENERGY OHIO, INC.  
**Condensed Consolidated Statements of Operations and Comprehensive Income**  
(Unaudited)

(in millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
<b>Operating Revenues</b>				
Regulated electric	\$ 371	\$ 390	\$ 1,036	\$ 1,053
Regulated natural gas	90	89	360	358
Nonregulated electric and other	10	10	30	22
Total operating revenues	471	489	1,426	1,433
<b>Operating Expenses</b>				
Fuel used in electric generation and purchased power – regulated	100	129	283	340
Fuel used in electric generation and purchased power – nonregulated	13	14	42	37
Cost of natural gas	5	6	69	64
Operation, maintenance and other	124	126	385	367
Depreciation and amortization	63	50	193	175
Property and other taxes	65	59	204	195
Impairment charges	—	—	1	—
Total operating expenses	370	384	1,177	1,178
<b>Gains on Sales of Other Assets and Other, net</b>	1	1	1	2
<b>Operating Income</b>	102	106	250	257
<b>Other Income and Expenses, net</b>	4	3	12	6
<b>Interest Expense</b>	22	22	67	63
<b>Income From Continuing Operations Before Income Taxes</b>	84	87	195	200
<b>Income Tax Expense From Continuing Operations</b>	28	32	67	65
<b>Income From Continuing Operations</b>	56	55	128	135
<b>(Loss) Income From Discontinued Operations, net of tax</b>	(1)	34	(1)	36
<b>Net Income and Comprehensive Income</b>	\$ 55	\$ 89	\$ 127	\$ 171

DUKE ENERGY OHIO, INC.  
**Condensed Consolidated Balance Sheets**  
(Unaudited)

(in millions)	September 30, 2017	December 31, 2016
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 7	\$ 13
Receivables (net of allowance for doubtful accounts of \$2 at 2017 and 2016)	68	71
Receivables from affiliated companies	81	129
Notes receivable from affiliated companies	87	94
Inventory	139	137
Regulatory assets	57	37
Other	18	37
Total current assets	457	518
<b>Property, Plant and Equipment</b>		
Cost	8,509	8,126
Accumulated depreciation and amortization	(2,658)	(2,579)
Net property, plant and equipment	5,851	5,547
<b>Other Noncurrent Assets</b>		
Goodwill	920	920
Regulatory assets	510	520
Other	27	23
Total other noncurrent assets	1,457	1,463
<b>Total Assets</b>	<b>\$ 7,765</b>	<b>\$ 7,528</b>
<b>LIABILITIES AND EQUITY</b>		
<b>Current Liabilities</b>		
Accounts payable	\$ 251	\$ 282
Accounts payable to affiliated companies	59	63
Notes payable to affiliated companies	—	16
Taxes accrued	157	178
Interest accrued	33	19
Current maturities of long-term debt	—	1
Asset retirement obligations	6	—
Regulatory liabilities	15	21
Other	74	91
Total current liabilities	595	671
<b>Long-Term Debt</b>		
	2,042	1,858
<b>Long-Term Debt Payable to Affiliated Companies</b>		
	25	25
<b>Other Noncurrent Liabilities</b>		
Deferred income taxes	1,512	1,443
Asset retirement obligations	75	77
Regulatory liabilities	232	236
Accrued pension and other post-retirement benefit costs	52	56
Other	134	166
Total other noncurrent liabilities	2,005	1,978
<b>Commitments and Contingencies</b>		
<b>Equity</b>		
Common stock, \$8.50 par value, 120 million shares authorized; 90 million shares outstanding at 2017 and 2016	762	762
Additional paid-in capital	2,670	2,695
Accumulated deficit	(334)	(461)
Total equity	3,098	2,996
<b>Total Liabilities and Equity</b>	<b>\$ 7,765</b>	<b>\$ 7,528</b>

DUKE ENERGY OHIO, INC.  
**Condensed Consolidated Statements of Cash Flows**  
(Unaudited)

(in millions)	Nine Months Ended	
	September 30,	
	2017	2016
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Net income	\$ 127	\$ 171
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	196	178
Equity component of AFUDC	(8)	(4)
Gains on sales of other assets	(1)	(2)
Impairment charges	1	—
Deferred income taxes	70	36
Accrued pension and other post-retirement benefit costs	3	4
Contributions to qualified pension plans	(4)	—
Payments for asset retirement obligations	(4)	(4)
(Increase) decrease in		
Net realized and unrealized mark-to-market and hedging transactions	1	—
Receivables	3	(1)
Receivables from affiliated companies	48	(3)
Inventory	1	(5)
Other current assets	(8)	50
Increase (decrease) in		
Accounts payable	(48)	13
Accounts payable to affiliated companies	(4)	(4)
Taxes accrued	(21)	(13)
Other current liabilities	(6)	(53)
Other assets	(13)	(8)
Other liabilities	(2)	(28)
Net cash provided by operating activities	331	327
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Capital expenditures	(457)	(334)
Notes receivable from affiliated companies	7	(47)
Other	(25)	(21)
Net cash used in investing activities	(475)	(402)
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Proceeds from the issuance of long-term debt	182	341
Payments for the redemption of long-term debt	(2)	(53)
Notes payable to affiliated companies	(16)	(103)
Dividends to parent	(25)	(25)
Other	(1)	—
Net cash provided by financing activities	138	160
Net (decrease) increase in cash and cash equivalents	(6)	85
<b>Cash and cash equivalents at beginning of period</b>	<b>13</b>	<b>14</b>
<b>Cash and cash equivalents at end of period</b>	<b>\$ 7</b>	<b>\$ 99</b>
<b>Supplemental Disclosures:</b>		
Significant non-cash transactions:		
Accrued capital expenditures	\$ 65	\$ 56

DUKE ENERGY OHIO, INC.  
**Condensed Consolidated Statements of Changes in Equity**  
(Unaudited)

(in millions)	Common Stock	Additional Paid-in Capital	Accumulated Deficit	Total Equity
<b>Balance at December 31, 2015</b>	\$ 762	\$ 2,720	\$ (698)	\$ 2,784
Net income	—	—	171	171
Dividends to parent	—	(25)	—	(25)
Contribution from parent	—	—	9	9
<b>Balance at September 30, 2016</b>	\$ 762	\$ 2,695	\$ (518)	\$ 2,939
<b>Balance at December 31, 2016</b>	\$ 762	\$ 2,695	\$ (461)	\$ 2,996
Net income	—	—	127	127
Dividends to parent	—	(25)	—	(25)
<b>Balance at September 30, 2017</b>	\$ 762	\$ 2,670	\$ (334)	\$ 3,098

DUKE ENERGY INDIANA, LLC  
**Condensed Consolidated Statements of Operations and Comprehensive Income**  
(Unaudited)

(in millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
<b>Operating Revenues</b>	\$ 802	\$ 809	\$ 2,302	\$ 2,225
<b>Operating Expenses</b>				
Fuel used in electric generation and purchased power	259	242	744	690
Operation, maintenance and other	175	175	541	526
Depreciation and amortization	120	123	336	345
Property and other taxes	19	22	56	67
Impairment charges	—	8	—	8
Total operating expenses	573	570	1,677	1,636
<b>Gain on Sale of Other Assets and Other, net</b>	1	—	1	—
<b>Operating Income</b>	230	239	626	589
<b>Other Income and Expenses, net</b>	10	5	27	15
<b>Interest Expense</b>	44	45	132	136
<b>Income Before Income Taxes</b>	196	199	521	468
<b>Income Tax Expense</b>	75	70	203	159
<b>Net Income</b>	\$ 121	\$ 129	\$ 318	\$ 309
<b>Other Comprehensive Loss, net of tax</b>				
Reclassification into earnings from cash flow hedges	—	—	—	(1)
<b>Comprehensive Income</b>	\$ 121	\$ 129	\$ 318	\$ 308

DUKE ENERGY INDIANA, LLC  
**Condensed Consolidated Balance Sheets**  
(Unaudited)

(in millions)	September 30, 2017	December 31, 2016
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 22	\$ 17
Receivables (net of allowance for doubtful accounts of \$1 at 2017 and 2016)	74	105
Receivables from affiliated companies	83	114
Notes receivable from affiliated companies	29	86
Inventory	450	504
Regulatory assets	158	149
Other	34	45
Total current assets	850	1,020
<b>Property, Plant and Equipment</b>		
Cost	14,716	14,241
Accumulated depreciation and amortization	(4,592)	(4,317)
Net property, plant and equipment	10,124	9,924
<b>Other Noncurrent Assets</b>		
Regulatory assets	1,123	1,073
Other	170	147
Total other noncurrent assets	1,293	1,220
<b>Total Assets</b>	<b>\$ 12,267</b>	<b>\$ 12,164</b>
<b>LIABILITIES AND EQUITY</b>		
<b>Current Liabilities</b>		
Accounts payable	\$ 188	\$ 263
Accounts payable to affiliated companies	73	74
Taxes accrued	146	31
Interest accrued	54	61
Current maturities of long-term debt	3	3
Asset retirement obligations	58	—
Regulatory liabilities	28	40
Other	111	93
Total current liabilities	661	565
<b>Long-Term Debt</b>	<b>3,632</b>	<b>3,633</b>
<b>Long-Term Debt Payable to Affiliated Companies</b>	<b>150</b>	<b>150</b>
<b>Other Noncurrent Liabilities</b>		
Deferred income taxes	1,979	1,900
Asset retirement obligations	735	866
Regulatory liabilities	735	748
Accrued pension and other post-retirement benefit costs	78	71
Investment tax credits	147	137
Other	65	27
Total other noncurrent liabilities	3,739	3,749
<b>Commitments and Contingencies</b>		
<b>Equity</b>		
<b>Member's Equity</b>	<b>4,085</b>	<b>4,067</b>
<b>Total Liabilities and Equity</b>	<b>\$ 12,267</b>	<b>\$ 12,164</b>



DUKE ENERGY INDIANA, LLC  
**Condensed Consolidated Statements of Cash Flows**  
(Unaudited)

(in millions)	Nine Months Ended	
	September 30,	
	2017	2016
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Net income	\$ 318	\$ 309
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation, amortization and accretion	339	347
Equity component of AFUDC	(20)	(11)
Gain on sale of other assets and other, net	(1)	—
Impairment charges	—	8
Deferred income taxes	101	122
Accrued pension and other post-retirement benefit costs	4	6
Payments for asset retirement obligations	(26)	(31)
(Increase) decrease in		
Receivables	53	16
Receivables from affiliated companies	31	(3)
Inventory	54	146
Other current assets	18	(105)
Increase (decrease) in		
Accounts payable	(71)	(14)
Accounts payable to affiliated companies	(1)	(1)
Taxes accrued	115	12
Other current liabilities	(18)	(85)
Other assets	(24)	(38)
Other liabilities	32	64
Net cash provided by operating activities	904	742
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Capital expenditures	(603)	(540)
Purchases of available-for-sale securities	(15)	(12)
Proceeds from sales and maturities of available-for-sale securities	6	9
Notes receivable from affiliated companies	57	45
Other	(40)	(28)
Net cash used in investing activities	(595)	(526)
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Proceeds from the issuance of long-term debt	—	495
Payments for the redemption of long-term debt	(3)	(476)
Distributions to parent	(300)	(149)
Other	(1)	(1)
Net cash used in financing activities	(304)	(131)
Net increase in cash and cash equivalents	5	85
<b>Cash and cash equivalents at beginning of period</b>	<b>17</b>	<b>9</b>
<b>Cash and cash equivalents at end of period</b>	<b>\$ 22</b>	<b>\$ 94</b>
<b>Supplemental Disclosures:</b>		
Significant non-cash transactions:		
Accrued capital expenditures	\$ 101	\$ 56

DUKE ENERGY INDIANA, LLC  
**Condensed Consolidated Statements of Changes in Equity**  
(Unaudited)

(in millions)	Common Stock	Additional Paid-in Capital	Retained Earnings	Member's Equity	Accumulated Other Comprehensive Income		Total Equity
					Net Gains on Cash Flow Hedges		
<b>Balance at December 31, 2015</b>	\$ 1	\$ 1,384	\$ 2,450	\$ —	\$ 1	\$	\$ 3,836
Net income	—	—	—	309	—		309
Other comprehensive loss	—	—	—	—	(1)		(1)
Distributions to parent	—	—	—	(149)	—		(149)
Transfer to Member's Equity	(1)	(1,384)	(2,450)	3,835	—		—
<b>Balance at September 30, 2016</b>	\$ —	\$ —	\$ —	\$ 3,995	\$ —	\$	\$ 3,995
<b>Balance at December 31, 2016</b>	\$ —	\$ —	\$ —	\$ 4,067	\$ —	\$	\$ 4,067
Net income	—	—	—	318	—		318
Distributions to parent	—	—	—	(300)	—		(300)
<b>Balance at September 30, 2017</b>	\$ —	\$ —	\$ —	\$ 4,085	\$ —	\$	\$ 4,085

PIEDMONT NATURAL GAS COMPANY, INC.  
**Condensed Consolidated Statements of Operations and Comprehensive Income**  
(Unaudited)

	Three Months Ended		Nine Months Ended	
	September 30,		September 30,	
	2017	2016	2017	2016
<b>Operating Revenues</b>				
Regulated natural gas	\$ 181	\$ 155	\$ 877	\$ 815
Nonregulated natural gas and other	2	3	7	8
Total operating revenues	183	158	884	823
<b>Operating Expenses</b>				
Cost of natural gas	63	42	333	289
Operation, maintenance and other	73	74	226	221
Depreciation and amortization	38	35	109	103
Property and other taxes	13	11	38	33
Impairment charges	—	—	7	—
Total operating expenses	187	162	713	646
<b>Operating (Loss) Income</b>	(4)	(4)	171	177
Equity in earnings of unconsolidated affiliates	3	2	8	25
Other income and expenses, net	—	(1)	(1)	(1)
Total other income and expenses	3	1	7	24
<b>Interest Expense</b>	20	17	59	50
<b>(Loss) Income Before Income Taxes</b>	(21)	(20)	119	151
<b>Income Tax (Benefit) Expense</b>	(10)	(8)	43	57
<b>Net (Loss) Income</b>	\$ (11)	\$ (12)	\$ 76	\$ 94
<b>Other Comprehensive Income, net of tax</b>				
Reclassification into earnings from hedging activities of equity method investments	—	1	—	1
<b>Comprehensive (Loss) Income</b>	\$ (11)	\$ (11)	\$ 76	\$ 95

PIEDMONT NATURAL GAS COMPANY, INC.  
**Condensed Consolidated Balance Sheets**  
(Unaudited)

(in millions)	September 30, 2017	December 31, 2016
<b>ASSETS</b>		
<b>Current Assets</b>		
Cash and cash equivalents	\$ 12	\$ 25
Receivables (net of allowance for doubtful accounts of \$2 at 2017 and \$3 at 2016)	77	232
Receivables from affiliated companies	8	7
Inventory	53	66
Regulatory assets	133	124
Income taxes receivable	99	9
Other	31	12
Total current assets	413	475
<b>Property, Plant and Equipment</b>		
Cost	6,579	6,174
Accumulated depreciation and amortization	(1,454)	(1,360)
Net property, plant and equipment	5,125	4,814
<b>Other Noncurrent Assets</b>		
Goodwill	49	49
Regulatory assets	322	373
Investments in equity method unconsolidated affiliates	76	212
Other	11	21
Total other noncurrent assets	458	655
<b>Total Assets</b>	<b>\$ 5,996</b>	<b>\$ 5,944</b>
<b>LIABILITIES AND EQUITY</b>		
<b>Current Liabilities</b>		
Accounts payable	\$ 98	\$ 155
Accounts payable to affiliated companies	7	8
Notes payable and commercial paper	—	330
Notes payable to affiliated companies	284	—
Taxes accrued	30	67
Interest accrued	24	33
Current maturities of long-term debt	—	35
Regulatory liabilities	3	—
Other	72	102
Total current liabilities	518	730
<b>Long-Term Debt</b>	<b>2,036</b>	<b>1,786</b>
<b>Other Noncurrent Liabilities</b>		
Deferred income taxes	1,046	931
Asset retirement obligations	15	14
Regulatory liabilities	627	608
Accrued pension and other post-retirement benefit costs	14	14
Other	141	189
Total other noncurrent liabilities	1,843	1,756
<b>Commitments and Contingencies</b>		
<b>Equity</b>		
Common stock, no par value: 100 shares authorized and outstanding at 2017 and 2016	860	860
Retained earnings	739	812
Total equity	1,599	1,672
<b>Total Liabilities and Equity</b>	<b>\$ 5,996</b>	<b>\$ 5,944</b>

PIEDMONT NATURAL GAS COMPANY, INC.  
**Condensed Consolidated Statements of Cash Flows**  
(Unaudited)

(in millions)	Nine Months Ended September 30,	
	2017	2016
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Net income	\$ 76	\$ 94
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	112	111
Impairment charges	7	—
Deferred income taxes	127	50
Equity in earnings from unconsolidated affiliates	(8)	(25)
Accrued pension and other post-retirement benefit costs	9	2
Contributions to qualified pension plans	—	(1)
Payments for asset retirement obligations	—	(5)
(Increase) decrease in		
Receivables	157	88
Receivables from affiliated companies	(1)	—
Inventory	13	33
Other current assets	(129)	(50)
Increase (decrease) in		
Accounts payable	(52)	11
Accounts payable to affiliated companies	(1)	—
Taxes accrued	(37)	12
Other current liabilities	(21)	(11)
Other assets	(9)	55
Other liabilities	(7)	17
Net cash provided by operating activities	236	381
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Capital expenditures	(407)	(416)
Contributions to equity method investments	(12)	(40)
Other	2	(2)
Net cash used in investing activities	(417)	(458)
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Proceeds from the:		
Issuance of long-term debt	250	296
Issuance of common stock	—	121
Payments for the redemption of long-term debt	(35)	(40)
Notes payable and commercial paper	(330)	(210)
Notes payable to affiliated companies	284	—
Dividends paid	—	(82)
Other	(1)	—
Net cash provided by financing activities	168	85
Net (decrease) increase in cash and cash equivalents	(13)	8
<b>Cash and cash equivalents at beginning of period</b>	<b>25</b>	<b>33</b>
<b>Cash and cash equivalents at end of period</b>	<b>\$ 12</b>	<b>\$ 41</b>
<b>Supplemental Disclosures:</b>		
Significant non-cash transactions:		
Accrued capital expenditures	\$ 47	\$ 30
Transfer of ownership interest of certain equity method investees to parent	149	—

PIEDMONT NATURAL GAS COMPANY, INC.  
**Condensed Consolidated Statements of Changes in Equity**  
(Unaudited)

(in millions)	Common Stock	Retained Earnings	Accumulated Other Comprehensive Income		Total Equity
			Net Loss on Hedging Activities of Unconsolidated Affiliates		
<b>Balance at December 31, 2015</b>	\$ 728	\$ 731	\$ (1)	\$	1,458
Net income	—	94	—	—	94
Other comprehensive income	—	—	1	—	1
Common stock issuances, including dividend reinvestments and employee benefits	121	—	—	—	121
Common stock dividends	—	(87)	—	—	(87)
<b>Balance at September 30, 2016</b>	\$ 849	\$ 738	\$ —	\$	1,587
<b>Balance at December 31, 2016</b>	\$ 860	\$ 812	\$ —	\$	1,672
Net income	—	76	—	—	76
Transfer of ownership interest of certain equity method investees to parent	—	(149)	—	—	(149)
<b>Balance at September 30, 2017</b>	\$ 860	\$ 739	\$ —	\$	1,599

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited)****Index to Combined Notes to Condensed Consolidated Financial Statements**

The unaudited notes to the condensed consolidated financial statements that follow are a combined presentation. The following list indicates the registrants to which the footnotes apply.

Registrant	Applicable Notes																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Duke Energy Corporation	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Duke Energy Carolinas, LLC	•		•	•	•	•	•		•	•	•	•	•			•	•	•
Progress Energy, Inc.	•		•	•	•	•	•	•	•	•	•	•	•			•	•	•
Duke Energy Progress, LLC	•		•	•	•	•	•		•	•	•	•	•			•	•	•
Duke Energy Florida, LLC	•		•	•	•	•	•		•	•	•	•	•			•	•	•
Duke Energy Ohio, Inc.	•	•	•	•	•	•	•	•	•	•	•	•	•			•	•	•
Duke Energy Indiana, LLC	•		•	•	•	•	•		•	•	•	•	•			•	•	•
Piedmont Natural Gas Company, Inc.	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•

Tables within the notes may not sum across due to (i) Progress Energy's consolidation of Duke Energy Progress, Duke Energy Florida and other subsidiaries that are not registrants, (ii) subsidiaries that are not registrants but included in the consolidated Duke Energy balances and (iii) the Piedmont registrant not included in the consolidated Duke Energy results for the three and nine months ended September 30, 2016, as Piedmont results were not consolidated by Duke Energy until after the acquisition date of October 3, 2016.

**1. ORGANIZATION AND BASIS OF PRESENTATION****NATURE OF OPERATIONS AND BASIS OF CONSOLIDATION**

Duke Energy Corporation (collectively with its subsidiaries, Duke Energy) is an energy company headquartered in Charlotte, North Carolina, subject to regulation by the Federal Energy Regulatory Commission (FERC). Duke Energy operates in the United States (U.S.) primarily through its direct and indirect subsidiaries. Certain Duke Energy subsidiaries are also subsidiary registrants, including Duke Energy Carolinas, LLC (Duke Energy Carolinas); Progress Energy, Inc. (Progress Energy); Duke Energy Progress, LLC (Duke Energy Progress); Duke Energy Florida, LLC (Duke Energy Florida); Duke Energy Ohio, Inc. (Duke Energy Ohio), Duke Energy Indiana, LLC (Duke Energy Indiana) and Piedmont Natural Gas Company, Inc. (Piedmont). When discussing Duke Energy's consolidated financial information, it necessarily includes the results of its separate subsidiary registrants (collectively referred to as the Subsidiary Registrants), which, along with Duke Energy, are collectively referred to as the Duke Energy Registrants.

On October 3, 2016, Duke Energy completed the acquisition of Piedmont. Piedmont's results of operations and cash flows are included in the accompanying condensed consolidated financial statements of Duke Energy for the three and nine months ended September 30, 2017, but not for the three and nine months ended September 30, 2016, as Piedmont's earnings and cash flows are only included in Duke Energy's consolidated results subsequent to the acquisition date. See Note 2 for additional information regarding the acquisition.

In December 2016, Duke Energy completed an exit of the Latin American market to focus on its domestic regulated business, which was further bolstered by the acquisition of Piedmont. The sale of the International Energy business segment, excluding an equity method investment in National Methanol Company (NMC), was completed through two transactions including a sale of assets in Brazil to China Three Gorges (Luxembourg) Energy S.à.r.l. (China Three Gorges) and a sale of Duke Energy's remaining Latin American assets in Peru, Chile, Ecuador, Guatemala, El Salvador and Argentina to ISQ Enerlam Aggregator, L.P. and Enerlam (UK) Holding Ltd. (I Squared Capital) (collectively, the International Disposal Group). See Note 2 for additional information on the sale of International Energy.

The results of operations of the International Disposal Group have been classified as Discontinued Operations on the Condensed Consolidated Statements of Operations. Duke Energy has elected to present cash flows of discontinued operations combined with cash flows of continuing operations. Unless otherwise noted, the notes to these Condensed Consolidated Financial Statements exclude amounts related to discontinued operations. See Note 2 for additional information.

These Condensed Consolidated Financial Statements include, after eliminating intercompany transactions and balances, the accounts of the Duke Energy Registrants and subsidiaries where the respective Duke Energy Registrants have control. These Condensed Consolidated Financial Statements also reflect the Duke Energy Registrants' proportionate share of certain jointly owned generation and transmission facilities. Substantially all of the Subsidiary Registrants' operations qualify for regulatory accounting.

Duke Energy Carolinas is a regulated public utility primarily engaged in the generation, transmission, distribution and sale of electricity in portions of North Carolina and South Carolina. Duke Energy Carolinas is subject to the regulatory provisions of the North Carolina Utilities Commission (NCUC), Public Service Commission of South Carolina (PSCSC), U.S. Nuclear Regulatory Commission (NRC) and FERC.

Progress Energy is a public utility holding company headquartered in Raleigh, North Carolina, subject to regulation by FERC. Progress Energy conducts operations through its wholly owned subsidiaries, Duke Energy Progress and Duke Energy Florida.

Duke Energy Progress is a regulated public utility primarily engaged in the generation, transmission, distribution and sale of electricity in portions of North Carolina and South Carolina. Duke Energy Progress is subject to the regulatory provisions of the NCUC, PSCSC, NRC and FERC.

Duke Energy Florida is a regulated public utility primarily engaged in the generation, transmission, distribution and sale of electricity in portions of Florida. Duke Energy Florida is subject to the regulatory provisions of the Florida Public Service Commission (FPSC), NRC and FERC.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

Duke Energy Ohio is a regulated public utility primarily engaged in the transmission and distribution of electricity in portions of Ohio and Kentucky, the generation and sale of electricity in portions of Kentucky and the transportation and sale of natural gas in portions of Ohio and Kentucky. Duke Energy Ohio conducts competitive auctions for retail electricity supply in Ohio whereby the energy price is recovered from retail customers and recorded in Operating Revenues on the Condensed Consolidated Statements of Operations and Comprehensive Income. Operations in Kentucky are conducted through its wholly owned subsidiary, Duke Energy Kentucky, Inc. (Duke Energy Kentucky). References herein to Duke Energy Ohio collectively include Duke Energy Ohio and its subsidiaries, unless otherwise noted. Duke Energy Ohio is subject to the regulatory provisions of the Public Utilities Commission of Ohio (PUCO), Kentucky Public Service Commission (KPSC) and FERC.

Duke Energy Indiana is a regulated public utility primarily engaged in the generation, transmission, distribution and sale of electricity in portions of Indiana. Duke Energy Indiana is subject to the regulatory provisions of the Indiana Utility Regulatory Commission (IURC) and FERC.

Piedmont is a regulated public utility primarily engaged in the distribution of natural gas in portions of North Carolina, South Carolina and Tennessee. Piedmont is subject to the regulatory provisions of the NCUC, PSCSC, Tennessee Public Utility Commission (formerly the Tennessee Regulatory Authority) (TPUC) and FERC.

**BASIS OF PRESENTATION**

These Condensed Consolidated Financial Statements have been prepared in accordance with generally accepted accounting principles (GAAP) in the U.S. for interim financial information and with the instructions to Form 10-Q and Regulation S-X. Accordingly, these Condensed Consolidated Financial Statements do not include all information and notes required by GAAP in the U.S. for annual financial statements. Since the interim Condensed Consolidated Financial Statements and Notes do not include all information and notes required by GAAP in the U.S. for annual financial statements, the Condensed Consolidated Financial Statements and other information included in this quarterly report should be read in conjunction with the Consolidated Financial Statements and Notes in the Duke Energy Registrants' combined Annual Report on Form 10-K for the year ended December 31, 2016, and the Consolidated Financial Statements and Notes in the Piedmont Annual Report on Form 10-K for the year ended October 31, 2016.

Effective November 1, 2016, Piedmont's fiscal year-end was changed from October 31 to December 31, the year-end of Duke Energy. A transition report was filed on Form 10-Q (Form 10-QT) as of December 31, 2016, for the transition period from November 1, 2016, to December 31, 2016.

The information in these combined notes relates to each of the Duke Energy Registrants as noted in the Index to Combined Notes to Condensed Consolidated Financial Statements. However, none of the registrants make any representations as to information related solely to Duke Energy or the subsidiaries of Duke Energy other than itself.

These Condensed Consolidated Financial Statements, in the opinion of the respective companies' management, reflect all normal recurring adjustments necessary to fairly present the financial position and results of operations of each of the Duke Energy Registrants. Amounts reported in Duke Energy's interim Condensed Consolidated Statements of Operations and each of the Subsidiary Registrants' interim Condensed Consolidated Statements of Operations and Comprehensive Income are not necessarily indicative of amounts expected for the respective annual periods due to effects of seasonal temperature variations on energy consumption, regulatory rulings, timing of maintenance on electric generating units, changes in mark-to-market valuations, changing commodity prices and other factors.

In preparing financial statements that conform to GAAP, management must make estimates and assumptions that affect the reported amounts of assets and liabilities, the reported amounts of revenues and expenses, and the disclosure of contingent assets and liabilities at the date of the financial statements. Actual results could differ from those estimates.

Certain prior year amounts have been reclassified to conform to the current year presentation.

**UNBILLED REVENUE**

Revenues on sales of electricity and natural gas are recognized when service is provided or the product is delivered. Unbilled revenues are recognized by applying customer billing rates to the estimated volumes of energy and natural gas delivered but not yet billed. Unbilled revenues can vary significantly from period to period as a result of seasonality, weather, customer usage patterns, customer mix, average price in effect for customer classes, timing of rendering customer bills, meter reading schedules, and the impact of weather normalization or margin decoupling mechanisms.

Unbilled revenues are included within Receivables and Receivables of variable interest entities (VIEs) on the Condensed Consolidated Balance Sheets as shown in the following table.

(in millions)	September 30, 2017	December 31, 2016
Duke Energy	\$ 771	\$ 831
Duke Energy Carolinas	307	313
Progress Energy	216	161
Duke Energy Progress	113	102
Duke Energy Florida	103	59
Duke Energy Ohio	2	2
Duke Energy Indiana	29	32
Piedmont	4	77



DUKE ENERGY CORPORATION – DUKE ENERGY CAROLINAS, LLC – PROGRESS ENERGY, INC. –  
DUKE ENERGY PROGRESS, LLC – DUKE ENERGY FLORIDA, LLC – DUKE ENERGY OHIO, INC. – DUKE ENERGY INDIANA, LLC –  
PIEDMONT NATURAL GAS COMPANY, INC.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

Additionally, Duke Energy Ohio and Duke Energy Indiana sell nearly all of their retail accounts receivable to an affiliate, Cinergy Receivables Company, LLC (CRC), on a revolving basis. These transfers of receivables are accounted for as sales and include receivables for unbilled revenues. Accordingly, the receivables sold are not reflected on the Condensed Consolidated Balance Sheets of Duke Energy Ohio and Duke Energy Indiana. See Note 13 for further information. These receivables for unbilled revenues are shown in the table below.

(in millions)	September 30, 2017	December 31, 2016
Duke Energy Ohio	\$ 70	\$ 97
Duke Energy Indiana	119	123

**AMOUNTS ATTRIBUTABLE TO CONTROLLING INTERESTS**

For the three and nine months ended September 30, 2017, the Loss from Discontinued Operations, net of tax on Duke Energy's Condensed Consolidated Statements of Operations is entirely attributable to controlling interests. The following table presents Net Income Attributable to Duke Energy Corporation for continuing operations and discontinued operations for the three and nine months ended September 30, 2016.

(in millions)	Three Months Ended September 30, 2016	Nine Months Ended September 30, 2016
Income from Continuing Operations	\$ 1,001	\$ 2,202
Income from Continuing Operations Attributable to Noncontrolling Interests	2	5
Income from Continuing Operations Attributable to Duke Energy Corporation	\$ 999	\$ 2,197
Income from Discontinued Operations, net of tax	\$ 180	\$ 190
Income from Discontinued Operations Attributable to Noncontrolling Interests, net of tax	3	8
Income from Discontinued Operations Attributable to Duke Energy Corporation, net of tax	\$ 177	\$ 182
Net Income	\$ 1,181	\$ 2,392
Net Income Attributable to Noncontrolling Interests	5	13
Net Income Attributable to Duke Energy Corporation	\$ 1,176	\$ 2,379

**INVENTORY**

Inventory is used for operations and is recorded primarily using the average cost method. Inventory related to regulated operations is valued at historical cost. Inventory related to nonregulated operations is valued at the lower of cost or market. Materials and supplies are recorded as inventory when purchased and subsequently charged to expense or capitalized to property, plant and equipment when installed. Inventory, including excess or obsolete inventory, is written-down to the lower of cost or market value. Once inventory has been written-down, it creates a new cost basis for the inventory that is not subsequently written-up. Provisions for inventory write-offs were not material at September 30, 2017, and December 31, 2016. The components of inventory are presented in the tables below.

(in millions)	September 30, 2017							
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont
Materials and supplies	\$ 2,335	\$ 767	\$ 1,132	\$ 780	\$ 351	\$ 83	\$ 312	\$ 2
Coal	581	197	231	130	101	17	136	—
Natural gas, oil and other fuel	349	36	221	108	114	39	2	51
Total inventory	\$ 3,265	\$ 1,000	\$ 1,584	\$ 1,018	\$ 566	\$ 139	\$ 450	\$ 53

(in millions)	December 31, 2016							
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont
Materials and supplies	\$ 2,374	\$ 767	\$ 1,167	\$ 813	\$ 354	\$ 84	\$ 312	\$ 1
Coal	774	251	314	148	166	19	190	—
Natural gas, oil and other fuel	374	37	236	115	121	34	2	65
Total inventory	\$ 3,522	\$ 1,055	\$ 1,717	\$ 1,076	\$ 641	\$ 137	\$ 504	\$ 66

**EXCISE TAXES**

Certain excise taxes levied by state or local governments are required to be paid even if not collected from the customer. These taxes are recognized on a gross basis. Otherwise, excise taxes are accounted for on a net basis.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

Excise taxes accounted for on a gross basis as both operating revenues and property and other taxes on the Condensed Consolidated Statements of Operations were as follows.

(in millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Duke Energy	\$ 107	\$ 107	\$ 289	\$ 285
Duke Energy Carolinas	9	6	27	21
Progress Energy	67	65	168	161
Duke Energy Progress	5	4	14	13
Duke Energy Florida	62	61	154	148
Duke Energy Ohio	24	26	75	77
Duke Energy Indiana	6	10	16	26
Piedmont	1	1	3	2

**NEW ACCOUNTING STANDARDS**

The new accounting standards adopted for 2017 and 2016 had no material impact on the presentation or results of operations, cash flows or financial position of the Duke Energy Registrants. While immaterial, adoption of the following accounting standards had the most significant impact on the Duke Energy results of operations, cash flows and financial position for the nine months ended September 30, 2017.

**Stock-Based Compensation and Income Taxes.** In first quarter 2017, Duke Energy adopted Financial Accounting Standards Board (FASB) guidance, which revised the accounting for stock-based compensation and the associated income taxes. The adopted guidance changes certain aspects of accounting for stock-based payment awards to employees including the accounting for income taxes and classification on the Condensed Consolidated Statements of Cash Flows. The primary impact to Duke Energy as a result of implementing this guidance was a cumulative-effect adjustment to retained earnings for tax benefits not previously recognized and additional income tax expense for the nine months ended September 30, 2017. See the Duke Energy Condensed Consolidated Statements of Changes in Equity for further information.

**Goodwill Impairment.** In January 2017, the FASB issued revised guidance for the subsequent measurement of goodwill. Under the guidance, a company will recognize an impairment to goodwill for the amount by which a reporting unit's carrying value exceeds the reporting unit's fair value, not to exceed the amount of goodwill allocated to that reporting unit. Duke Energy early adopted this guidance for the 2017 annual goodwill impairment test.

The following new Accounting Standards Updates (ASUs) have been issued, but have not yet been adopted by Duke Energy, as of September 30, 2017.

**Retirement Benefits.** In March 2017, the FASB issued revised accounting guidance for the presentation of net periodic costs related to benefit plans. Current GAAP permits the aggregation of all the components of net periodic costs on the income statement and does not require the disclosure of the location of net periodic costs on the Condensed Consolidated Statement of Operations. Under the amended guidance, the service cost component of net periodic costs must be included within Operating income within the same line as other compensation expenses. All other components of net periodic costs must be outside of Operating income. In addition, the updated guidance permits only the service cost component of net periodic costs to be capitalized to Inventory or Property, Plant and Equipment. This represents a change from current GAAP, which permits all components of net periodic costs to be capitalized. These amendments should be applied retrospectively for the presentation of the various components of net periodic costs and prospectively for the change in eligible costs to be capitalized. The guidance allows for a practical expedient that permits a company to use amounts disclosed in prior-period financial statements as the estimation basis for applying the retrospective presentation requirements.

For Duke Energy, this guidance is effective for interim and annual periods beginning January 1, 2018. Duke Energy currently presents the total non-capitalized net periodic costs within Operation, maintenance and other on the Condensed Consolidated Statement of Operations. The adoption of this guidance will result in a retrospective change to reclassify the presentation of the non-service cost (benefit) components of net periodic costs to Other income and expenses. Duke Energy intends to utilize the practical expedient for retrospective presentation. The change in net periodic costs eligible for capitalization is applicable prospectively. Since Duke Energy's service cost component is expected to be greater than the total net periodic costs, the change will result in increased capitalization of net periodic costs, higher Operation, maintenance and other and higher Other income and expenses. The resulting impact to Duke Energy is expected to be an immaterial increase in net income resulting from the limitation of eligible capitalization of net periodic costs to the service cost component, which is larger than the total net periodic costs.

**Revenue from Contracts with Customers.** In May 2014, the FASB issued revised accounting guidance for revenue recognition from contracts with customers. The core principle of this guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The amendments in this update also require disclosure of sufficient information to allow users to understand the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

Duke Energy has identified material revenue streams, which served as the basis for accounting analysis and documentation of the impact of this guidance on revenue recognition. The accounting analysis included reviewing representative contracts and tariffs for each material revenue stream. Most of Duke Energy's revenue is expected to be in scope of the new guidance. The majority of our sales, including energy provided to residential customers, are from tariff offerings that provide natural gas or electricity without a defined contractual term ("at-will"). For such arrangements, Duke Energy expects that the revenue from contracts with customers will be equivalent to the electricity or natural gas supplied and billed in that period (including estimated billings). As such, Duke Energy does not expect that there will be a significant shift in the timing or pattern of revenue recognition for such sales.

Also included in the accounting analysis was the evaluation of certain long-term revenue streams including electric wholesale contracts and renewables power purchase agreements (PPAs) under this guidance. For such arrangements, Duke Energy does not expect material changes to the pattern of revenue recognition on the registrants. In addition, the power and utilities industry revenue recognition task force released several draft positions on specific industry issues in October 2017 for public comment. Duke Energy has been working closely with the industry task force and will be reviewing these updated positions to evaluate the impact, if any, on Duke Energy's specific contracts and preliminary conclusions to date. The evaluation of other revenue streams is ongoing along with consideration of potential revisions to processes, policies and controls, primarily related to evaluating supplemental disclosures required as a result of adopting this guidance. Some revenue arrangements, such as alternative revenue programs and certain PPAs accounted for as leases, are excluded from the scope of this guidance and, therefore, will be accounted for and evaluated for separate presentation and disclosure under other relevant accounting guidance.

Duke Energy continues to evaluate what information would be most useful for users of the financial statements, including information already provided in disclosures outside of the financial statement footnotes. These additional disclosures could include the disaggregation of revenues by geographic location, type of service, customer class or by duration of contract ("at-will" versus contracted revenue).

Duke Energy intends to use the modified retrospective method of adoption effective January 1, 2018. Under the modified retrospective method of adoption, prior year reported results are not restated and a cumulative-effect adjustment, if applicable, is recorded to retained earnings as of January 1, 2018, as if the standard had always been in effect. In addition, disclosures, if applicable, include a comparison to what would have been reported for 2018 under the previous revenue recognition rules to assist financial statement users in understanding how revenue recognition has changed as a result of this standard and to facilitate comparability with prior year reported results, which are not restated under the modified retrospective approach as described above. Duke Energy also plans to utilize certain practical expedients including applying this guidance to open contracts at the date of adoption and recognizing revenues for certain contracts under the invoice practical expedient, which allows revenue recognition to be consistent with invoiced amounts (including estimated billings) provided certain criteria are met, including consideration of whether the invoiced amounts reasonably represent the value provided to customers. While the adoption of this guidance, including the cumulative-effect adjustment, is not expected to have a material impact on either the timing or amount of revenues recognized in Duke Energy's financial statements, Duke Energy anticipates additional disclosures around the nature, amount, timing and uncertainty of our revenues and cash flows arising from contracts with customers and will continue to evaluate the requirements, as well as any additional clarifying guidance that may be issued.

**Leases.** In February 2016, the FASB issued revised accounting guidance for leases. The core principle of this guidance is that a lessee should recognize the assets and liabilities that arise from leases on the balance sheet.

For Duke Energy, this guidance is effective for interim and annual periods beginning January 1, 2019, although it can be early adopted. The guidance is applied using a modified retrospective approach. Duke Energy is currently evaluating the financial statement impact of adopting this standard and is continuing to monitor industry implementation issues, including easements, pole attachments and renewable PPAs. Other than an expected increase in assets and liabilities, the ultimate impact of the new standard has not yet been determined. Significant system enhancements, including additional processes and controls, may be required to facilitate the identification, tracking and reporting of potential leases based upon requirements of the new lease standard.

**Statement of Cash Flows.** In November 2016, the FASB issued revised accounting guidance to reduce diversity in practice for the presentation and classification of restricted cash on the statement of cash flows. Under the updated guidance, restricted cash and restricted cash equivalents will be included within beginning-of-period and end-of-period cash and cash equivalents on the statement of cash flows.

For Duke Energy, this guidance is effective for the interim and annual periods beginning January 1, 2018. The guidance will be applied using a retrospective transition method to each period presented. Upon adoption by Duke Energy, the revised guidance will result in a change to the amount of cash and cash equivalents and restricted cash explained when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. Prior to adoption, the Duke Energy Registrants reflect changes in non-current restricted cash within Cash Flows from Investing Activities and changes in current restricted cash within Cash Flows from Operating Activities on the Condensed Consolidated Statement of Cash Flows.

**Financial Instruments Classification and Measurement.** In January 2016, the FASB issued revised accounting guidance for the classification and measurement of financial instruments. Changes in the fair value of all equity securities will be required to be recorded in net income. Current GAAP allows some changes in fair value for available-for-sale equity securities to be recorded in Accumulated other comprehensive income (AOCI). Additional disclosures will be required to present separately the financial assets and financial liabilities by measurement category and form of financial asset. An entity's equity investments that are accounted for under the equity method of accounting are not included within the scope of the new guidance.

For Duke Energy, the revised accounting guidance is effective for interim and annual periods beginning January 1, 2018, by recording a cumulative-effect adjustment to retained earnings as of January 1, 2018. This guidance is expected to have minimal impact on the Duke Energy Registrant's Condensed Consolidated Statements of Operations and Comprehensive Income as changes in the fair value of most of the Duke Energy Registrants' available-for-sale equity securities are deferred as regulatory assets or liabilities pursuant to accounting guidance for regulated operations.

**2. ACQUISITIONS AND DISPOSITIONS****ACQUISITIONS**

The Duke Energy Registrants consolidate assets and liabilities from acquisitions as of the purchase date and include earnings from acquisitions in consolidated earnings after the purchase date.

**2016 Acquisition of Piedmont Natural Gas**

On October 3, 2016, Duke Energy acquired all outstanding common stock of Piedmont for a total cash purchase price of \$5.0 billion and assumed Piedmont's existing long-term debt, which had a fair value of approximately \$2.0 billion at the time of the acquisition. The acquisition provides a foundation for Duke Energy to establish a broader, long-term strategic natural gas infrastructure platform to complement its existing natural gas pipeline investments and regulated natural gas business in the Midwest. In connection with the closing of the acquisition, Piedmont became a wholly owned subsidiary of Duke Energy.

**Purchase Price Allocation**

The purchase price allocation of the Piedmont acquisition is as follows:

<b>(in millions)</b>	
Current assets	\$ 497
Property, plant and equipment, net	4,714
Goodwill	3,353
Other long-term assets	804
<b>Total assets</b>	<b>9,368</b>
Current liabilities, including current maturities of long-term debt	576
Long-term liabilities	1,790
Long-term debt	2,002
<b>Total liabilities</b>	<b>4,368</b>
<b>Total purchase price</b>	<b>\$ 5,000</b>

The fair value of Piedmont's assets and liabilities was determined based on significant estimates and assumptions that are judgmental in nature, including the amount and timing of projected future cash flows, discount rates reflecting risk inherent in the future cash flows and market prices of long-term debt.

The majority of Piedmont's operations are subject to the rate-setting authority of the NCUC, the PSCSC and the TPUC and are accounted for pursuant to accounting guidance for regulated operations. The rate-setting and cost recovery provisions currently in place for Piedmont's regulated operations provide revenues derived from costs, including a return on investment of assets and liabilities included in rate base. Thus, the fair value of Piedmont's assets and liabilities subject to these rate-setting provisions approximates the pre-acquisition carrying value and does not reflect any net valuation adjustments.

The significant assets and liabilities for which valuation adjustments were reflected within the purchase price allocation include the acquired equity method investments and long-term debt. The difference between the fair value and the pre-acquisition carrying value of long-term debt for regulated operations was recorded as a regulatory asset.

The excess of the purchase price over the fair value of Piedmont's assets and liabilities on the acquisition date was recorded as goodwill. The goodwill reflects the value paid by Duke Energy primarily for establishing a broader, long-term strategic natural gas infrastructure growth platform, an improved risk profile and expected synergies resulting from the combined entities.

Under Securities and Exchange Commission (SEC) regulations, Duke Energy elected not to apply push down accounting to the stand-alone Piedmont financial statements.

**Other Acquisition-Related Matters**

Duke Energy recorded realized losses on forward-starting interest rate swaps related to the acquisition financing of \$22 million and \$190 million for the three and nine months ended September 30, 2016, respectively. See Note 10 for additional information.

During the nine months ended September 30, 2017, Piedmont recorded a \$7 million software impairment resulting from planned accounting system and process integration.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)****Pro Forma Financial Information**

The following unaudited pro forma financial information reflects the combined results of operations of Duke Energy and Piedmont as if the merger had occurred as of January 1, 2016. The pro forma financial information excludes potential cost savings, intercompany revenues, Piedmont's earnings from the equity method investment in SouthStar Energy Services, LLC (SouthStar) sold immediately prior to the merger, and after-tax nonrecurring transaction and integration costs incurred by Duke Energy and Piedmont of \$41 million and \$161 million for the three and nine months ended September 30, 2016, respectively. See Note 3 for additional information on Piedmont's sale of SouthStar.

This information has been presented for illustrative purposes only and is not necessarily indicative of the consolidated results of operations that would have been achieved or the future consolidated results of operations of Duke Energy.

(in millions)	Three Months Ended September 30, 2016	Nine Months Ended September 30, 2016
Operating Revenues	\$ 6,713	\$ 17,927
Net Income Attributable to Duke Energy Corporation	1,180	2,552

**DISPOSITIONS****2016 Sale of International Energy**

In December 2016, Duke Energy sold its International Energy businesses, excluding the equity method investment in NMC (the International Disposal Group), in two separate transactions. Duke Energy sold its Brazilian business to China Three Gorges for approximately \$1.2 billion, including the assumption of debt, and its remaining Central and South American businesses to I Squared Capital in a deal also valued at approximately \$1.2 billion, including the assumption of debt. The transactions generated cash proceeds of \$1.9 billion, excluding transaction costs, which were primarily used to reduce Duke Energy holding company debt.

The following table presents the results of the International Disposal Group, which are included in (Loss) Income from Discontinued Operations, net of tax in Duke Energy's Condensed Consolidated Statements of Operations. Interest expense directly associated with the International Disposal Group was allocated to discontinued operations. No interest from corporate level debt was allocated to discontinued operations.

(in millions)	Three Months Ended September 30, 2016	Nine Months Ended September 30, 2016
Operating Revenues	\$ 245	\$ 761
Fuel used in electric generation and purchased power	60	177
Cost of natural gas	11	34
Operation, maintenance and other	85	240
Depreciation and amortization	18	62
Property and other taxes	1	6
Impairment charges <sup>(a)</sup>	—	194
Loss on Sales of Other Assets and Other, net	(3)	(2)
Other Income and Expenses, net	14	35
Interest Expense	19	63
Income before income taxes	62	18
Income tax expense (benefit) <sup>(b)</sup>	4	(48)
Income from discontinued operations of the International Disposal Group	58	66
Income from discontinued operations of other businesses <sup>(c)</sup>	122	124
Income from Discontinued Operations, net of tax	\$ 180	\$ 190

- (a) In conjunction with the advancements of marketing efforts during 2016, Duke Energy performed recoverability tests of the long-lived asset groups of International Energy. As a result, Duke Energy determined the carrying value of certain assets in Central America was not fully recoverable and recorded a pretax impairment charge of \$194 million. The charge represents the excess carrying value over the estimated fair value of the assets, which was based on a Level 3 Fair Value measurement that was primarily determined from the income approach using discounted cash flows but also considered market information obtained in 2016.
- (b) Includes an income tax benefit of \$95 million for the nine months ended September 30, 2016, related to historical undistributed foreign earnings. See Note 17 for additional information.
- (c) Duke Energy recognized an income tax benefit of \$122 million resulting from immaterial out of period deferred tax liability adjustments for the three and nine months ended September 30, 2016. The amount includes \$34 million recorded at Duke Energy Ohio.

DUKE ENERGY CORPORATION – DUKE ENERGY CAROLINAS, LLC – PROGRESS ENERGY, INC. –  
DUKE ENERGY PROGRESS, LLC – DUKE ENERGY FLORIDA, LLC – DUKE ENERGY OHIO, INC. – DUKE ENERGY INDIANA, LLC –  
PIEDMONT NATURAL GAS COMPANY, INC.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

Duke Energy has elected not to separately disclose discontinued operations on the Condensed Consolidated Statements of Cash Flows. The following table summarizes Duke Energy's cash flows from discontinued operations related to the International Disposal Group.

(in millions)	Nine Months Ended September 30, 2016
<b>Cash flows provided by (used in):</b>	
Operating activities	\$ 201
Investing activities	(35)

**Other Sale-Related Matters**

During 2017, Duke Energy provided certain transition services to China Three Gorges and I Squared Capital. Cash flows related to providing the transition services were not material and as of September 30, 2017, all transition services related to the International Disposal Group ended. Additionally, Duke Energy will reimburse China Three Gorges and I Squared Capital for all tax obligations arising from the period preceding consummation on the transactions, totaling approximately \$78 million. Duke Energy has not recorded any other liabilities, contingent liabilities or indemnifications related to the International Disposal Group.

**3. BUSINESS SEGMENTS**

Operating segments are determined based on information used by the chief operating decision-maker in deciding how to allocate resources and evaluate the performance of the business. Duke Energy evaluates segment performance based on segment income. Segment income is defined as income from continuing operations net of income attributable to noncontrolling interests. Segment income includes intercompany revenues and expenses that are eliminated on the Condensed Consolidated Financial Statements.

**Duke Energy**

Due to the Piedmont acquisition and the sale of International Energy in the fourth quarter of 2016, Duke Energy's segment structure was realigned to include the following segments: Electric Utilities and Infrastructure, Gas Utilities and Infrastructure and Commercial Renewables. Prior period information has been recast to conform to the current segment structure. See Note 2 for further information on the Piedmont and International Energy transactions.

The Electric Utilities and Infrastructure segment includes Duke Energy's regulated electric utilities in the Carolinas, Florida and the Midwest. The regulated electric utilities conduct operations through the Subsidiary Registrants that are substantially all regulated and, accordingly, qualify for regulatory accounting treatment. Electric Utilities and Infrastructure also includes Duke Energy's electric transmission infrastructure investments.

The Gas Utilities and Infrastructure segment includes Piedmont, Duke Energy's natural gas local distribution companies in Ohio and Kentucky, and Duke Energy's natural gas storage and midstream pipeline investments. Gas Utilities and Infrastructure's operations are substantially all regulated and, accordingly, qualify for regulatory accounting treatment.

Commercial Renewables is primarily comprised of nonregulated utility scale wind and solar generation assets located throughout the U.S.

The remainder of Duke Energy's operations is presented as Other, which is primarily comprised of corporate interest expense, unallocated corporate costs, contributions to the Duke Energy Foundation and the operations of Duke Energy's wholly owned captive insurance subsidiary, Bison Insurance Company Limited (Bison). Other also includes Duke Energy's 25 percent interest in NMC, a large regional producer of methyl tertiary butyl ether (MTBE) located in Saudi Arabia. In October 2017, Duke Energy's economic ownership interest in NMC decreased from 25 percent to 17.5 percent. The investment in NMC is accounted for under the equity method of accounting.

Business segment information is presented in the following tables. Segment assets presented exclude intercompany assets.

(in millions)	Three Months Ended September 30, 2017						
	Electric Utilities and Infrastructure	Gas Utilities and Infrastructure	Commercial Renewables	Total Reportable Segments	Other	Eliminations	Consolidated
Unaffiliated revenues	\$ 6,122	\$ 249	\$ 95	\$ 6,466	\$ 16	\$ —	\$ 6,482
Intersegment revenues	7	23	—	30	19	(49)	—
Total revenues	\$ 6,129	\$ 272	\$ 95	\$ 6,496	\$ 35	\$ (49)	\$ 6,482
Segment income (loss) <sup>(a)(b)(c)</sup>	\$ 1,020	\$ 19	\$ (49)	\$ 990	\$ (34)	\$ —	\$ 956
Add back noncontrolling interests							1
Loss from discontinued operations, net of tax							(2)
Net income							\$ 955
Segment assets	\$ 118,323	\$ 11,361	\$ 4,216	\$ 133,900	\$ 2,240	\$ 185	\$ 136,325



DUKE ENERGY CORPORATION – DUKE ENERGY CAROLINAS, LLC – PROGRESS ENERGY, INC. –  
DUKE ENERGY PROGRESS, LLC – DUKE ENERGY FLORIDA, LLC – DUKE ENERGY OHIO, INC. – DUKE ENERGY INDIANA, LLC –  
PIEDMONT NATURAL GAS COMPANY, INC.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

Three Months Ended September 30, 2016							
(in millions)	Electric Utilities and Infrastructure	Gas Utilities and Infrastructure	Commercial Renewables	Total Reportable Segments	Other	Eliminations	Consolidated
Unaffiliated revenues	\$ 6,332	\$ 89	\$ 139	\$ 6,560	\$ 16	\$ —	\$ 6,576
Intersegment revenues	8	—	—	8	16	(24)	—
<b>Total revenues</b>	<b>\$ 6,340</b>	<b>\$ 89</b>	<b>\$ 139</b>	<b>\$ 6,568</b>	<b>\$ 32</b>	<b>\$ (24)</b>	<b>\$ 6,576</b>
Segment income (loss) <sup>(a)(c)</sup>	\$ 1,189	\$ 15	\$ (24)	\$ 1,180	\$ (181)	\$ —	\$ 999
Add back noncontrolling interests							2
Income from discontinued operations, net of tax <sup>(d)</sup>							180
<b>Net income</b>							<b>\$ 1,181</b>

Nine Months Ended September 30, 2017							
(in millions)	Electric Utilities and Infrastructure	Gas Utilities and Infrastructure	Commercial Renewables	Total Reportable Segments	Other	Eliminations	Consolidated
Unaffiliated revenues	\$ 16,211	\$ 1,175	\$ 333	\$ 17,719	\$ 47	\$ —	\$ 17,766
Intersegment revenues	23	68	—	91	56	(147)	—
<b>Total revenues</b>	<b>\$ 16,234</b>	<b>\$ 1,243</b>	<b>\$ 333</b>	<b>\$ 17,810</b>	<b>\$ 103</b>	<b>\$ (147)</b>	<b>\$ 17,766</b>
Segment income (loss) <sup>(a)(b)(c)</sup>	\$ 2,384	\$ 179	\$ 2	\$ 2,565	\$ (205)	\$ —	\$ 2,360
Add back noncontrolling interests							5
Loss from discontinued operations, net of tax							(4)
<b>Net income</b>							<b>\$ 2,361</b>

Nine Months Ended September 30, 2016							
(in millions)	Electric Utilities and Infrastructure	Gas Utilities and Infrastructure	Commercial Renewables	Total Reportable Segments	Other	Eliminations	Consolidated
Unaffiliated revenues	\$ 16,406	\$ 355	\$ 365	\$ 17,126	\$ 40	\$ —	\$ 17,166
Intersegment revenues	24	3	—	27	51	(78)	—
<b>Total revenues</b>	<b>\$ 16,430</b>	<b>\$ 358</b>	<b>\$ 365</b>	<b>\$ 17,153</b>	<b>\$ 91</b>	<b>\$ (78)</b>	<b>\$ 17,166</b>
Segment income (loss) <sup>(a)(c)</sup>	\$ 2,557	\$ 63	\$ 13	\$ 2,633	\$ (436)	\$ —	\$ 2,197
Add back noncontrolling interests							5
Income from discontinued operations, net of tax <sup>(d)</sup>							190
<b>Net income</b>							<b>\$ 2,392</b>

- (a) Other includes costs to achieve the Piedmont acquisition. See Notes 2 and 10 for additional information.
- (b) For the three and nine months ended September 30, 2017, Electric Utilities and Infrastructure includes an impairment charge related to the Florida settlement agreement. See Note 4 for additional information.
- (c) Commercial Renewables includes impairment charges related to certain wind projects. See discussion below.
- (d) For the three and nine months ended September 30, 2016, Income from Discontinued Operations includes an income tax benefit resulting from immaterial out of period deferred tax liability adjustments. See Note 2 for additional information.

During the three and nine months ended September 30, 2017, Duke Energy recorded a pretax impairment charge of \$69 million on a wholly owned non-contracted wind project. The impairment was recorded within Impairment charges on Duke Energy's Condensed Consolidated Statements of Operations. The charge represents the excess carrying value over the estimated fair value of the project, which was based on a Level 3 Fair Value measurement that was determined from the income approach using discounted cash flows. The impairment was primarily due to the non-contracted wind project being located in a market that has experienced declining market pricing during 2017 and declining long-term forecasted energy and capacity prices, driven by low natural gas prices, additional renewable generation placed in service and lack of significant load growth.

During the three and nine months ended September 30, 2016, Duke Energy recorded an other than temporary impairment (OTTI) of certain Commercial Renewables wind project investments accounted for under the equity method. The \$71 million pretax impairment was recorded within Equity in earnings (losses) of unconsolidated affiliates on Duke Energy's Condensed Consolidated Statements of Operations. The other than temporary decline in value of these investments was primarily attributable to a sustained decline in market pricing where the wind investments are located, the continued projected net losses for the projects and a reduction in the projected cash distributions to the class of investment owned by Duke Energy.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)****Duke Energy Ohio**

Duke Energy Ohio has two reportable operating segments, Electric Utilities and Infrastructure and Gas Utilities and Infrastructure.

Electric Utilities and Infrastructure transmits and distributes electricity in portions of Ohio and generates, distributes and sells electricity in portions of Northern Kentucky. Gas Utilities and Infrastructure transports and sells natural gas in portions of Ohio and Northern Kentucky. It conducts operations primarily through Duke Energy Ohio and its wholly owned subsidiary, Duke Energy Kentucky.

The remainder of Duke Energy Ohio's operations is presented as Other, which is primarily comprised of governance costs allocated by its parent, Duke Energy, and revenues and expenses related to Duke Energy Ohio's contractual arrangement to buy power from the Ohio Valley Electric Corporation's (OVEC) power plants. See Note 9 for additional information on related party transactions.

(in millions)	Three Months Ended September 30, 2017				
	Electric Utilities and Infrastructure	Gas Utilities and Infrastructure	Total Reportable Segments	Other	Consolidated
Total revenues	\$ 371	\$ 90	\$ 461	\$ 10	\$ 471
Segment income (loss)	50	14	64	(8)	56
Loss from discontinued operations, net of tax					(1)
Net income					55
Segment assets	\$ 5,006	\$ 2,708	\$ 7,714	\$ 51	\$ 7,765

(in millions)	Three Months Ended September 30, 2016				
	Electric Utilities and Infrastructure	Gas Utilities and Infrastructure	Total Reportable Segments	Other	Consolidated
Total revenues	\$ 390	\$ 89	\$ 479	\$ 10	\$ 489
Segment income (loss)	52	12	64	(9)	55
Income from discontinued operations, net of tax <sup>(a)</sup>					34
Net income					\$ 89

(in millions)	Nine Months Ended September 30, 2017				
	Electric Utilities and Infrastructure	Gas Utilities and Infrastructure	Total Reportable Segments	Other	Consolidated
Total revenues	\$ 1,036	\$ 360	\$ 1,396	\$ 30	\$ 1,426
Segment income (loss)	96	56	152	(24)	128
Loss from discontinued operations, net of tax					(1)
Net income					\$ 127

(in millions)	Nine Months Ended September 30, 2016				
	Electric Utilities and Infrastructure	Gas Utilities and Infrastructure	Total Reportable Segments	Other	Consolidated
Total revenues	\$ 1,053	\$ 358	\$ 1,411	\$ 22	\$ 1,433
Segment income (loss)	107	57	164	(29)	135
Income from discontinued operations, net of tax <sup>(a)</sup>					36
Net income					\$ 171

(a) For the three and nine months ended September 30, 2016, Income from Discontinued Operations includes an income tax benefit resulting from immaterial out of period deferred tax liability adjustments. See Note 2 for additional information.

**DUKE ENERGY CAROLINAS, PROGRESS ENERGY, DUKE ENERGY PROGRESS, DUKE ENERGY FLORIDA, DUKE ENERGY INDIANA AND Piedmont**

Piedmont has one reportable segment, Gas Utilities and Infrastructure, which transports and sells natural gas. The remainder of Piedmont's operations is presented as Other, which is comprised of certain unallocated corporate costs, including acquisition-related expenses, and earnings from Piedmont's equity method investment in SouthStar prior to its sale. Piedmont sold its 15 percent membership interest in SouthStar on October 3, 2016. Piedmont's income, net of tax, from SouthStar for the three and nine months ended September 30, 2016, was \$2 million and \$12 million, respectively.



**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

The remaining Subsidiary Registrants each have one reportable operating segment, Electric Utilities and Infrastructure, which generates, transmits, distributes and sells electricity. The remainder of each company's operations is presented as Other, which is comprised of certain unallocated corporate costs. Other for Progress Energy also includes interest expense on corporate debt instruments of \$56 million and \$167 million for the three and nine months ended September 30, 2017, respectively, and \$55 million and \$166 million for the three and nine months ended September 30, 2016, respectively. The following table summarizes the net (loss) income of Other for each of these entities.

(in millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Duke Energy Carolinas	\$ (6)	\$ (16)	\$ (18)	\$ (50)
Progress Energy	(32)	(45)	(120)	(139)
Duke Energy Progress	(4)	(10)	(11)	(26)
Duke Energy Florida	(2)	(5)	(7)	(14)
Duke Energy Indiana	(2)	(3)	(5)	(10)
Piedmont	(5)	—	(18)	7

The assets at Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Florida and Duke Energy Indiana are substantially all included within the Electric Utilities and Infrastructure segment at September 30, 2017. The assets at Piedmont are substantially all included within the Gas Utilities and Infrastructure segment at September 30, 2017.

**4. REGULATORY MATTERS****RATE-RELATED INFORMATION**

The NCUC, PSCSC, FPSC, IURC, PUCO, TPUC and KPSC approve rates for retail electric and natural gas services within their states. The FERC approves rates for electric sales to wholesale customers served under cost-based rates (excluding Ohio and Indiana), as well as sales of transmission service. The FERC also regulates certification and siting of new interstate natural gas pipeline projects.

**Duke Energy Carolinas and Duke Energy Progress****Ash Basin Closure Costs Deferral**

On December 30, 2016, Duke Energy Carolinas and Duke Energy Progress filed a joint petition with the NCUC seeking an accounting order authorizing deferral of certain costs incurred in connection with federal and state environmental remediation requirements related to the permanent closure of ash basins and other ash storage units at coal-fired generating facilities that have provided or are providing generation to customers located in North Carolina. Initial comments were received in March 2017, and reply comments were filed on April 19, 2017. The NCUC has consolidated Duke Energy Carolinas' and Duke Energy Progress' coal ash deferral requests into their respective general rate case dockets for decision. See "2017 North Carolina Rate Case" sections below for additional discussion. Duke Energy Carolinas and Duke Energy Progress cannot predict the outcome of this matter.

**Duke Energy Carolinas****2017 North Carolina Rate Case**

On August 25, 2017, Duke Energy Carolinas filed an application with the NCUC for a rate increase for retail customers of approximately \$647 million, which represents an approximate 13.6 percent increase in annual base revenues. The rate increase is driven by capital investments subsequent to the previous base rate case, including grid improvement projects, investments in customer service technologies, costs of complying with coal combustion residuals (CCR) regulations and the North Carolina Coal Ash Management Act of 2014 (Coal Ash Act) and recovery of costs related to licensing and development of the William States Lee III Nuclear Station (Lee Nuclear Station) discussed below. An evidentiary hearing is scheduled to begin on February 19, 2018. Duke Energy Carolinas cannot predict the outcome of this matter.

**Lincoln County Combustion Turbine Addition**

On June 12, 2017, Duke Energy Carolinas filed an application with the NCUC for a Certificate of Public Convenience and Necessity (CPCN) to construct and operate a new 402-megawatt (MW) simple cycle advanced combustion turbine natural gas-fueled electric generating unit at its existing Lincoln County site. The request also included construction of related transmission and natural gas pipeline interconnection facilities. If approved, construction would begin in 2018 with an extended commissioning and validation period from 2020-2024 and an estimated commercial operation date in 2024. An evidentiary hearing was held in August 2017. Briefs and proposed orders were filed on October 9, 2017. A decision is expected by the end of 2017. Duke Energy Carolinas cannot predict the outcome of this matter.

***William States Lee Combined Cycle Facility***

On April 9, 2014, the PSCSC granted Duke Energy Carolinas and North Carolina Electric Membership Corporation (NCEMC) a Certificate of Environmental Compatibility and Public Convenience and Necessity (CEPCN) for the construction and operation of a 750-MW combined-cycle natural gas-fired generating plant at Duke Energy Carolinas' existing William States Lee Generating Station in Anderson, South Carolina. Duke Energy Carolinas began construction in July 2015 and estimates a cost to build of \$600 million for its share of the facility, including allowance for funds used during construction (AFUDC). The project is expected to be commercially available in late 2017. NCEMC will own approximately 13 percent of the project. On July 3, 2014, the South Carolina Coastal Conservation League (SCCL) and Southern Alliance for Clean Energy (SACE) jointly filed a Notice of Appeal with the Court of Appeals of South Carolina (S.C. Court of Appeals) seeking the court's review of the PSCSC's decision, claiming the PSCSC did not properly consider a request related to a proposed solar facility prior to granting approval of the CEPCN. The S.C. Court of Appeals affirmed the PSCSC's decision on February 10, 2016, and on March 24, 2016, denied a request for rehearing filed by SCCL and SACE. On April 21, 2016, SCCL and SACE petitioned the South Carolina Supreme Court for review of the S.C. Court of Appeals decision. On March 24, 2017, the South Carolina Supreme Court denied the request for review, thus concluding the matter.

***Lee Nuclear Station***

In December 2007, Duke Energy Carolinas applied to the NRC for combined operating licenses (COLs) for two Westinghouse Electric Company (Westinghouse) AP1000 reactors for the proposed Lee Nuclear Station to be located at a site in Cherokee County, South Carolina. The NCUC and PSCSC concurred with the prudence of Duke Energy Carolinas decisions to incur certain project development and preconstruction costs through several separately issued orders through 2011, although full cost recovery is not guaranteed. In December 2016, the NRC issued a COL for each reactor. Duke Energy Carolinas is not required to build the nuclear reactors as a result of the COLs being issued.

On March 29, 2017, Westinghouse filed for voluntary Chapter 11 bankruptcy in the U.S. Bankruptcy Court for the Southern District of New York. On May 15, 2017, the NCUC issued an order requiring Duke Energy Carolinas to provide information regarding potential impacts of the Westinghouse bankruptcy on the Lee Nuclear Station, as well as Duke Energy Carolinas' plans for cost recovery and additional financial information regarding the project. As part of its 2017 North Carolina Rate Case discussed above, Duke Energy Carolinas is seeking NCUC approval to cancel the development of the Lee Nuclear Station project due to the Westinghouse bankruptcy filing and other market activity and is requesting recovery of incurred licensing and development costs. Duke Energy Carolinas will maintain the license issued by the NRC in December 2016. Duke Energy Carolinas cannot predict the outcome of this matter.

***Duke Energy Progress******2017 North Carolina Rate Case***

On June 1, 2017, Duke Energy Progress filed an application with the NCUC for a rate increase for retail customers of approximately \$477 million, which represents an approximate 14.9 percent increase in annual base revenues. The rate increase is driven by capital investments subsequent to the previous base rate case, costs of complying with CCR regulations and the Coal Ash Act, costs relating to storm recovery, investments in customer service technologies and recovery of costs associated with renewable purchased power. Intervenors in the case filed testimony in October 2017 and Duke Energy Progress' responses are due November 6, 2017. An evidentiary hearing is scheduled to begin November 20, 2017. Duke Energy Progress cannot predict the outcome of this matter.

***Storm Cost Deferral Filing***

On December 16, 2016, Duke Energy Progress filed a petition with the NCUC requesting an accounting order to defer certain costs incurred in connection with response to Hurricane Matthew and other significant storms in 2016. The final estimate of incremental operation and maintenance and capital costs of \$116 million was filed with the NCUC in September 2017. On March 15, 2017, the NCUC Public Staff filed comments supporting deferral of a portion of Duke Energy Progress' requested amount. Duke Energy Progress filed reply comments on April 12, 2017. On July 10, 2017, the NCUC consolidated Duke Energy Progress' storm deferral request into the Duke Energy Progress rate case docket for decision. See "2017 North Carolina Rate Case" for additional discussion. Duke Energy Progress cannot predict the outcome of this matter.

***Western Carolinas Modernization Plan***

On November 4, 2015, Duke Energy Progress announced a Western Carolinas Modernization Plan, which included retirement of the existing Asheville coal-fired plant, the construction of two 280-MW combined-cycle natural gas plants having dual fuel capability, with the option to build a third natural gas simple cycle unit in 2023 based upon the outcome of initiatives to reduce the region's power demand. The plan also included upgrades to existing transmission lines and substations, installation of solar generation and a pilot battery storage project. These investments will be made within the next seven years. Duke Energy Progress is also working with the local natural gas distribution company to upgrade an existing natural gas pipeline to serve the natural gas plant.

On March 28, 2016, the NCUC issued an order approving a CPCN for the new combined-cycle natural gas plants, but denying the CPCN for the contingent simple cycle unit without prejudice to Duke Energy Progress to refile for approval in the future. On March 28, 2017, Duke Energy Progress filed an annual progress report for the construction of the combined-cycle plants with the NCUC, with an estimated cost of \$893 million. Site preparation activities for the combined-cycle plants are underway and construction of these plants is scheduled to begin in 2017, with an expected in-service date in late 2019. Duke Energy Progress plans to file for future approvals related to the proposed solar generation and pilot battery storage project.

The carrying value of the 376-MW Asheville coal-fired plant, including associated ash basin closure costs, of \$405 million and \$492 million is included in Generation facilities to be retired, net on Duke Energy Progress' Condensed Consolidated Balance Sheets as of September 30, 2017, and December 31, 2016, respectively.

**Duke Energy Florida*****Hurricane Irma Storm Damage***

In September 2017, all of Duke Energy Florida's service territory was impacted by Hurricane Irma, which caused significant damage, resulting in approximately 1.3 million customers experiencing outages. Total storm restoration costs, including capital, are currently estimated at approximately \$500 million. These estimates could change as Duke Energy Florida receives additional information on actual costs. After depleting any existing storm reserves, which were approximately \$60 million before Hurricane Irma, Duke Energy Florida is permitted to petition the FPSC for recovery of additional incremental operation and maintenance costs resulting from the storm and to replenish the storm reserve to approximately \$132 million for retail customers. Duke Energy Florida plans to make this petition by the end of 2017. At September 30, 2017, Duke Energy Florida's Condensed Consolidated Balance Sheets included approximately \$400 million of recoverable costs under the FPSC's storm rule in Regulatory assets within Other Noncurrent Assets related to deferred Hurricane Irma storm costs. This amount is in addition to the storm reserve replenishment discussed above as part of Duke Energy Florida's petition to the FPSC.

***2017 Second Revised and Restated Settlement Agreement***

On October 25, 2017, the FPSC approved a 2017 Second Revised and Restated Settlement Agreement (2017 Settlement) filed by Duke Energy Florida. The 2017 Settlement replaces and supplants the Revised and Restated Stipulation and Settlement Agreement approved in November 2013 (2013 Settlement). The 2017 Settlement extends the base rate case stay-out provision from the 2013 Settlement through the end of 2021 unless actual or projected return on equity falls below 9.5 percent; however, Duke Energy Florida is allowed a multiyear increase to its base rates of \$67 million per year in 2019, 2020 and 2021, as well as base rate increases for solar generation. In addition to carrying forward the provisions contained in the 2013 Settlement related to the Crystal River 1 and 2 coal units and future generation needs in Florida, the 2017 Settlement contains provisions related to future investments in solar and renewable energy technology, future investments in AMI technology as well as recovery of existing meters, impacts of potential tax reform, an electric vehicle charging station pilot program, as well as the termination of the proposed Levy Nuclear Project discussed below. As part of the 2017 Settlement, Duke Energy Florida will not move forward with building the Levy nuclear plant and recorded an pretax impairment charge of approximately \$135 million in third quarter 2017 to write off all unrecovered Levy Nuclear Project costs, including the COL.

The 2017 Settlement includes provisions to recover 2017 under-recovered fuel costs of approximately \$196 million over a 24-month period beginning in January 2018. On September 1, 2017, Duke Energy Florida submitted Alternate 2018 Fuel and Capacity clause projection filings consistent with the terms of the 2017 Settlement. The updated capacity filing reflects the removal of all Levy costs. The FPSC approved Duke Energy Florida's 2018 Alternate projection filings on October 25, 2017. A final order is expected by the end of 2017.

***Levy Nuclear Project***

On July 28, 2008, Duke Energy Florida applied to the NRC for COLs for two Westinghouse AP1000 reactors at Levy (Levy Nuclear Project). In 2008, the FPSC granted Duke Energy Florida's petition for an affirmative Determination of Need and related orders requesting cost recovery under Florida's nuclear cost-recovery rule, together with the associated facilities, including transmission lines and substation facilities. In October 2016, the NRC issued COLs for the proposed Levy Nuclear Plant Units 1 and 2. Duke Energy Florida is not required to build the nuclear reactors as a result of the COLs being issued.

On January 28, 2014, Duke Energy Florida terminated the Levy engineering, procurement and construction agreement (EPC). Duke Energy Florida may be required to pay for work performed under the EPC. Duke Energy Florida recorded an exit obligation in 2014 for the termination of the EPC. This liability was recorded within Other in Other Noncurrent Liabilities with an offset primarily to Regulatory assets on the Condensed Consolidated Balance Sheets. Duke Energy Florida is allowed to recover reasonable and prudent EPC cancellation costs from its retail customers. On May 1, 2017, Duke Energy Florida filed a request with the FPSC to recover approximately \$82 million of Levy Nuclear Project costs from retail customers in 2018. As part of the 2017 Settlement discussed above, Duke Energy Florida is no longer seeking recovery of costs related to the Levy Nuclear Project and the ongoing Westinghouse litigation discussed in Note 5. All remaining Levy Nuclear Project issues have been resolved.

***Hines Chiller Uprate Project***

On February 2, 2017, Duke Energy Florida filed a petition seeking approval to include in base rates the revenue requirement for a Chiller Uprate Project (Uprate Project) at the Hines Energy Complex. The Uprate Project was placed into service in March 2017 at a cost of approximately \$150 million. The annual retail revenue requirement is approximately \$19 million. On March 28, 2017, the FPSC issued an order approving the revenue requirement, which was included in base rates for the first billing cycle of April 2017.

**Duke Energy Ohio*****Duke Energy Kentucky Rate Case***

On September 1, 2017, Duke Energy Kentucky filed a rate case with the KPSC requesting an increase in electric base rates of approximately \$49 million, which represents an approximate 15 percent increase on the average customer bill. The rate increase is driven by increased investment in utility plant, increased operations and maintenance expenses, and recovery of regulatory assets. The application also includes implementation of the Environmental Surcharge Mechanism to recover environmental costs not recovered in base rates, requests to establish a Distribution Capital Investment Rider to recover incremental costs of specific programs, requests to establish a FERC Transmission Cost Reconciliation Rider to recover escalating transmission costs and modification to the Profit Sharing Mechanism to increase customers' share of proceeds from the benefits of owning generation and to mitigate shareholder risks associated with that generation. The KPSC set filing deadlines of December 29, 2017, and February 14, 2018, for intervenor testimony and rebuttal testimony, respectively. An evidentiary hearing has not been scheduled. Duke Energy Kentucky anticipates that rates will go into effect in mid-April 2018. Duke Energy Kentucky cannot predict the outcome of this matter.

***Electric Security Plan Filing***

On June 1, 2017, Duke Energy Ohio filed with the PUCO a request for a standard service offer in the form of an electric security plan (ESP). If approved by the PUCO, the term of the ESP would be from June 1, 2018, to May 31, 2024. Terms of the ESP include continuation of market-based customer rates through competitive procurement processes for generation, continuation and expansion of existing rider mechanisms and proposed new rider mechanisms relating to regulatory mandates, costs incurred to enhance the customer experience and transform the grid and a service reliability rider for vegetation management. Public hearings were held in October 2017 and an evidentiary hearing scheduled to begin on November 13, 2017, has been continued to November 28, 2017. Duke Energy Ohio cannot predict the outcome of this matter.

***Woodsdale Station Fuel System Filing***

On June 9, 2015, the FERC ruled in favor of PJM Interconnection, LLC (PJM) on a revised Tariff and Reliability Assurance Agreement including implementation of a Capacity Performance (CP) proposal and to amend sections of the Operating Agreement related to generation non-performance. The CP proposal includes performance-based penalties for non-compliance. Duke Energy Kentucky is a Fixed Resource Requirement (FRR) entity, and therefore is subject to the compliance standards through its FRR plans. A partial CP obligation will apply to Duke Energy Kentucky in the delivery year beginning June 1, 2019, with full compliance beginning June 1, 2020. Duke Energy Kentucky has developed strategies for CP compliance investments. On May 31, 2017, Duke Energy Kentucky filed an application with the KPSC requesting authority to construct an ultra-low sulfur diesel backup fuel system for the Woodsdale Station. The back-up fuel system is projected to cost approximately \$55 million and, if approved, is anticipated to be in service prior to the CP compliance deadline of April 2019. Duke Energy Kentucky cannot predict the outcome of this matter.

***Ohio Valley Electric Corporation***

On March 31, 2017, Duke Energy Ohio filed for approval to adjust its existing price stabilization rider (Rider PSR), which is currently set at zero dollars, to pass through net costs related to its contractual entitlement to capacity and energy from the generating assets owned by OVEC. The filing seeks to adjust Rider PSR for OVEC costs subsequent to April 1, 2017. Duke Energy Ohio is seeking deferral authority for net costs incurred from April 1, 2017, until the new rates under Rider PSR are put into effect. Various intervenors have filed motions to dismiss or stay the proceeding and Duke Energy Ohio has opposed these filings. See Note 13 for additional discussion of Duke Energy Ohio's ownership interest in OVEC. Duke Energy Ohio cannot predict the outcome of this matter.

***East Bend Coal Ash Basin Filing***

On December 2, 2016, Duke Energy Kentucky filed with the KPSC a request for a CPCN for construction projects necessary to close and repurpose an ash basin at the East Bend facility as a result of current and proposed U.S. Environmental Protection Agency (EPA) regulations. Duke Energy Kentucky estimated a total cost of approximately \$93 million in the filing and expects in-service date in the fourth quarter of 2018. On June 6, 2017, the KPSC approved the CPCN request.

***Base Rate Case***

Duke Energy Ohio filed with the PUCO an electric distribution base rate case application and supporting testimony in March 2017. Duke Energy Ohio has requested an estimated annual increase of approximately \$15 million and a return on equity of 10.4 percent. The application also includes requests to continue certain current riders and establish new riders related to LED Outdoor Lighting Service and regulatory mandates. On September 26, 2017, the PUCO staff filed a report recommending a revenue decrease between approximately \$18 million and \$29 million and a return on equity between 9.22 percent and 10.24 percent. Objections to the staff report are due by November 9, 2017. Public hearings were held in late October and early November. An evidentiary hearing is scheduled to begin on December 11, 2017. Duke Energy Ohio cannot predict the outcome of this matter.

***Natural Gas Pipeline Extension***

Duke Energy Ohio is proposing to install a new natural gas pipeline in its Ohio service territory to increase system reliability and enable the retirement of older infrastructure. On January 20, 2017, Duke Energy Ohio filed an amended application with the Ohio Power Siting Board for approval of one of two proposed routes. A public hearing was held on June 15, 2017, and an adjudicatory hearing was scheduled to begin September 11, 2017. On August 24, 2017, an administrative law judge (ALJ) granted a request made by Duke Energy Ohio to delay the procedural schedule while it works through various issues related to the pipeline route. If approved, construction of the pipeline extension is expected to be completed before the 2020/2021 winter season. The proposed project involves the installation of a natural gas line and is estimated to cost approximately \$110 million, excluding AFUDC.

***Advanced Metering Infrastructure***

On April 25, 2016, Duke Energy Kentucky filed with the KPSC an application for approval of a CPCN for the construction of advanced metering infrastructure. Duke Energy Kentucky estimates the \$49 million project will take two years to complete. Duke Energy Kentucky also requested approval to establish a regulatory asset for the remaining book value of existing meter equipment and inventory to be replaced. Duke Energy Kentucky and the Kentucky attorney general entered into a stipulation to settle matters related to the application. On May 25, 2017, the KPSC issued an order to approve the stipulation with certain modifications. On June 1, 2017, Duke Energy Kentucky filed its acceptance of the modifications. Duke Energy Ohio has approximately \$7 million included in Regulatory assets on its Condensed Consolidated Balance Sheets at September 30, 2017, for the book value of existing meter equipment.

***Accelerated Natural Gas Service Line Replacement Rider***

On January 20, 2015, Duke Energy Ohio filed an application for approval of an accelerated natural gas service line replacement program (ASRP). Under the ASRP, Duke Energy Ohio proposed to replace certain natural gas service lines on an accelerated basis over a 10-year period. Duke Energy Ohio also proposed to complete preliminary survey and investigation work related to natural gas service lines that are customer owned and for which it does not have valid records and, further, to relocate interior natural gas meters to suitable exterior locations where such relocation can be accomplished. Duke Energy Ohio's projected total capital and operations and maintenance expenditures under the ASRP were approximately \$240 million. The filing also sought approval of a rider mechanism (Rider ASRP) to recover related expenditures. Duke Energy Ohio proposed to update Rider ASRP on an annual basis. Intervenor's opposed the ASRP, primarily because they believe the program is neither required nor necessary under federal pipeline regulation. On October 26, 2016, the PUCO issued an order denying the proposed ASRP. Duke Energy Ohio's application for rehearing of the PUCO decision was denied on May 17, 2017.

***Energy Efficiency Cost Recovery***

On March 28, 2014, Duke Energy Ohio filed an application for recovery of program costs, lost distribution revenue and performance incentives related to its energy efficiency and peak demand reduction programs. These programs are undertaken to comply with environmental mandates set forth in Ohio law. The PUCO approved Duke Energy Ohio's application but found that Duke Energy Ohio was not permitted to use banked energy savings from previous years in order to calculate the amount of allowed incentive. This conclusion represented a change to the cost recovery mechanism that had been agreed upon by intervenors and approved by the PUCO in previous cases. The PUCO granted the applications for rehearing filed by Duke Energy Ohio and an intervenor. On January 6, 2016, Duke Energy Ohio and the PUCO Staff entered into a stipulation, pending the PUCO's approval, to resolve issues related to performance incentives and the PUCO Staff audit of 2013 costs, among other issues. In December 2015, based upon the stipulation, Duke Energy Ohio re-established approximately \$20 million of the revenues that had been previously reversed. On October 26, 2016, the PUCO issued an order approving the stipulation without modification. Intervenor's requested a rehearing of the PUCO decision. In December 2016, the PUCO granted a rehearing for the purpose of further review. Duke Energy Ohio cannot predict the outcome of this matter.

On June 15, 2016, Duke Energy Ohio filed an application for approval of a three-year energy efficiency and peak demand reduction portfolio of programs. A stipulation and modified stipulation were filed on December 22, 2016, and January 27, 2017, respectively. Under the terms of the stipulations, which included support for deferral authority of all costs and a cap on shared savings incentives, Duke Energy Ohio has offered its energy efficiency and peak demand reduction programs throughout 2017. On February 3, 2017, Duke Energy Ohio filed for deferral authority of its costs incurred in 2017 in respect of its proposed energy efficiency and peak demand reduction portfolio. The PUCO staff and one intervenor have proposed a cap on both program costs and shared savings. On September 27, 2017, the PUCO issued an order approving a modified stipulation. The modifications impose an annual cap of approximately \$38 million on program costs and shared savings incentives combined, but allowed for Duke Energy Ohio to file for a waiver of costs in excess of the cap in 2017. On October 12, 2017, Duke Energy Ohio filed a motion for a waiver for recovery of costs incurred in 2017 above the annual cap. Duke Energy Ohio cannot predict the outcome of this matter.

***2012 Natural Gas Rate Case/Manufactured Gas Plant Cost Recovery***

On November 13, 2013, the PUCO issued an order approving a settlement of Duke Energy Ohio's natural gas base rate case and authorizing the recovery of costs incurred between 2008 and 2012 for environmental investigation and remediation of two former manufactured gas plant (MGP) sites. The PUCO order also authorized Duke Energy Ohio to continue deferring MGP environmental investigation and remediation costs incurred subsequent to 2012 and to submit annual filings to adjust the MGP rider for future costs. Intervenor's parties appealed this decision to the Ohio Supreme Court and on June 29, 2017, the Ohio Supreme Court issued its decision affirming the PUCO order. Appellants filed a request for reconsideration, which was denied on September 27, 2017. This matter is now final.

The PUCO order also contained deadlines for completing the MGP environmental investigation and remediation costs at the MGP sites. For the property known as the East End site, the PUCO order established a deadline of December 31, 2016, which was subsequently extended to December 31, 2019. In January 2017, intervenor's parties filed for rehearing of the PUCO's decision. On February 8, 2017, the PUCO denied the rehearing request. As of September 30, 2017, Duke Energy Ohio had approximately \$36 million included in Regulatory assets on the Condensed Consolidated Balance Sheets for future remediation costs expected to be incurred at the East End site.

***Regional Transmission Organization Realignment***

Duke Energy Ohio, including Duke Energy Kentucky, transferred control of its transmission assets from Midcontinent Independent System Operator, Inc. (MISO) to PJM, effective December 31, 2011. The PUCO approved a settlement related to Duke Energy Ohio's recovery of certain costs of the Regional Transmission Organization (RTO) realignment via a non-bypassable rider. Duke Energy Ohio is allowed to recover all MISO Transmission Expansion Planning (MTEP) costs, including but not limited to Multi Value Project (MVP) costs, directly or indirectly charged to Ohio customers. Duke Energy Ohio also agreed to vigorously defend against any charges for MVP projects from MISO. The KPSC also approved a request to effect the RTO realignment, subject to a commitment not to seek double recovery in a future rate case of the transmission expansion fees that may be charged by MISO and PJM in the same period or overlapping periods.

Duke Energy Ohio had a recorded liability for its exit obligation and share of MTEP costs, excluding MVP, of \$90 million at September 30, 2017, and December 31, 2016, recorded within Other in Current liabilities and Other in Other Noncurrent Liabilities on the Condensed Consolidated Balance Sheets. The retail portions of MTEP costs billed by MISO are recovered by Duke Energy Ohio through a non-bypassable rider. As of September 30, 2017, and December 31, 2016, Duke Energy Ohio had \$71 million recorded in Regulatory assets on the Condensed Consolidated Balance Sheets.

**MVP.** MISO approved 17 MVP proposals prior to Duke Energy Ohio's exit from MISO on December 31, 2011. Construction of these projects is expected to continue through 2020. Costs of these projects, including operating and maintenance costs, property and income taxes, depreciation and an allowed return, are allocated and billed to MISO transmission owners.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

On December 29, 2011, MISO filed a tariff with the FERC providing for the allocation of MVP costs to a withdrawing owner based on monthly energy usage. The FERC set for hearing (i) whether MISO's proposed cost allocation methodology to transmission owners who withdrew from MISO prior to January 1, 2012, is consistent with the tariff at the time of their withdrawal from MISO and, (ii) if not, what the amount of and methodology for calculating any MVP cost responsibility should be. In 2012, MISO estimated Duke Energy Ohio's MVP obligation over the period from 2012 to 2071 at \$2.7 billion, on an undiscounted basis. On July 16, 2013, a FERC ALJ issued an initial decision. Under this Initial Decision, Duke Energy Ohio would be liable for MVP costs. Duke Energy Ohio filed exceptions to the initial decision, requesting FERC to overturn the ALJ's decision.

On October 29, 2015, the FERC issued an order reversing the ALJ's decision. The FERC ruled the cost allocation methodology is not consistent with the MISO tariff and that Duke Energy Ohio has no liability for MVP costs after its withdrawal from MISO. On May 19, 2016, the FERC denied the request for rehearing filed by MISO and the MISO Transmission Owners. On July 15, 2016, the MISO Transmission Owners filed a petition for review with the U.S. Court of Appeals for the Sixth Circuit. On June 21, 2017, a three-judge panel affirmed FERC's 2015 decision holding that Duke Energy Ohio has no liability for the cost of the MVP projects constructed after Duke Energy Ohio's withdrawal from MISO. MISO did not file further petitions for review and this matter is now final.

**Duke Energy Indiana*****Coal Combustion Residual Plan***

On March 17, 2016, Duke Energy Indiana filed with the IURC a request for approval of its first group of federally mandated CCR rule compliance projects (Phase I CCR Compliance Projects) to comply with the EPA's CCR rule. The projects in this Phase I filing are CCR compliance projects, including the conversion of Cayuga and Gibson stations to dry bottom ash handling and related water treatment. Duke Energy Indiana has requested timely recovery of approximately \$380 million in retail capital costs, including AFUDC, and recovery of incremental operating and maintenance costs under a federal mandate tracker that provides for timely recovery of 80 percent of such costs and deferral with carrying costs of 20 percent of such costs for recovery in a subsequent retail base rate case. On January 24, 2017, Duke Energy Indiana and various intervenors filed a settlement agreement with the IURC. Terms of the settlement include recovery of 60 percent of the estimated CCR compliance construction project capital costs through existing rider mechanisms and deferral of 40 percent of these costs until Duke Energy Indiana's next general retail rate case. The deferred costs will earn a return based on Duke Energy Indiana's long-term debt rate of 4.73 percent until costs are included in retail rates, at which time the deferred costs will earn a full return. Costs are to be capped at \$365 million, plus actual AFUDC. Costs above the cap would be considered for recovery in the next rate case. Terms of the settlement agreement also require Duke Energy Indiana to perform certain reporting and groundwater monitoring. An evidentiary hearing was held on February 23, 2017, and Duke Energy Indiana filed a proposed order with the IURC on March 30, 2017. On May 24, 2017, the IURC approved the settlement agreement.

***FERC Transmission Return on Equity Complaints***

Customer groups have filed with the FERC complaints against MISO and its transmission-owning members, including Duke Energy Indiana, alleging, among other things, that the current base rate of return on equity earned by MISO transmission owners of 12.38 percent is unjust and unreasonable. The complaints, among other things, claim that the current base rate of return on equity earned by MISO transmission owners should be reduced to 8.67 percent. On January 5, 2015, the FERC issued an order accepting the MISO transmission owners' adder of 0.50 percent to the base rate of return on equity based on participation in an RTO subject to it being applied to a return on equity that is shown to be just and reasonable in the pending return on equity complaints. On December 22, 2015, the presiding FERC ALJ in the first complaint issued an Initial Decision in which the base rate of return on equity was set at 10.32 percent. On September 28, 2016, the Initial Decision in the first complaint was affirmed by FERC, but is subject to rehearing requests. On June 30, 2016, the presiding FERC ALJ in the second complaint issued an Initial Decision setting the base rate of return on equity at 9.70 percent. The Initial Decision in the second complaint is pending FERC review. On April 14, 2017, the U.S. Court of Appeals for the District of Columbia Circuit, in *Emera Maine v. FERC*, reversed and remanded certain aspects of the methodology employed by FERC to establish rates of return on equity. This decision may affect the outcome of the complaints against Duke Energy Indiana. Duke Energy Indiana currently believes these matters will not have a material impact on its results of operations, cash flows and financial position.

***Grid Infrastructure Improvement Plan***

In June 2016, the IURC issued an order approving a settlement agreement among Duke Energy Indiana and certain parties related to a proposed grid infrastructure improvement plan. The settlement agreement included the removal of an AMI project and also provided for deferral accounting for depreciation and post-in-service carrying costs for AMI projects outside the plan. Duke Energy Indiana withdrew its request for a regulatory asset for current meters and will retain any savings associated with future AMI installation until the next retail base rate case, which is required to be filed prior to the end of the plan. During the third quarter of 2016, Duke Energy Indiana decided to implement the AMI project. This decision resulted in a pretax impairment charge related to existing or non-AMI meters of approximately \$8 million for the three and nine months ended September 30, 2016, based in part on the requirement to file a base rate case in 2022 under the approved plan. As of September 30, 2017, Duke Energy Indiana's remaining net book value of non-AMI meters is approximately \$43 million and will be depreciated through 2022. In the event that Duke Energy Indiana were to file a base rate case earlier than 2022, it would result in additional impairment charges.

***Benton County Wind Farm Dispute***

On December 16, 2013, Benton County Wind Farm LLC (BCWF) filed a lawsuit against Duke Energy Indiana seeking damages for past generation losses totaling approximately \$16 million alleging Duke Energy Indiana violated its obligations under a 2006 PPA by refusing to offer electricity to the market at negative prices. Damage claims continue to increase during times that BCWF is not dispatched. Under 2013 revised MISO market rules, Duke Energy Indiana is required to make a price offer to MISO for the power it proposes to sell into MISO markets and MISO determines whether BCWF is dispatched. Because market prices would have been negative due to increased market participation, Duke Energy Indiana determined it would not bid at negative prices in order to balance customer needs against BCWF's need to run. BCWF contends Duke Energy Indiana must bid at the lowest negative price to ensure dispatch, while Duke Energy Indiana contends it is not obligated to bid at any particular price, that it cannot ensure dispatch with any bid and that it has reasonably balanced the parties' interests. On July 6, 2015, the U.S. District Court for the Southern District of Indiana entered judgment against BCWF on all claims. BCWF appealed the decision and on December 9, 2016, the appeals court ruled in favor of BCWF. On June 30, 2017, the parties finalized a settlement agreement. Terms of the settlement included Duke Energy Indiana paying \$29 million for back damages. Additionally, the parties agreed on the method by which the contract will be bid into the market in the future. Duke Energy Indiana recorded an obligation and a regulatory asset related to the settlement amount in fourth quarter 2016. The settlement amount was paid in June 2017. The IURC issued an order on September 27, 2017, approving recovery of the settlement amount through Duke Energy Indiana's fuel clause. The IURC order has been appealed to the Indiana Court of Appeals. Duke Energy Indiana cannot predict the outcome of this matter.

**Piedmont*****South Carolina Rate Stabilization Adjustment Filing***

In June 2017, Piedmont filed with the PSCSC under the South Carolina Rate Stabilization Act its quarterly monitoring report for the 12-month period ending March 31, 2017. The filing included a revenue deficiency calculation and tariff rates in order to permit Piedmont the opportunity to earn the rate of return on equity of 12.6 percent established in its last general rate case. On October 4, 2017, the PSCSC approved a settlement agreement between Piedmont and the PSCSC Office of Regulatory Staff. Terms of the settlement included implementation of rates for the 12-month period beginning November 2017 with a return on equity of 10.2 percent.

***North Carolina Integrity Management Rider Filings***

In October 2017, Piedmont filed a petition under the Integrity Management Rider (IMR) mechanism to collect an additional \$8.9 million in annual revenues, effective December 2017, based on the eligible capital investments closed to integrity and safety projects over the six-month period ending September 30, 2017. Piedmont cannot predict the outcome of this matter.

In May 2017, Piedmont filed, and the NCUC approved, a petition under the IMR mechanism to collect an additional \$11.6 million in annual revenues, effective June 2017, based on the eligible capital investments closed to integrity and safety projects over the six-month period ending March 31, 2017.

**OTHER REGULATORY MATTERS*****Atlantic Coast Pipeline, LLC***

On September 2, 2014, Duke Energy, Dominion Resources (Dominion), Piedmont and Southern Company Gas announced the formation of Atlantic Coast Pipeline, LLC (ACP) to build and own the proposed Atlantic Coast Pipeline (ACP pipeline), an approximately 600-mile interstate natural gas pipeline running from West Virginia to North Carolina. The ACP pipeline is designed to meet the needs identified by Duke Energy Carolinas, Duke Energy Progress and Piedmont. The ACP pipeline development costs are estimated between \$5.0 billion to \$5.5 billion, excluding financing costs. Dominion will build and operate the ACP pipeline and holds a leading ownership percentage in ACP of 48 percent. Duke Energy owns a 47 percent interest through its Gas Utilities and Infrastructure segment. Southern Company Gas maintains a 5 percent interest. See Note 13 for additional information related to Duke Energy's ownership interest.

Duke Energy Carolinas, Duke Energy Progress and Piedmont, among others, will be customers of the pipeline. Purchases will be made under several 20-year supply contracts, subject to state regulatory approval. On September 18, 2015, ACP filed an application with the FERC requesting a CPCN authorizing ACP to construct the pipeline. ACP executed a construction agreement in September 2016. ACP also requested approval of an open access tariff and the precedent agreements it entered into with future pipeline customers. In December 2016, FERC issued a draft Environmental Impact Statement (EIS) indicating that the proposed pipeline would not cause significant harm to the environment or protected populations. The FERC issued the final EIS in July 2017. On October 13, 2017, FERC issued an order approving the CPCN, subject to conditions. On October 16, 2017, ACP accepted the FERC order subject to reserving its right to file a request for rehearing or clarification on a timely basis. Construction is projected to begin in the fourth quarter of 2017, with a targeted in-service date in late 2019. The project remains subject to other pending federal and state approvals.

***Sabal Trail Transmission, LLC***

On May 4, 2015, Duke Energy acquired a 7.5 percent ownership interest in Sabal Trail Transmission, LLC (Sabal Trail) from Spectra Energy Partners, LP, a master limited partnership, formed by Enbridge Inc. (formerly Spectra Energy Corp.). Spectra Energy Partners, LP holds a 50 percent ownership interest in Sabal Trail and NextEra Energy has a 42.5 percent ownership interest. Sabal Trail is a joint venture to construct a 515-mile natural gas pipeline (Sabal Trail pipeline) to transport natural gas to Florida. Total estimated project costs are approximately \$3.2 billion. The Sabal Trail pipeline traverses Alabama, Georgia and Florida. The primary customers of the Sabal Trail pipeline, Duke Energy Florida and Florida Power & Light Company (FP&L), have each contracted to buy pipeline capacity for 25-year initial terms. See Note 13 for additional information related to Duke Energy's ownership interest.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

On February 3, 2016, the FERC issued an order granting the request for a CPCN to construct and operate the pipeline. On September 7, 2016, FERC denied the intervenors' rehearing requests. On September 21, 2016, intervenors filed an appeal of FERC's CPCN orders to the U.S. Court of Appeals for the District of Columbia Circuit. On August 22, 2017, the appeals court ruled against FERC in the case for failing to include enough information on the impact of greenhouse-gas emissions carried by the pipeline and vacated the CPCN order. In response to the August 2017 court decision, the FERC issued a draft Supplemental Environmental Impact Statement (SEIS) on September 27, 2017. Comments on the SEIS are due by November 20, 2017. On October 6, 2017, FERC filed a petition with the D.C. Circuit Court of Appeals requesting a rehearing regarding the court's decision to vacate the CPCN order. On October 6, 2017, Sabal Trail and other natural gas shippers, including Duke Energy Florida, also filed a rehearing request with the D.C. Circuit Court of Appeals regarding the decision to vacate the CPCN order. It is unclear how this matter will impact the project going forward. The Sabal Trail pipeline has received other required regulatory approvals and the phase one mainline was placed in service in July 2017. On October 12, 2017, Sabal Trail filed a request with FERC to place in-service a lateral line to Duke Energy Florida's Citrus County Combined Cycle facility.

**Constitution Pipeline Company, LLC**

Duke Energy has a 24 percent ownership interest in Constitution Pipeline Company, LLC (Constitution). Constitution is a natural gas pipeline project slated to transport natural gas supplies from the Marcellus supply region in northern Pennsylvania to major northeastern markets. The pipeline will be constructed and operated by Williams Partners L.P., which has a 41 percent ownership share. The remaining interest is held by Cabot Oil and Gas Corporation and WGL Holdings, Inc. Duke Energy's total anticipated contributions are approximately \$229 million.

On April 22, 2016, the New York State Department of Environmental Conservation (NYSDEC) denied Constitution's application for a necessary water quality certification for the New York portion of the Constitution pipeline. Constitution filed legal actions in the U.S. Court of Appeals for the Second Circuit (U.S. Court of Appeals) challenging the legality and appropriateness of the NYSDEC's decision and on August 18, 2017, the petition was denied in part and dismissed in part. On September 1, 2017, Constitution filed a petition for a rehearing of portions of the decision unrelated to the water quality certification, which was denied by the U.S. Court of Appeals. On October 11, 2017, Constitution filed a petition for declaratory order with the FERC requesting FERC to issue an order finding the NYSDEC waived its rights to issue a water quality certification by not acting on Constitution's application within the time frame required by statute, which would allow the project to proceed. Constitution has revised the target in-service date to as early as the first half of 2019 due to the NYSDEC's denial of the water quality certification and the legal actions being taken to challenge the decision, assuming the timely receipt of a Notice to Proceed from the FERC. Duke Energy cannot predict the outcome of this matter.

Since April 2016, with the actions of the NYSDEC, Constitution stopped construction and discontinued capitalization of future development costs until the project's uncertainty is resolved. To the extent the legal and regulatory proceedings have unfavorable outcomes, or if Constitution concludes that the project is not viable or does not go forward, an impairment charge of up to the recorded investment in the project, net of any cash and working capital returned, may be recorded.

See Note 13 for additional information related to ownership interest and carrying value of the investment.

**Potential Coal Plant Retirements**

The Subsidiary Registrants periodically file Integrated Resource Plans (IRP) with their state regulatory commissions. The IRPs provide a view of forecasted energy needs over a long term (10 to 20 years) and options being considered to meet those needs. Recent IRPs filed by the Subsidiary Registrants included planning assumptions to potentially retire certain coal-fired generating facilities in North Carolina, Florida and Indiana earlier than their current estimated useful lives primarily because facilities do not have the requisite emission control equipment to meet EPA regulations recently approved or proposed.

The table below contains the net carrying value of generating facilities planned for retirement or included in recent IRPs as evaluated for potential retirement. Dollar amounts in the table below are included in Net property, plant and equipment on the Condensed Consolidated Balance Sheets as of September 30, 2017, and exclude capitalized asset retirement costs.

	Capacity (in MW)	Remaining Net Book Value (in millions)
Duke Energy Carolinas		
Allen Steam Station Units 1-3 <sup>(a)</sup>	585	\$ 164
Progress Energy and Duke Energy Florida		
Crystal River Units 1 and 2 <sup>(b)</sup>	873	111
Duke Energy Indiana		
Gallagher Units 2 and 4 <sup>(c)</sup>	280	130
<b>Total Duke Energy</b>	<b>1,738</b>	<b>\$ 405</b>

- (a) Duke Energy Carolinas will retire Allen Steam Station Units 1 through 3 by December 31, 2024, as part of the resolution of a lawsuit involving alleged New Source Review violations.
- (b) Duke Energy Florida will likely retire these coal units by 2018 to comply with environmental regulations.
- (c) Duke Energy Indiana committed to either retire or stop burning coal at Gallagher Units 2 and 4 by December 31, 2022, as part of the settlement of Edwardsport IGCC matters.

Refer to the "Western Carolinas Modernization Plan" discussion above for details of Duke Energy Progress' planned retirements.



**5. COMMITMENTS AND CONTINGENCIES****ENVIRONMENTAL**

The Duke Energy Registrants are subject to federal, state and local regulations regarding air and water quality, hazardous and solid waste disposal and other environmental matters. These regulations can be changed from time to time, imposing new obligations on the Duke Energy Registrants. The following environmental matters impact all of the Duke Energy Registrants.

**Remediation Activities**

In addition to asset retirement obligations (ARO) recorded as a result of various environmental regulations, the Duke Energy Registrants are responsible for environmental remediation at various sites. These include certain properties that are part of ongoing operations and sites formerly owned or used by Duke Energy entities. These sites are in various stages of investigation, remediation and monitoring. Managed in conjunction with relevant federal, state and local agencies, remediation activities vary based upon site conditions and location, remediation requirements, complexity and sharing of responsibility. If remediation activities involve joint and several liability provisions, strict liability, or cost recovery or contribution actions, the Duke Energy Registrants could potentially be held responsible for environmental impacts caused by other potentially responsible parties and may also benefit from insurance policies or contractual indemnities that cover some or all cleanup costs. Liabilities are recorded when losses become probable and are reasonably estimable. The total costs that may be incurred cannot be estimated because the extent of environmental impact, allocation among potentially responsible parties, remediation alternatives and/or regulatory decisions have not yet been determined at all sites. Additional costs associated with remediation activities are likely to be incurred in the future and could be significant. Costs are typically expensed as Operation, maintenance and other on the Condensed Consolidated Statements of Operations unless regulatory recovery of the costs is deemed probable.

The following tables contain information regarding reserves for probable and estimable costs related to the various environmental sites. These reserves are recorded in Accounts Payable within Current Liabilities and Other within Other Noncurrent Liabilities on the Condensed Consolidated Balance Sheets.

(in millions)	Nine Months Ended September 30, 2017							
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont
	Balance at beginning of period	\$ 98	\$ 10	\$ 18	\$ 3	\$ 14	\$ 59	\$ 10
Provisions/adjustments	(1)	2	1	—	1	(3)	(2)	1
Cash reductions	(13)	(2)	(3)	—	(3)	(7)	(1)	—
Balance at end of period	\$ 84	\$ 10	\$ 16	\$ 3	\$ 12	\$ 49	\$ 7	\$ 2

(in millions)	Nine Months Ended September 30, 2016							
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont
	Balance at beginning of period	\$ 94	\$ 10	\$ 17	\$ 3	\$ 14	\$ 54	\$ 12
Provisions/adjustments	34	5	5	2	3	6	20	—
Cash reductions	(12)	(4)	(6)	(2)	(4)	(1)	(2)	—
Balance at end of period	\$ 116	\$ 11	\$ 16	\$ 3	\$ 13	\$ 59	\$ 30	\$ 1

Additional losses in excess of recorded reserves that could be incurred for the stages of investigation, remediation and monitoring for environmental sites that have been evaluated at this time are not material except as presented in the table below.

(in millions)	
Duke Energy	\$ 58
Duke Energy Carolinas	20
Duke Energy Ohio	30
Duke Energy Indiana	3
Piedmont	2

**North Carolina and South Carolina Ash Basins**

In February 2014, a break in a stormwater pipe beneath an ash basin at Duke Energy Carolinas' retired Dan River Steam Station caused a release of ash basin water and ash into the Dan River. Duke Energy Carolinas estimates 30,000 to 39,000 tons of ash and 24 million to 27 million gallons of basin water were released into the river. In July 2014, Duke Energy completed remediation work identified by the EPA. Future costs related to the Dan River release, including future civil enforcement, future regulatory directives, natural resources damages, future claims or litigation and long-term environmental impact costs, cannot be reasonably estimated at this time.

The North Carolina Department of Environmental Quality (NCDEQ) has historically assessed Duke Energy Carolinas and Duke Energy Progress with Notices of Violations (NOV) for violations that were most often resolved through satisfactory corrective actions and minor, if any, fines or penalties. Subsequent to the Dan River ash release, Duke Energy Carolinas and Duke Energy Progress have been served with a higher level of NOVs, including assessed penalties for violations at L.V. Sutton Combined Cycle Plant (Sutton) and Dan River Steam Station. Duke Energy Carolinas and Duke Energy Progress cannot predict whether the NCDEQ will assess future penalties related to existing unresolved NOVs and if such penalties would be material. See "NCDEQ Notices of Violation" section below for additional discussion.

**LITIGATION****Duke Energy**

Duke Energy no longer has exposure to litigation matters related to the International Disposal Group as a result of the divestiture of the business in December 2016. See Note 2 for additional information related to the sale of International Energy.

**Ash Basin Shareholder Derivative Litigation**

Five shareholder derivative lawsuits were filed in Delaware Chancery Court related to the release at Dan River and to the management of Duke Energy's ash basins. On October 31, 2014, the five lawsuits were consolidated in a single proceeding titled *In Re Duke Energy Corporation Coal Ash Derivative Litigation*. On December 2, 2014, plaintiffs filed a Corrected Verified Consolidated Shareholder Derivative Complaint (Consolidated Complaint). The Consolidated Complaint names as defendants several current and former Duke Energy officers and directors (collectively, the Duke Energy Defendants). Duke Energy is named as a nominal defendant.

The Consolidated Complaint alleges the Duke Energy Defendants breached their fiduciary duties by failing to adequately oversee Duke Energy's ash basins and that these breaches of fiduciary duty may have contributed to the incident at Dan River and continued thereafter. The lawsuit also asserts claims against the Duke Energy Defendants for corporate waste (relating to the money Duke Energy has spent and will spend as a result of the fines, penalties and coal ash removal) and unjust enrichment (relating to the compensation and director remuneration that was received despite these alleged breaches of fiduciary duty). The lawsuit seeks both injunctive relief against Duke Energy and restitution from the Duke Energy Defendants. On April 22, 2016, plaintiffs filed an Amended Verified Consolidated Shareholder Derivative Complaint (Amended Complaint) making the same allegations as in the Consolidated Complaint. The Duke Energy Defendants filed a motion to dismiss the Amended Complaint on June 21, 2016. On December 14, 2016, the Delaware Chancery Court entered an order dismissing the Amended Complaint. Plaintiffs filed an appeal to the Delaware Supreme Court on January 9, 2017. Oral argument was held on September 27, 2017, and a decision is pending.

On October 30, 2015, shareholder Saul Bresalier filed a shareholder derivative complaint (Bresalier Complaint) in the U.S. District Court for the District of Delaware. The lawsuit alleges that several current and former Duke Energy officers and directors (Bresalier Defendants) breached their fiduciary duties in connection with coal ash environmental issues, the post-merger change in Chief Executive Officer (CEO) and oversight of political contributions. Duke Energy is named as a nominal defendant. The Bresalier Complaint contends that the appointed Demand Review Committee failed to appropriately consider the shareholder's earlier demand for litigation and improperly decided not to pursue claims against the Bresalier Defendants. On March 30, 2017, the court granted Defendants' Motion to Dismiss on the claims relating to coal ash environmental issues and political contributions. As discussed below, a settlement agreement was approved for the merger-related claims in the Bresalier Complaint, and those claims were dismissed. On September 8, 2017, Bresalier filed a notice of appeal to the U.S. Court of Appeals for the Third Circuit (Third Circuit Court) challenging the dismissal of his coal ash and political contribution claims. Pursuant to a scheduling order issued by the Third Circuit Court, briefing will be complete on December 20, 2017.

It is not possible to predict whether Duke Energy will incur any liability or to estimate the damages, if any, it might incur in connection with these matters.

**Progress Energy Merger Shareholder Litigation**

On May 31, 2013, the Delaware Chancery Court consolidated four shareholder derivative lawsuits filed in 2012. The Court also appointed a lead plaintiff and counsel for plaintiffs and designated the case as *In Re Duke Energy Corporation Derivative Litigation* (Merger Chancery Litigation). The lawsuit names as defendants the Legacy Duke Energy Directors. Duke Energy is named as a nominal defendant. The case alleges claims for breach of fiduciary duties of loyalty and care in connection with the post-merger change in CEO.

Two shareholder Derivative Complaints, filed in 2012 in federal district court in Delaware, were consolidated as *Tansey v. Rogers, et al.* The case alleges claims against the Legacy Duke Energy Directors for breach of fiduciary duty and waste of corporate assets, as well as claims under Section 14(a) and 20(a) of the Exchange Act. Duke Energy is named as a nominal defendant. On December 21, 2015, Plaintiff filed a Consolidated Amended Complaint asserting the same claims contained in the original complaints.

The Legacy Duke Energy Directors reached an agreement-in-principle to settle the Merger Chancery Litigation, conditioned on dismissal as well, of the *Tansey v. Rogers, et al* case and the merger-related claims in the Bresalier Complaint discussed above, which was approved by the Delaware Chancery Court on July 13, 2017. The entire settlement amount was funded by insurance. The settlement amount, less court-approved attorney fees, totaled \$20 million and was paid to Duke Energy in third quarter 2017.

**Price Reporting Cases**

Duke Energy Trading and Marketing, LLC (DETM), a non-operating Duke Energy affiliate, was a defendant, along with numerous other energy companies, in four class-action lawsuits and a fifth single-plaintiff lawsuit in a consolidated federal court proceeding in Nevada. Each of these lawsuits contained similar claims that defendants allegedly manipulated natural gas markets by various means, including providing false information to natural gas trade publications and entering into unlawful arrangements and agreements in violation of the antitrust laws of the respective states. Plaintiffs sought damages in unspecified amounts. In February 2016, DETM reached agreements in principle to settle all of the pending lawsuits. Settlement of the single-plaintiff settlement was finalized and paid in March 2016. The proposed settlement of the class action lawsuits was approved by the Court and all settlement amounts, which are not material to Duke Energy, have been paid.

**Duke Energy Carolinas and Duke Energy Progress****Coal Ash Insurance Coverage Litigation**

In March 2017, Duke Energy Carolinas and Duke Energy Progress filed a civil action in North Carolina Superior Court against various insurance providers. The lawsuit seeks payment for coal ash-related liabilities covered by third-party liability insurance policies. The insurance policies were issued between 1971 and 1986 and provide third-party liability insurance for property damage. The civil action seeks damages for breach of contract and indemnification for costs arising from the Coal Ash Act and the EPA CCR rule at 15 coal-fired plants in North Carolina and South Carolina. Duke Energy Carolinas and Duke Energy Progress cannot predict the outcome of this matter.

**NCDEQ State Enforcement Actions**

In the first quarter of 2013, the Southern Environmental Law Center (SELC) sent notices of intent to sue Duke Energy Carolinas and Duke Energy Progress related to alleged Clean Water Act (CWA) violations from coal ash basins at two of their coal-fired power plants in North Carolina. The NCDEQ filed enforcement actions against Duke Energy Carolinas and Duke Energy Progress alleging violations of water discharge permits and North Carolina groundwater standards. The cases have been consolidated and are being heard before a single judge in the North Carolina Superior Court.

On August 16, 2013, the NCDEQ filed an enforcement action against Duke Energy Carolinas and Duke Energy Progress related to their remaining plants in North Carolina, alleging violations of the CWA and violations of the North Carolina groundwater standards. Both of these cases have been assigned to the judge handling the enforcement actions discussed above. SELC is representing several environmental groups who have been permitted to intervene in these cases.

The court issued orders in 2016 granting Motions for Partial Summary Judgment for seven of the 14 North Carolina plants named in the enforcement actions. The litigation is concluded for these seven plants. Litigation continues for the remaining seven plants. On February 13, 2017, the court issued an order denying motions for partial summary judgment brought by both the environmental groups and Duke Energy Carolinas and Duke Energy Progress. On March 15, 2017, Duke Energy Carolinas and Duke Energy Progress filed a Notice of Appeal to challenge the trial court's order. The parties were unable to reach an agreement at mediation in April 2017. The parties submitted briefs to the court on remaining issues to be tried and a ruling is pending. On August 22, 2017, Duke Energy Carolinas and Duke Energy Progress filed a Petition for Discretionary Review, requesting the North Carolina Supreme Court to accept the appeal. On August 24, 2017, SELC filed a motion to dismiss the appeal. Duke Energy Carolinas' and Duke Energy Progress' opening appellate briefs were filed on October 12, 2017.

It is not possible to predict any liability or estimate any damages Duke Energy Carolinas or Duke Energy Progress might incur in connection with these matters.

**Federal Citizens Suits**

On June 13, 2016, the Roanoke River Basin Association (RRBA) filed a federal citizen suit in the Middle District of North Carolina alleging unpermitted discharges to surface water and groundwater violations at the Mayo Plant. On August 19, 2016, Duke Energy Progress filed a Motion to Dismiss. On April 26, 2017, the court entered an order dismissing four of the claims in the federal citizen suit. Two claims relating to alleged violations of National Pollutant Discharge Elimination System (NPDES) permit provisions survived the motion to dismiss, and Duke Energy Progress filed its response on May 10, 2017. The parties are engaged in pre-trial discovery. Trial has been scheduled for July 9, 2018.

On March 16, 2017, RRBA served Duke Energy Progress with a Notice of Intent to Sue under the CWA for alleged violations of effluent standards and limitations at the Roxboro Plant. In anticipation of litigation, Duke Energy Progress filed a Complaint for Declaratory Relief in the U.S. District Court for the Western District of Virginia on May 11, 2017, which was subsequently dismissed. On May 16, 2017, RRBA filed a federal citizen suit in the U.S. District Court for the Middle District of North Carolina which asserts two claims relating to alleged violations of NPDES permit provisions and one claim relating to the use of nearby water bodies.

On June 20, 2017, RRBA filed a federal citizen suit in the U.S. District Court for the Middle District of North Carolina challenging the closure plans at the Mayo Plant under the EPA CCR Rule. Duke Energy Progress filed a motion to dismiss on August 21, 2017.

On August 2, 2017, RRBA filed a federal citizen suit in the U.S. District Court for the Middle District of North Carolina challenging the closure plans at the Roxboro Plant under the EPA CCR Rule. Duke Energy Progress filed a motion to dismiss on October 2, 2017.

On October 3, 2017, various parties served Duke Energy Carolinas with a Notice of Intent to Sue under the CWA for alleged violations at Duke Energy Carolinas' Belews Creek Steam Station (Belews Creek). A lawsuit may be filed sixty days after service of notice.

It is not possible to predict whether Duke Energy Carolinas or Duke Energy Progress will incur any liability or to estimate the damages, if any, they might incur in connection with these matters.

Five previously filed cases involving the Riverbend, Cape Fear, H.F. Lee, Sutton and Buck plants were dismissed or settled in 2016.

***Groundwater Contamination Claims***

Beginning in May 2015, a number of residents living in the vicinity of the North Carolina facilities with ash basins received letters from the NCDEQ advising them not to drink water from the private wells on their land tested by the NCDEQ as the samples were found to have certain substances at levels higher than the criteria set by the North Carolina Department of Health and Human Services (DHHS). Results of Comprehensive Site Assessments (CSAs) testing performed by Duke Energy under the Coal Ash Act have been consistent with historical data provided to state regulators over many years. The DHHS and NCDEQ sent follow-up letters on October 15, 2015, to residents near coal ash basins who had their wells tested, stating that private well samplings at a considerable distance from coal ash basins, as well as some municipal water supplies, contain similar levels of vanadium and hexavalent chromium, which led investigators to believe these constituents are naturally occurring. In March 2016, DHHS rescinded the advisories.

Duke Energy Carolinas and Duke Energy Progress have received formal demand letters from residents near Duke Energy Carolinas' and Duke Energy Progress' coal ash basins. The residents claim damages for nuisance and diminution in property value, among other things. The parties held three days of mediation discussions that ended at an impasse. On January 6, 2017, Duke Energy Carolinas and Duke Energy Progress received the plaintiffs' notice of their intent to file suits should the matter not settle. The NCDEQ preliminarily approved Duke Energy's permanent water solution plans on January 13, 2017, and as a result shortly thereafter, Duke Energy issued a press release, providing additional details regarding the homeowner compensation package. This package consists of three components: (i) a \$5,000 goodwill payment to each eligible well owner to support the transition to a new water supply, (ii) where a public water supply is available and selected by the eligible well owner, a stipend to cover 25 years of water bills and (iii) the Property Value Protection Plan. The Property Value Protection Plan is a program offered by Duke Energy designed to guarantee eligible plant neighbors the fair market value of their residential property should they decide to sell their property during the time that the plan is offered. Duke Energy Carolinas and Duke Energy Progress have recognized reserves of \$19 million and \$4 million, respectively. On August 23, 2017, a class action suit was filed in Wake County Superior Court, North Carolina, against Duke Energy Carolinas and Duke Energy Progress on behalf of certain property owners living near coal ash impoundments at Allen, Asheville, Belews Creek, Buck, Cliffside, Lee, Marshall, Mayo and Roxboro. The class is defined as those who are "well-eligible" under the Coal Ash Act or those to whom Duke Energy has promised a permanent replacement water supply and seeks declaratory and injunctive relief, along with compensatory damages. Plaintiffs allege that Duke Energy's improper maintenance of coal ash impoundments caused harm, particularly through groundwater contamination. Despite NCDEQ's preliminary approval, Plaintiffs contend that Duke Energy's proposed permanent water solutions plan fails to comply with the Coal Ash Act. On September 28, 2017, Duke Energy Carolinas and Duke Energy Progress filed a Motion to Dismiss and Motion to Strike the class designation.

On September 14, 2017, a complaint was filed against Duke Energy Progress in New Hanover County Superior Court by a group of homeowners residing approximately one mile from Duke Energy Progress' Sutton Steam Plant (Sutton). The homeowners allege that coal ash constituents have been migrating from ash impoundments at Sutton into their groundwater for decades and that in 2015, Duke Energy Progress discovered these releases of coal ash, but failed to notify any officials or neighbors and failed to take remedial action. The homeowners claim unspecified physical and mental injuries as a result of consuming their well water and seek actual damages for personal injury, medical monitoring and punitive damages.

It is not possible to estimate the maximum exposure of loss, if any, that may occur in connection with current claims or future claims, which might be made by these residents.

***Asbestos-related Injuries and Damages Claims***

Duke Energy Carolinas has experienced numerous claims for indemnification and medical cost reimbursement related to asbestos exposure. These claims relate to damages for bodily injuries alleged to have arisen from exposure to or use of asbestos in connection with construction and maintenance activities conducted on its electric generation plants prior to 1985. As of September 30, 2017, there were 120 asserted claims for non-malignant cases with cumulative relief sought of up to \$29 million, and 57 asserted claims for malignant cases with cumulative relief sought of up to \$16 million. Based on Duke Energy Carolinas' experience, it is expected that the ultimate resolution of most of these claims likely will be less than the amount claimed.

Duke Energy Carolinas has recognized asbestos-related reserves of \$486 million at September 30, 2017, and \$512 million at December 31, 2016. These reserves are classified in Other within Other Noncurrent Liabilities and Other within Current Liabilities on the Condensed Consolidated Balance Sheets. These reserves are based upon the minimum amount of the range of loss for current and future asbestos claims through 2036, are recorded on an undiscounted basis and incorporate anticipated inflation. In light of the uncertainties inherent in a longer-term forecast, management does not believe they can reasonably estimate the indemnity and medical costs that might be incurred after 2036 related to such potential claims. It is possible Duke Energy Carolinas may incur asbestos liabilities in excess of the recorded reserves.

Duke Energy Carolinas has third-party insurance to cover certain losses related to asbestos-related injuries and damages above an aggregate self-insured retention. Duke Energy Carolinas' cumulative payments began to exceed the self-insurance retention in 2008. Future payments up to the policy limit will be reimbursed by the third-party insurance carrier. The insurance policy limit for potential future insurance recoveries indemnification and medical cost claim payments is \$797 million in excess of the self-insured retention. Receivables for insurance recoveries were \$570 million at September 30, 2017, and \$587 million at December 31, 2016. These amounts are classified in Other within Other Noncurrent Assets and Receivables within Current Assets on the Condensed Consolidated Balance Sheets. Duke Energy Carolinas is not aware of any uncertainties regarding the legal sufficiency of insurance claims. Duke Energy Carolinas believes the insurance recovery asset is probable of recovery as the insurance carrier continues to have a strong financial strength rating.

**Duke Energy Florida*****Class Action Lawsuit***

On February 22, 2016, a lawsuit was filed in the U.S. District Court for the Southern District of Florida on behalf of a putative class of Duke Energy Florida and FP&L's customers in Florida. The suit alleges the State of Florida's nuclear power plant cost recovery statutes (NCRS) are unconstitutional and pre-empted by federal law. Plaintiffs claim they are entitled to repayment of all money paid by customers of Duke Energy Florida and FP&L as a result of the NCRS, as well as an injunction against any future charges under those statutes. The constitutionality of the NCRS has been challenged unsuccessfully in a number of prior cases on alternative grounds. Duke Energy Florida and FP&L filed motions to dismiss the complaint on May 5, 2016. On September 21, 2016, the Court granted the motions to dismiss with prejudice. Plaintiffs filed a motion for reconsideration, which was denied. On January 4, 2017, plaintiffs filed a notice of appeal to the Eleventh Circuit U.S. Court of Appeals. The appeal, which has been fully briefed, was heard on August 22, 2017, and a decision is pending. Duke Energy Florida cannot predict the outcome of this appeal.

***Westinghouse Contract Litigation***

On March 28, 2014, Duke Energy Florida filed a lawsuit against Westinghouse in the U.S. District Court for the Western District of North Carolina. The lawsuit seeks recovery of \$54 million in milestone payments in excess of work performed under an EPC for Levy as well as a determination by the court of the amounts due to Westinghouse as a result of the termination of the EPC. Duke Energy Florida recognized an exit obligation as a result of the termination of the EPC.

On March 31, 2014, Westinghouse filed a lawsuit against Duke Energy Florida in U.S. District Court for the Western District of Pennsylvania. The Pennsylvania lawsuit alleged damages under the EPC in excess of \$510 million for engineering and design work, costs to end supplier contracts and an alleged termination fee.

On June 9, 2014, the judge in the North Carolina case ruled that the litigation will proceed in the Western District of North Carolina. On July 11, 2016, Duke Energy Florida and Westinghouse filed separate Motions for Summary Judgment. On September 29, 2016, the court issued its ruling on the parties' respective Motions for Summary Judgment, ruling in favor of Westinghouse on a \$30 million termination fee claim and dismissing Duke Energy Florida's \$54 million refund claim, but stating that Duke Energy Florida could use the refund claim to offset any damages for termination costs. Westinghouse's claim for termination costs was unaffected by this ruling and continued to trial. At trial, Westinghouse reduced its claim for termination costs from \$482 million to \$424 million. Following a trial on the matter, the court issued its final order in December 2016 denying Westinghouse's claim for termination costs and re-affirming its earlier ruling in favor of Westinghouse on the \$30 million termination fee and Duke Energy Florida's refund claim. Judgment was entered against Duke Energy Florida in the amount of approximately \$34 million, which includes prejudgment interest. Westinghouse has appealed the trial court's order to the U.S. Court of Appeals for the Fourth Circuit (Fourth Circuit Court) and Duke Energy Florida has cross-appealed. Duke Energy Florida cannot predict the ultimate outcome of the appeal of the trial court's order.

On March 29, 2017, Westinghouse filed Chapter 11 bankruptcy in the Southern District of New York, which automatically stayed the appeal. On May 23, 2017, the bankruptcy court entered an order lifting the stay with respect to the appeal. Briefing of the appeal concluded on October 20, 2017, and the parties await a decision from the Fourth Circuit Court on whether it will allow oral argument of the appeal.

Ultimate resolution of these matters could have a material effect on the results of operations, financial position or cash flows of Duke Energy Florida. See discussion of the 2017 Settlement and the Levy Nuclear Project in Note 4 for additional information regarding recovery of costs related to Westinghouse.

***MGP Cost Recovery Action***

On December 30, 2011, Duke Energy Florida filed a lawsuit against FirstEnergy Corp. (FirstEnergy) to recover investigation and remediation costs incurred by Duke Energy Florida in connection with the restoration of two former MGP sites in Florida. Duke Energy Florida alleged that FirstEnergy, as the successor to Associated Gas & Electric Co., owes past and future contribution and response costs of up to \$43 million for the investigation and remediation of MGP sites. On December 6, 2016, the trial court entered judgment against Duke Energy Florida in the case. In January 2017, Duke Energy Florida appealed the decision to the U.S. Court of Appeals for the 6th Circuit and briefing has been completed. Duke Energy Florida cannot predict the outcome of this appeal.

***Other Litigation and Legal Proceedings***

The Duke Energy Registrants are involved in other legal, tax and regulatory proceedings arising in the ordinary course of business, some of which involve significant amounts. The Duke Energy Registrants believe the final disposition of these proceedings will not have a material effect on their results of operations, cash flows or financial position.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

The table below presents recorded reserves based on management's best estimate of probable loss for legal matters, excluding asbestos-related reserves and the exit obligation discussed above related to the termination of an EPC contract. Reserves are classified on the Condensed Consolidated Balance Sheets in Other within Other Noncurrent Liabilities and Accounts payable and Other within Current Liabilities. The reasonably possible range of loss in excess of recorded reserves is not material, other than as described above.

(in millions)	September 30, 2017	December 31, 2016
<b>Reserves for Legal Matters</b>		
Duke Energy	\$ 83	\$ 98
Duke Energy Carolinas	23	23
Progress Energy	56	59
Duke Energy Progress	13	14
Duke Energy Florida	28	28
Duke Energy Ohio	—	4
Piedmont	2	2

**OTHER COMMITMENTS AND CONTINGENCIES****General**

As part of their normal business, the Duke Energy Registrants are party to various financial guarantees, performance guarantees and other contractual commitments to extend guarantees of credit and other assistance to various subsidiaries, investees and other third parties. These guarantees involve elements of performance and credit risk, which are not fully recognized on the Condensed Consolidated Balance Sheets and have unlimited maximum potential payments. However, the Duke Energy Registrants do not believe these guarantees will have a material effect on their results of operations, cash flows or financial position.

In addition, the Duke Energy Registrants enter into various fixed-price, noncancelable commitments to purchase or sell power or natural gas, take-or-pay arrangements, transportation, or throughput agreements and other contracts that may or may not be recognized on their respective Condensed Consolidated Balance Sheets. Some of these arrangements may be recognized at fair value on their respective Condensed Consolidated Balance Sheets if such contracts meet the definition of a derivative and the normal purchase/normal sale (NPNS) exception does not apply. In most cases, the Duke Energy Registrants' purchase obligation contracts contain provisions for price adjustments, minimum purchase levels and other financial commitments.

**6. DEBT AND CREDIT FACILITIES****SUMMARY OF SIGNIFICANT DEBT ISSUANCES**

The following table summarizes significant debt issuances (in millions). Refer to the "Available Credit Facilities" section below regarding amounts issued under the Three Year Revolver and the Piedmont Term Loan facilities.

Issuance Date	Maturity Date	Interest Rate	Nine Months Ended September 30, 2017				
			Duke Energy	Duke Energy (Parent)	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio
<b>Unsecured Debt</b>							
April 2017 <sup>(a)</sup>	April 2025	3.364%	\$ 420	\$ 420	\$ —	\$ —	\$ —
June 2017 <sup>(b)</sup>	June 2020	2.100%	330	330	—	—	—
August 2017 <sup>(c)</sup>	August 2022	2.400%	500	500	—	—	—
August 2017 <sup>(c)</sup>	August 2027	3.150%	750	750	—	—	—
August 2017 <sup>(c)</sup>	August 2047	3.950%	500	500	—	—	—
<b>Secured Debt</b>							
February 2017 <sup>(d)</sup>	June 2034	4.120%	587	—	—	—	—
August 2017 <sup>(e)</sup>	December 2036	4.110%	233	—	—	—	—
<b>First Mortgage Bonds</b>							
January 2017 <sup>(f)</sup>	January 2020	1.850%	250	—	—	250	—
January 2017 <sup>(f)</sup>	January 2027	3.200%	650	—	—	650	—
March 2017 <sup>(g)</sup>	June 2046	3.700%	100	—	—	—	100
September 2017 <sup>(h)</sup>	September 2020	1.500% <sup>(i)</sup>	300	—	300	—	—
September 2017 <sup>(h)</sup>	September 2047	3.600%	500	—	500	—	—
Total issuances			\$ 5,120	\$ 2,500	\$ 800	\$ 900	\$ 100

DUKE ENERGY CORPORATION – DUKE ENERGY CAROLINAS, LLC – PROGRESS ENERGY, INC. –  
DUKE ENERGY PROGRESS, LLC – DUKE ENERGY FLORIDA, LLC – DUKE ENERGY OHIO, INC. – DUKE ENERGY INDIANA, LLC –  
PIEDMONT NATURAL GAS COMPANY, INC.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

- (a) Proceeds were used to refinance \$400 million of unsecured debt at maturity and to repay a portion of outstanding commercial paper.
- (b) Debt issued to repay a portion of outstanding commercial paper.
- (c) Debt issued to repay at maturity \$700 million of unsecured debt, to repay outstanding commercial paper and for general corporate purposes.
- (d) Portfolio financing of four Texas and Oklahoma wind facilities. Secured by substantially all of the assets of these wind facilities and nonrecourse to Duke Energy. Proceeds were used to reimburse Duke Energy for a portion of previously funded construction expenditures.
- (e) Portfolio financing of eight solar facilities located in California, Colorado and New Mexico. Secured by substantially all of the assets of these solar facilities and nonrecourse to Duke Energy. Proceeds were used to reimburse Duke Energy for a portion of previously funded construction expenditures.
- (f) Debt issued to fund capital expenditures for ongoing construction and capital maintenance, to repay a \$250 million aggregate principal amount of bonds at maturity and for general corporate purposes.
- (g) Proceeds were used to fund capital expenditures for ongoing construction, capital maintenance and for general corporate purposes.
- (h) Debt issued to repay at maturity a \$200 million aggregate principal amount of bonds due November 2017, pay down intercompany short-term debt and for general corporate purposes, including capital expenditures.
- (i) Debt issuance has a floating interest rate.

**CURRENT MATURITIES OF LONG-TERM DEBT**

The following table shows the significant components of Current Maturities of Long-Term Debt on the Condensed Consolidated Balance Sheets. The Duke Energy Registrants currently anticipate satisfying these obligations with cash on hand and proceeds from additional borrowings.

(in millions)	Maturity Date	Interest Rate	September 30, 2017
<b>Unsecured Debt</b>			
Duke Energy (Parent)	June 2018	6.250%	\$ 250
Duke Energy (Parent)	June 2018	2.100%	500
<b>First Mortgage Bonds</b>			
Duke Energy Progress	November 2017	1.516% <sup>(b)</sup>	200
Duke Energy Carolinas	January 2018	5.250%	400
Duke Energy Carolinas	April 2018	5.100%	300
Duke Energy Florida	June 2018	5.650%	500
<b>Other<sup>(a)</sup></b>			<b>335</b>
<b>Current maturities of long-term debt</b>			<b>\$ 2,485</b>

- (a) Includes capital lease obligations, amortizing debt and small bullet maturities.
- (b) Debt issuance has a floating interest rate.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)****AVAILABLE CREDIT FACILITIES****Master Credit Facility**

In March 2017, Duke Energy amended its Master Credit Facility to increase its capacity from \$7.5 billion to \$8 billion, and to extend the termination date of the facility from January 30, 2020, to March 16, 2022. The amendment also added Piedmont as a borrower within the Master Credit Facility. Piedmont's separate \$850 million credit facility was terminated in connection with the amendment. With the amendment, the Duke Energy Registrants, excluding Progress Energy (Parent), have borrowing capacity under the Master Credit Facility up to a specified sublimit for each borrower. Duke Energy has the unilateral ability at any time to increase or decrease the borrowing sublimits of each borrower, subject to a maximum sublimit for each borrower. The amount available under the Master Credit Facility has been reduced to backstop issuances of commercial paper, certain letters of credit and variable-rate demand tax-exempt bonds that may be put to the Duke Energy Registrants at the option of the holder. Duke Energy Carolinas and Duke Energy Progress are also required to each maintain \$250 million of available capacity under the Master Credit Facility as security to meet obligations under plea agreements reached with the U.S. Department of Justice in 2015 related to violations at North Carolina facilities with ash basins. The table below includes the current borrowing sublimits and available capacity under the Master Credit Facility.

(in millions)	September 30, 2017							
	Duke Energy	Duke Energy (Parent)	Duke Energy Carolinas	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont
Facility size <sup>(a)</sup>	\$ 8,000	\$ 2,850	\$ 1,350	\$ 1,250	\$ 1,000	\$ 450	\$ 600	\$ 500
Reduction to backstop issuances								
Commercial paper <sup>(b)</sup>	(1,569)	(404)	(636)	(150)	—	(25)	(150)	(204)
Outstanding letters of credit	(60)	(51)	(4)	(2)	(1)	—	—	(2)
Tax-exempt bonds	(81)	—	—	—	—	—	(81)	—
Coal ash set-aside	(500)	—	(250)	(250)	—	—	—	—
Available capacity under the Master Credit Facility	\$ 5,790	\$ 2,395	\$ 460	\$ 848	\$ 999	\$ 425	\$ 369	\$ 294

(a) Represents the sublimit of each borrower.

(b) Duke Energy issued \$625 million of commercial paper and loaned the proceeds through the money pool to Duke Energy Carolinas, Duke Energy Progress, Duke Energy Ohio and Duke Energy Indiana. The balances are classified as Long-Term Debt Payable to Affiliated Companies on the Condensed Consolidated Balance Sheets.

**Three-Year Revolving Credit Facility**

In June 2017, Duke Energy (Parent) entered into a three-year \$1.0 billion revolving credit facility (the Three Year Revolver). Borrowings under this facility will be used for general corporate purposes.

As of September 30, 2017, \$270 million has been drawn under the Three Year Revolver. This balance is classified as Long-Term Debt on Duke Energy's Condensed Consolidated Balance Sheets. Any undrawn commitments can be drawn, and borrowings can be prepaid, at any time throughout the term of the facility. The terms and conditions of the Three Year Revolver are generally consistent with those governing Duke Energy's Master Credit Facility.

**Piedmont Term Loan Facility**

In June 2017, Piedmont entered into an 18-month term loan facility with commitments totaling \$250 million (the Piedmont Term Loan). Borrowings under the facility will be used for general corporate purposes.

As of September 30, 2017, the entire \$250 million has been drawn under the Piedmont Term Loan. This balance is classified as Long-Term Debt on Piedmont's Condensed Consolidated Balance Sheets. The terms and conditions of the Piedmont Term Loan are generally consistent with those governing Duke Energy's Master Credit Facility.



**7. ASSET RETIREMENT OBLIGATIONS**

The Duke Energy Registrants record AROs when there is a legal obligation to incur retirement costs associated with the retirement of a long-lived asset and the obligation can be reasonably estimated. The following table presents the AROs recorded on the Condensed Consolidated Balance Sheets.

(in millions)	September 30, 2017							
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont
Decommissioning of Nuclear Power Facilities <sup>(a)</sup>	\$ 5,337	\$ 1,916	\$ 3,235	\$ 2,536	\$ 699	\$ —	\$ —	\$ —
Closure of Ash Impoundments	4,594	1,650	2,124	2,105	19	42	777	—
Other	274	35	80	35	45	39	16	15
Total ARO	\$ 10,205	\$ 3,601	\$ 5,439	\$ 4,676	\$ 763	\$ 81	\$ 793	\$ 15
Less: current portion	619	304	250	250	—	6	58	—
Total noncurrent ARO	\$ 9,586	\$ 3,297	\$ 5,189	\$ 4,426	\$ 763	\$ 75	\$ 735	\$ 15

(a) Duke Energy amount includes purchase accounting adjustments related to the merger with Progress Energy.

**ARO Liability Rollforward**

Actual closure costs incurred could be materially different from current estimates that form the basis of the recorded AROs. The following table presents the change in liability associated with AROs for the Duke Energy Registrants.

(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont
	<b>Balance at December 31, 2016<sup>(a)</sup></b>	\$ 10,611	\$ 3,895	\$ 5,475	\$ 4,697	\$ 778	\$ 77	\$ 866
Accretion expense <sup>(b)</sup>	329	140	172	147	25	3	25	1
Liabilities settled <sup>(c)</sup>	(430)	(201)	(193)	(152)	(41)	(4)	(26)	(7)
Liabilities incurred in the current year	48	5	—	—	—	7	27	7
Revisions in estimates of cash flows <sup>(d)</sup>	(353)	(238)	(15)	(16)	1	(2)	(99)	—
<b>Balance at September 30, 2017</b>	\$ 10,205	\$ 3,601	\$ 5,439	\$ 4,676	\$ 763	\$ 81	\$ 793	\$ 15

- (a) Primarily relates to decommissioning nuclear power facilities, closure of ash impoundments, asbestos removal, closure of landfills at fossil generation facilities, retirement of natural gas mains and removal of renewable energy generation assets.
- (b) For the nine months ended September 30, 2017, substantially all accretion expense relates to Duke Energy's regulated electric operations and has been deferred in accordance with regulatory accounting treatment.
- (c) Primarily relates to ash impoundment closures and nuclear decommissioning of Crystal River Unit 3.
- (d) Primarily relates to favorable contract prices for closure of ash impoundments compared to original estimates.

Asset retirement costs associated with the AROs for operating plants and retired plants are included in Net property, plant and equipment and Regulatory assets within Other Noncurrent Assets, respectively, on the Condensed Consolidated Balance Sheets.

**8. GOODWILL AND INTANGIBLE ASSETS****GOODWILL****Duke Energy**

The following table presents the goodwill by reportable operating segment included on Duke Energy's Condensed Consolidated Balance Sheets at September 30, 2017, and December 31, 2016.

(in millions)	Electric Utilities and Infrastructure	Gas Utilities and Infrastructure	Commercial Renewables	Total
Goodwill Balance at December 31, 2016	\$ 17,379	\$ 1,924	\$ 122	\$ 19,425
Accumulated impairment charges <sup>(a)</sup>	—	—	(7)	(7)
<b>Goodwill Balance at September 30, 2017</b>	\$ 17,379	\$ 1,924	\$ 115	\$ 19,418

- (a) Duke Energy evaluated the recoverability of goodwill in the third quarter of 2017 and recorded an impairment of \$7 million related to the Energy Management Solutions reporting unit within the Commercial Renewables segment. The fair value of the reporting unit was determined based on the market approach, which estimates fair value based on market comparables within the energy technologies industry.

**Duke Energy Ohio**

Duke Energy Ohio's Goodwill balance of \$920 million, allocated \$596 million to Electric Utilities and Infrastructure and \$324 million to Gas Utilities and Infrastructure, is presented net of accumulated impairment charges of \$216 million on the Condensed Consolidated Balance Sheets at September 30, 2017, and December 31, 2016.

**Progress Energy**

Progress Energy's Goodwill is included in the Electric Utilities and Infrastructure operating segment and there are no accumulated impairment charges.

**Piedmont**

Piedmont's Goodwill is included in the Gas Utilities and Infrastructure operating segment and there are no accumulated impairment charges. Effective November 1, 2016, Piedmont's fiscal year was changed from October 31 to December 31. Effective with this change, Piedmont changed the date of its annual impairment testing of goodwill from October 31 to August 31 to align with the other Duke Energy Registrants.

**Impairment Testing**

Duke Energy, Progress Energy, Duke Energy Ohio and Piedmont are required to perform an annual goodwill impairment test as of the same date each year and, accordingly, perform their annual impairment testing of goodwill as of August 31. Duke Energy, Progress Energy, Duke Energy Ohio and Piedmont update their test between annual tests if events or circumstances occur that would more likely than not reduce the fair value of a reporting unit below its carrying value. Except for the Energy Management Solutions reporting unit, the fair value of all other reporting units for Duke Energy, Progress Energy, Duke Energy Ohio and Piedmont exceeded their respective carrying values at the date of the annual impairment analysis. As such, no other impairment charges were recorded in the third quarter of 2017.

**9. RELATED PARTY TRANSACTIONS**

The Subsidiary Registrants engage in related party transactions in accordance with applicable state and federal commission regulations. Refer to the Condensed Consolidated Balance Sheets of the Subsidiary Registrants for balances due to or due from related parties. Material amounts related to transactions with related parties included on the Condensed Consolidated Statements of Operations and Comprehensive Income are presented in the following table.

(in millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
<b>Duke Energy Carolinas</b>				
Corporate governance and shared service expenses <sup>(a)</sup>	\$ 205	\$ 204	\$ 645	\$ 620
Indemnification coverages <sup>(b)</sup>	5	5	17	16
JDA revenue <sup>(c)</sup>	9	10	42	21
JDA expense <sup>(c)</sup>	39	36	91	127
Intercompany natural gas purchases <sup>(d)</sup>	3	—	5	—
<b>Progress Energy</b>				
Corporate governance and shared service expenses <sup>(a)</sup>	\$ 208	\$ 182	\$ 555	\$ 515
Indemnification coverages <sup>(b)</sup>	10	9	29	25
JDA revenue <sup>(c)</sup>	39	36	91	127
JDA expense <sup>(c)</sup>	9	10	42	21
Intercompany natural gas purchases <sup>(d)</sup>	19	—	57	—
<b>Duke Energy Progress</b>				
Corporate governance and shared service expenses <sup>(a)</sup>	\$ 114	\$ 103	\$ 321	\$ 292
Indemnification coverages <sup>(b)</sup>	4	4	11	10
JDA revenue <sup>(c)</sup>	39	36	91	127
JDA expense <sup>(c)</sup>	9	10	42	21
Intercompany natural gas purchases <sup>(d)</sup>	19	—	57	—
<b>Duke Energy Florida</b>				
Corporate governance and shared service expenses <sup>(a)</sup>	\$ 94	\$ 79	\$ 234	\$ 223
Indemnification coverages <sup>(b)</sup>	6	5	18	15
<b>Duke Energy Ohio</b>				
Corporate governance and shared service expenses <sup>(a)</sup>	\$ 90	\$ 89	\$ 275	\$ 261
Indemnification coverages <sup>(b)</sup>	1	1	3	4
<b>Duke Energy Indiana</b>				
Corporate governance and shared service expenses <sup>(a)</sup>	\$ 93	\$ 96	\$ 281	\$ 279
Indemnification coverages <sup>(b)</sup>	2	2	6	6
<b>Piedmont</b>				
Corporate governance and shared service expenses <sup>(a)</sup>	\$ 10	\$ —	\$ 25	\$ —
Indemnification coverages <sup>(b)</sup>	1	—	2	—
Intercompany natural gas sales <sup>(d)</sup>	22	—	62	—

- (a) The Subsidiary Registrants are charged their proportionate share of corporate governance and other shared services costs, primarily related to human resources, employee benefits, information technology, legal and accounting fees, as well as other third-party costs. These amounts are primarily recorded in Operation, maintenance and other on the Condensed Consolidated Statements of Operations and Comprehensive Income.
- (b) The Subsidiary Registrants incur expenses related to certain indemnification coverages through Bison, Duke Energy's wholly owned captive insurance subsidiary. These expenses are recorded in Operation, maintenance and other on the Condensed Consolidated Statements of Operations and Comprehensive Income.
- (c) Duke Energy Carolinas and Duke Energy Progress participate in a Joint Dispatch Agreement (JDA), which allows the collective dispatch of power plants between the service territories to reduce customer rates. Revenues from the sale of power and expenses from the purchase of power pursuant to the JDA are recorded in Operating Revenues and Fuel used in electric generation and purchased power, respectively, on the Condensed Consolidated Statements of Operations and Comprehensive Income.
- (d) Piedmont provides long-term natural gas delivery service to certain Duke Energy Carolinas and Duke Energy Progress natural gas-fired generation facilities. Piedmont records the sales in Regulated natural gas revenues, and Duke Energy Carolinas and Duke Energy Progress record the related purchases in Fuel used in electric generation and purchased power on their respective Condensed Consolidated Statements of Operations and Comprehensive Income. The amounts are not eliminated in accordance with rate-based accounting regulations. For the three and nine months ended September 30, 2016, which was prior to the Piedmont acquisition, Piedmont recorded \$19 million and \$57 million, respectively, of natural gas sales with Duke Energy Progress and \$1 million and \$3 million, respectively, with Duke Energy Carolinas.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

In addition to the amounts presented above, the Subsidiary Registrants have other affiliate transactions, including rental of office space, participation in a money pool arrangement, other operational transactions and their proportionate share of certain charged expenses. See Note 6 to the Consolidated Financial Statements in the Annual Report on Form 10-K for the year ended December 31, 2016, for more information regarding the money pool. These transactions of the Subsidiary Registrants were not material for the three and nine months ended September 30, 2017, and 2016.

As discussed in Note 13, certain trade receivables have been sold by Duke Energy Ohio and Duke Energy Indiana to CRC, an affiliate formed by a subsidiary of Duke Energy. The proceeds obtained from the sales of receivables are largely cash but also include a subordinated note from the affiliate for a portion of the purchase price.

**Equity Method Investments**

Piedmont has related party transactions as a customer of its equity method investments in natural gas storage and transportation facilities. The following table presents expenses for the three and nine months ended September 30, 2017, and 2016, which are included in Cost of natural gas on Piedmont's Condensed Consolidated Statements of Operations and Comprehensive Income.

(in millions)	Type of expense	Three Months Ended September 30,		Nine Months Ended September 30,	
		2017	2016	2017	2016
Cardinal	Transportation Costs	\$ 2	\$ 3	\$ 6	\$ 7
Pine Needle	Natural Gas Storage Costs	2	3	6	8
Hardy Storage	Natural Gas Storage Costs	2	2	7	7
Total		\$ 6	\$ 8	\$ 19	\$ 22

Piedmont had accounts payable to its equity method investments of \$2 million at September 30, 2017, and December 31, 2016, related to these transactions. These amounts are included in Accounts payable on the Condensed Consolidated Balance Sheets.

**Intercompany Income Taxes**

Duke Energy and the Subsidiary Registrants file a consolidated federal income tax return and other state and jurisdictional returns. The Subsidiary Registrants have a tax sharing agreement with Duke Energy for the allocation of consolidated tax liabilities and benefits. Income taxes recorded represent amounts the Subsidiary Registrants would incur as separate C-Corporations. The following table includes the balance of intercompany income tax receivables and payables for the Subsidiary Registrants.

(in millions)	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont
<b>September 30, 2017</b>							
Intercompany income tax receivable	\$ —	\$ 170	\$ —	\$ 120	\$ —	\$ —	\$ 89
Intercompany income tax payable	173	—	46	—	18	104	—
<b>December 31, 2016</b>							
Intercompany income tax receivable	\$ 1	\$ —	\$ —	\$ 37	\$ —	\$ —	\$ —
Intercompany income tax payable	—	37	90	—	1	3	38

**10. DERIVATIVES AND HEDGING**

The Duke Energy Registrants use commodity and interest rate contracts to manage commodity price risk and interest rate risk. The primary use of commodity derivatives is to hedge the generation portfolio against changes in the prices of electricity and natural gas. Piedmont enters into natural gas supply contracts to provide diversification, reliability and natural gas cost benefits to its customers. Interest rate swaps are used to manage interest rate risk associated with borrowings.

All derivative instruments not identified as NPNS are recorded at fair value as assets or liabilities on the Condensed Consolidated Balance Sheets. Cash collateral related to derivative instruments executed under master netting arrangements is offset against the collateralized derivatives on the Condensed Consolidated Balance Sheets. The cash impacts of settled derivatives are recorded as operating activities on the Condensed Consolidated Statements of Cash Flows.

**INTEREST RATE RISK**

The Duke Energy Registrants are exposed to changes in interest rates as a result of their issuance or anticipated issuance of variable-rate and fixed-rate debt and commercial paper. Interest rate risk is managed by limiting variable-rate exposures to a percentage of total debt and by monitoring changes in interest rates. To manage risk associated with changes in interest rates, the Duke Energy Registrants may enter into interest rate swaps, U.S. Treasury lock agreements and other financial contracts. In anticipation of certain fixed-rate debt issuances, a series of forward-starting interest rate swaps or Treasury locks may be executed to lock in components of current market interest rates. These instruments are later terminated prior to or upon the issuance of the corresponding debt.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)****Cash Flow Hedges**

For a derivative designated as hedging the exposure to variable cash flows of a future transaction, referred to as a cash flow hedge, the effective portion of the derivative's gain or loss is initially reported as a component of other comprehensive income and subsequently reclassified into earnings once the future transaction impacts earnings. Amounts for interest rate contracts are reclassified to earnings as interest expense over the term of the related debt. Gains and losses reclassified out of AOCI for the three and nine months ended September 30, 2017, were not material. Duke Energy's interest rate derivatives designated as hedges include interest rate swaps used to hedge existing debt within the Commercial Renewables business.

**Undesignated Contracts**

Undesignated contracts include contracts not designated as a hedge because they are accounted for under regulatory accounting and contracts that do not qualify for hedge accounting.

Duke Energy's interest rate swaps for its regulated operations employ regulatory accounting. With regulatory accounting, the mark-to-market gains or losses on the swaps are deferred as regulatory liabilities or regulatory assets, respectively. Regulatory assets and liabilities are amortized consistent with the treatment of the related costs in the ratemaking process. The accrual of interest on the swaps is recorded as Interest Expense.

In August 2016, Duke Energy unwound \$1.4 billion of forward-starting interest rate swaps associated with the Piedmont acquisition financing. The swaps were considered undesignated as they did not qualify for hedge accounting. For the three and nine months ended September 30, 2016, losses on the swaps of \$22 million and \$190 million, respectively, were included within Interest Expense on Duke Energy's Condensed Consolidated Statements of Operations. See Note 2 for additional information related to the Piedmont acquisition.

The following table shows notional amounts of outstanding derivatives related to interest rate risk.

<b>September 30, 2017</b>						
<b>(in millions)</b>	<b>Duke Energy</b>	<b>Duke Energy Carolinas</b>	<b>Progress Energy</b>	<b>Duke Energy Progress</b>	<b>Duke Energy Florida</b>	<b>Duke Energy Ohio</b>
Cash flow hedges <sup>(a)</sup>	\$ 703	\$ —	\$ —	\$ —	\$ —	\$ —
Undesignated contracts	927	400	500	250	250	27
<b>Total notional amount</b>	<b>\$ 1,630</b>	<b>\$ 400</b>	<b>\$ 500</b>	<b>\$ 250</b>	<b>\$ 250</b>	<b>\$ 27</b>

<b>December 31, 2016</b>						
<b>(in millions)</b>	<b>Duke Energy</b>	<b>Duke Energy Carolinas</b>	<b>Progress Energy</b>	<b>Duke Energy Progress</b>	<b>Duke Energy Florida</b>	<b>Duke Energy Ohio</b>
Cash flow hedges <sup>(a)</sup>	\$ 750	\$ —	\$ —	\$ —	\$ —	\$ —
Undesignated contracts	927	400	500	250	250	27
<b>Total notional amount</b>	<b>\$ 1,677</b>	<b>\$ 400</b>	<b>\$ 500</b>	<b>\$ 250</b>	<b>\$ 250</b>	<b>\$ 27</b>

(a) Duke Energy includes amounts related to consolidated VIEs of \$703 million and \$750 million as of September 30, 2017, and December 31, 2016, respectively.

**COMMODITY PRICE RISK**

The Duke Energy Registrants are exposed to the impact of changes in the prices of electricity purchased and sold in bulk power markets and coal and natural gas purchases, including Piedmont's natural gas supply contracts. Exposure to commodity price risk is influenced by a number of factors including the term of contracts, the liquidity of markets and delivery locations. For the Subsidiary Registrants, bulk power electricity and coal and natural gas purchases flow through fuel adjustment clauses, formula-based contracts or other cost-sharing mechanisms. Differences between the costs included in rates and the incurred costs, including undesignated derivative contracts, are largely deferred as regulatory assets or regulatory liabilities. Piedmont policies allow for the use of financial instruments to hedge commodity price risks. The strategy and objective of these hedging programs are to use the financial instruments to reduce natural gas costs volatility for customers.

## Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)

## Volumes

The tables below include volumes of outstanding commodity derivatives. Amounts disclosed represent the absolute value of notional volumes of commodity contracts excluding NPNS. The Duke Energy Registrants have netted contractual amounts where offsetting purchase and sale contracts exist with identical delivery locations and times of delivery. Where all commodity positions are perfectly offset, no quantities are shown.

	September 30, 2017						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Indiana	Piedmont
Electricity (gigawatt-hours)	112	—	—	—	—	112	—
Natural gas (millions of dekatherms)	786	103	193	124	69	1	489

	December 31, 2016						
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Indiana	Piedmont
Electricity (gigawatt-hours)	147	—	—	—	—	147	—
Natural gas (millions of dekatherms)	890	91	269	118	151	1	529

## LOCATION AND FAIR VALUE OF DERIVATIVE ASSETS AND LIABILITIES RECOGNIZED ON THE CONDENSED CONSOLIDATED BALANCE SHEETS

The following tables show the fair value and balance sheet location of derivative instruments. Although derivatives subject to master netting arrangements are netted on the Condensed Consolidated Balance Sheets, the fair values presented below are shown gross and cash collateral on the derivatives has not been netted against the fair values shown.

Derivative Assets	September 30, 2017							
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont
(in millions)								
<b>Commodity Contracts</b>								
<i>Not Designated as Hedging Instruments</i>								
Current	\$ 48	\$ 6	\$ 10	\$ 5	\$ 4	\$ 2	\$ 28	\$ 2
Noncurrent	6	2	4	3	1	—	—	—
<b>Total Derivative Assets – Commodity Contracts</b>	<b>\$ 54</b>	<b>\$ 8</b>	<b>\$ 14</b>	<b>\$ 8</b>	<b>\$ 5</b>	<b>\$ 2</b>	<b>\$ 28</b>	<b>\$ 2</b>
<b>Interest Rate Contracts</b>								
<i>Designated as Hedging Instruments</i>								
Noncurrent	\$ 14	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
<i>Not Designated as Hedging Instruments</i>								
Current	1	—	1	—	1	—	—	—
<b>Total Derivative Assets – Interest Rate Contracts</b>	<b>\$ 15</b>	<b>\$ —</b>	<b>\$ 1</b>	<b>\$ —</b>	<b>\$ 1</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>
<b>Total Derivative Assets</b>	<b>\$ 69</b>	<b>\$ 8</b>	<b>\$ 15</b>	<b>\$ 8</b>	<b>\$ 6</b>	<b>\$ 2</b>	<b>\$ 28</b>	<b>\$ 2</b>

DUKE ENERGY CORPORATION – DUKE ENERGY CAROLINAS, LLC – PROGRESS ENERGY, INC. –  
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PIEDMONT NATURAL GAS COMPANY, INC.

Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)

Derivative Liabilities		September 30, 2017							
(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont	
<b>Commodity Contracts</b>									
<i>Not Designated as Hedging Instruments</i>									
Current	\$ 29	\$ 1	\$ 11	\$ 2	\$ 9	\$ —	\$ —	\$ —	\$ 18
Noncurrent	113	1	7	1	—	—	—	—	105
<b>Total Derivative Liabilities – Commodity Contracts</b>	<b>\$ 142</b>	<b>\$ 2</b>	<b>\$ 18</b>	<b>\$ 3</b>	<b>\$ 9</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 123</b>
<b>Interest Rate Contracts</b>									
<i>Designated as Hedging Instruments</i>									
Current	\$ 7	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Noncurrent	9	—	—	—	—	—	—	—	—
<i>Not Designated as Hedging Instruments</i>									
Current	24	23	—	—	—	1	—	—	—
Noncurrent	9	—	4	4	—	4	—	—	—
<b>Total Derivative Liabilities – Interest Rate Contracts</b>	<b>\$ 49</b>	<b>\$ 23</b>	<b>\$ 4</b>	<b>\$ 4</b>	<b>\$ —</b>	<b>\$ 5</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>
<b>Total Derivative Liabilities</b>	<b>\$ 191</b>	<b>\$ 25</b>	<b>\$ 22</b>	<b>\$ 7</b>	<b>\$ 9</b>	<b>\$ 5</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ 123</b>
<b>Derivative Assets</b>									
<b>December 31, 2016</b>									
(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont	
<b>Commodity Contracts</b>									
<i>Not Designated as Hedging Instruments</i>									
Current	\$ 108	\$ 23	\$ 61	\$ 35	\$ 26	\$ 4	\$ 16	\$ —	\$ 3
Noncurrent	32	10	21	10	11	1	—	—	—
<b>Total Derivative Assets – Commodity Contracts</b>	<b>\$ 140</b>	<b>\$ 33</b>	<b>\$ 82</b>	<b>\$ 45</b>	<b>\$ 37</b>	<b>\$ 5</b>	<b>\$ 16</b>	<b>\$ —</b>	<b>\$ 3</b>
<b>Interest Rate Contracts</b>									
<i>Designated as Hedging Instruments</i>									
Noncurrent	\$ 19	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
<i>Not Designated as Hedging Instruments</i>									
Current	3	—	3	1	2	—	—	—	—
<b>Total Derivative Assets – Interest Rate Contracts</b>	<b>\$ 22</b>	<b>\$ —</b>	<b>\$ 3</b>	<b>\$ 1</b>	<b>\$ 2</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>	<b>\$ —</b>
<b>Total Derivative Assets</b>	<b>\$ 162</b>	<b>\$ 33</b>	<b>\$ 85</b>	<b>\$ 46</b>	<b>\$ 39</b>	<b>\$ 5</b>	<b>\$ 16</b>	<b>\$ —</b>	<b>\$ 3</b>

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PIEDMONT NATURAL GAS COMPANY, INC.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

Derivative Liabilities	December 31, 2016							
(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont
<b>Commodity Contracts</b>								
<i>Not Designated as Hedging Instruments</i>								
Current	\$ 43	\$ —	\$ 12	\$ —	\$ 12	\$ —	\$ 2	\$ 35
Noncurrent	166	1	7	1	—	—	—	152
<b>Total Derivative Liabilities – Commodity Contracts</b>	<b>\$ 209</b>	<b>\$ 1</b>	<b>\$ 19</b>	<b>\$ 1</b>	<b>\$ 12</b>	<b>\$ —</b>	<b>\$ 2</b>	<b>\$ 187</b>
<b>Interest Rate Contracts</b>								
<i>Designated as Hedging Instruments</i>								
Current	\$ 8	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Noncurrent	8	—	—	—	—	—	—	—
<i>Not Designated as Hedging Instruments</i>								
Current	1	—	—	—	—	1	—	—
Noncurrent	26	15	6	6	—	5	—	—
<b>Total Derivative Liabilities – Interest Rate Contracts</b>	<b>\$ 43</b>	<b>\$ 15</b>	<b>\$ 6</b>	<b>\$ 6</b>	<b>\$ —</b>	<b>\$ 6</b>	<b>\$ —</b>	<b>\$ —</b>
<b>Total Derivative Liabilities</b>	<b>\$ 252</b>	<b>\$ 16</b>	<b>\$ 25</b>	<b>\$ 7</b>	<b>\$ 12</b>	<b>\$ 6</b>	<b>\$ 2</b>	<b>\$ 187</b>

**OFFSETTING ASSETS AND LIABILITIES**

The following tables present the line items on the Condensed Consolidated Balance Sheets where derivatives are reported. Substantially all of Duke Energy's outstanding derivative contracts are subject to enforceable master netting arrangements. The Gross amounts offset in the tables below show the effect of these netting arrangements on financial position, and include collateral posted to offset the net position. The amounts shown are calculated by counterparty. Accounts receivable or accounts payable may also be available to offset exposures in the event of bankruptcy. These amounts are not included in the tables below.

Derivative Assets	September 30, 2017							
(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont
<b>Current</b>								
Gross amounts recognized	\$ 49	\$ 6	\$ 11	\$ 5	\$ 5	\$ 2	\$ 28	\$ 2
Gross amounts offset	(3)	—	(3)	(1)	(2)	—	—	—
Net amounts presented in Current Assets: Other	\$ 46	\$ 6	\$ 8	\$ 4	\$ 3	\$ 2	\$ 28	\$ 2
<b>Noncurrent</b>								
Gross amounts recognized	\$ 20	\$ 2	\$ 4	\$ 3	\$ 1	\$ —	\$ —	\$ —
Gross amounts offset	(2)	(1)	(1)	(1)	—	—	—	—
Net amounts presented in Other Noncurrent Assets: Other	\$ 18	\$ 1	\$ 3	\$ 2	\$ 1	\$ —	\$ —	\$ —

Derivative Liabilities	September 30, 2017							
(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont
<b>Current</b>								
Gross amounts recognized	\$ 60	\$ 24	\$ 11	\$ 2	\$ 9	\$ 1	\$ —	\$ 18
Gross amounts offset	(4)	(1)	(3)	(1)	(2)	—	—	—
Net amounts presented in Current Liabilities: Other	\$ 56	\$ 23	\$ 8	\$ 1	\$ 7	\$ 1	\$ —	\$ 18
<b>Noncurrent</b>								
Gross amounts recognized	\$ 131	\$ 1	\$ 11	\$ 5	\$ —	\$ 4	\$ —	\$ 105
Gross amounts offset	(2)	(1)	(1)	(1)	—	—	—	—
Net amounts presented in Other Noncurrent Liabilities: Other	\$ 129	\$ —	\$ 10	\$ 4	\$ —	\$ 4	\$ —	\$ 105



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PIEDMONT NATURAL GAS COMPANY, INC.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

Derivative Assets	December 31, 2016								
(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont	
<b>Current</b>									
Gross amounts recognized	\$ 111	\$ 23	\$ 64	\$ 36	\$ 28	\$ 4	\$ 16	\$ 3	
Gross amounts offset	(11)	—	(11)	—	(11)	—	—	—	
Net amounts presented in Current Assets: Other	\$ 100	\$ 23	\$ 53	\$ 36	\$ 17	\$ 4	\$ 16	\$ 3	
<b>Noncurrent</b>									
Gross amounts recognized	\$ 51	\$ 10	\$ 21	\$ 10	\$ 11	\$ 1	\$ —	\$ —	
Gross amounts offset	(2)	(1)	(1)	(1)	—	—	—	—	
Net amounts presented in Other Noncurrent Assets: Other	\$ 49	\$ 9	\$ 20	\$ 9	\$ 11	\$ 1	\$ —	\$ —	

Derivative Liabilities	December 31, 2016								
(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont	
<b>Current</b>									
Gross amounts recognized	\$ 52	\$ —	\$ 12	\$ —	\$ 12	\$ 1	\$ 2	\$ 35	
Gross amounts offset	(11)	—	(11)	—	(11)	—	—	—	
Net amounts presented in Current Liabilities: Other	\$ 41	\$ —	\$ 1	\$ —	\$ 1	\$ 1	\$ 2	\$ 35	
<b>Noncurrent</b>									
Gross amounts recognized	\$ 200	\$ 16	\$ 13	\$ 7	\$ —	\$ 5	\$ —	\$ 152	
Gross amounts offset	(2)	(1)	(1)	(1)	—	—	—	—	
Net amounts presented in Other Noncurrent Liabilities: Other	\$ 198	\$ 15	\$ 12	\$ 6	\$ —	\$ 5	\$ —	\$ 152	

**OBJECTIVE CREDIT CONTINGENT FEATURES**

Certain derivative contracts contain objective credit contingent features. These features include the requirement to post cash collateral or letters of credit if specific events occur, such as a credit rating downgrade below investment grade. The following tables show information with respect to derivative contracts that are in a net liability position and contain objective credit-risk-related payment provisions.

	September 30, 2017				
(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida
Aggregate fair value of derivatives in a net liability position	\$ 40	\$ 25	\$ 15	\$ 6	\$ 9
Fair value of collateral already posted	—	—	—	—	—
Additional cash collateral or letters of credit in the event credit-risk-related contingent features were triggered	40	25	15	6	9

	December 31, 2016				
(in millions)	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida
Aggregate fair value of derivatives in a net liability position	\$ 34	\$ 16	\$ 18	\$ 6	\$ 12
Fair value of collateral already posted	—	—	—	—	—
Additional cash collateral or letters of credit in the event credit-risk-related contingent features were triggered	34	16	18	6	12

The Duke Energy Registrants have elected to offset cash collateral and fair values of derivatives. For amounts to be netted, the derivative and cash collateral must be executed with the same counterparty under the same master netting arrangement.

## 11. INVESTMENTS IN DEBT AND EQUITY SECURITIES

The Duke Energy Registrants classify their investments in debt and equity securities as either trading or available-for-sale.

### TRADING SECURITIES

Piedmont's investments in debt and equity securities held in rabbi trusts associated with certain deferred compensation plans are classified as trading securities. The fair value of these investments was \$1 million and \$5 million as of September 30, 2017, and December 31, 2016, respectively.

### AVAILABLE-FOR-SALE (AFS) SECURITIES

All other investments in debt and equity securities are classified as AFS.

Duke Energy's available-for-sale securities are primarily comprised of investments held in (i) the nuclear decommissioning trust fund (NDTF) at Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida, (ii) grantor trusts at Duke Energy Progress, Duke Energy Florida and Duke Energy Indiana related to Other Post-Retirement Benefit Obligations (OPEB) plans and (iii) Bison.

Duke Energy classifies all other investments in debt and equity securities as long term, unless otherwise noted.

### Investment Trusts

The investments within the NDTF investments and the Duke Energy Progress, Duke Energy Florida and Duke Energy Indiana grantor trusts (Investment Trusts) are managed by independent investment managers with discretion to buy, sell and invest pursuant to the objectives set forth by the trust agreements. The Duke Energy Registrants have limited oversight of the day-to-day management of these investments. As a result, the ability to hold investments in unrealized loss positions is outside the control of the Duke Energy Registrants. Accordingly, all unrealized losses associated with debt and equity securities within the Investment Trusts are considered other-than-temporary impairments (OTTIs) and are recognized immediately.

Investments within the Investment Trusts generally qualify for regulatory accounting, and accordingly realized and unrealized gains and losses are deferred as a regulatory asset or liability.

Substantially all amounts of the Duke Energy Registrants' gross unrealized holding losses as of September 30, 2017, and December 31, 2016, are considered OTTIs on investments within Investment Trusts that have been recognized immediately as a regulatory asset.

### Other AFS Securities

Unrealized gains and losses on all other AFS securities are included in other comprehensive income until realized, unless it is determined the carrying value of an investment is other-than-temporarily impaired. The Duke Energy Registrants analyze all investment holdings each reporting period to determine whether a decline in fair value should be considered other-than-temporary. If an OTTI exists, the unrealized credit loss is included in earnings. There were no material credit losses as of September 30, 2017, and December 31, 2016.

Other Investments amounts are recorded in Other within Other Noncurrent Assets on the Condensed Consolidated Balance Sheets.

## Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)

## DUKE ENERGY

The following table presents the estimated fair value of investments in AFS securities.

(in millions)	September 30, 2017			December 31, 2016		
	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value
<b>NDTF</b>						
Cash and cash equivalents	\$ —	\$ —	\$ 129	\$ —	\$ —	\$ 111
Equity securities	2,549	28	4,627	2,092	54	4,106
Corporate debt securities	16	2	600	10	8	528
Municipal bonds	5	2	334	3	10	331
U.S. government bonds	10	4	984	10	8	984
Other debt securities	—	1	120	—	3	124
<b>Total NDTF</b>	<b>\$ 2,580</b>	<b>\$ 37</b>	<b>\$ 6,794</b>	<b>\$ 2,115</b>	<b>\$ 83</b>	<b>\$ 6,184</b>
<b>Other Investments</b>						
Cash and cash equivalents	\$ —	\$ —	\$ 15	\$ —	\$ —	\$ 25
Equity securities	52	—	115	38	—	104
Corporate debt securities	1	—	64	1	1	66
Municipal bonds	3	1	83	2	1	82
U.S. government bonds	—	—	44	—	1	51
Other debt securities	—	—	37	—	2	42
<b>Total Other Investments</b>	<b>\$ 56</b>	<b>\$ 1</b>	<b>\$ 358</b>	<b>\$ 41</b>	<b>\$ 5</b>	<b>\$ 370</b>
<b>Total Investments</b>	<b>\$ 2,636</b>	<b>\$ 38</b>	<b>\$ 7,152</b>	<b>\$ 2,156</b>	<b>\$ 88</b>	<b>\$ 6,554</b>

The table below summarizes the maturity date for debt securities.

(in millions)	September 30, 2017
Due in one year or less	\$ 92
Due after one through five years	584
Due after five through 10 years	514
Due after 10 years	1,076
<b>Total</b>	<b>\$ 2,266</b>

Realized gains and losses, which were determined on a specific identification basis, from sales of AFS securities were as follows.

(in millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Realized gains	\$ 37	\$ 82	\$ 170	\$ 200
Realized losses	25	42	124	134

## PART I

DUKE ENERGY CORPORATION – DUKE ENERGY CAROLINAS, LLC – PROGRESS ENERGY, INC. –  
DUKE ENERGY PROGRESS, LLC – DUKE ENERGY FLORIDA, LLC – DUKE ENERGY OHIO, INC. – DUKE ENERGY INDIANA, LLC –  
PIEDMONT NATURAL GAS COMPANY, INC.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

**DUKE ENERGY CAROLINAS**

The following table presents the estimated fair value of investments in AFS securities.

(in millions)	September 30, 2017			December 31, 2016		
	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value
<b>NDTF</b>						
Cash and cash equivalents	\$ —	\$ —	\$ 34	\$ —	\$ —	\$ 18
Equity securities	1,395	14	2,553	1,157	28	2,245
Corporate debt securities	9	2	395	5	6	354
Municipal bonds	1	—	52	1	2	67
U.S. government bonds	3	3	466	2	5	458
Other debt securities	—	1	113	—	3	116
<b>Total NDTF</b>	<b>\$ 1,408</b>	<b>\$ 20</b>	<b>\$ 3,613</b>	<b>\$ 1,165</b>	<b>\$ 44</b>	<b>\$ 3,258</b>
<b>Other Investments</b>						
Other debt securities	—	—	—	—	1	3
<b>Total Investments</b>	<b>\$ 1,408</b>	<b>\$ 20</b>	<b>\$ 3,613</b>	<b>\$ 1,165</b>	<b>\$ 45</b>	<b>\$ 3,261</b>

The table below summarizes the maturity date for debt securities.

(in millions)	September 30, 2017
Due in one year or less	\$ 5
Due after one through five years	218
Due after five through 10 years	264
Due after 10 years	539
<b>Total</b>	<b>\$ 1,026</b>

Realized gains and losses, which were determined on a specific identification basis, from sales of AFS securities were as follows.

(in millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Realized gains	\$ 20	\$ 58	\$ 110	\$ 125
Realized losses	13	28	76	84

## Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)

## PROGRESS ENERGY

The following table presents the estimated fair value of investments in AFS securities.

(in millions)	September 30, 2017			December 31, 2016		
	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value
<b>NDTF</b>						
Cash and cash equivalents	\$ —	\$ —	\$ 95	\$ —	\$ —	\$ 93
Equity securities	1,154	14	2,074	935	26	1,861
Corporate debt securities	7	—	205	5	2	174
Municipal bonds	4	2	282	2	8	264
U.S. government bonds	7	1	518	8	3	526
Other debt securities	—	—	7	—	—	8
<b>Total NDTF</b>	<b>\$ 1,172</b>	<b>\$ 17</b>	<b>\$ 3,181</b>	<b>\$ 950</b>	<b>\$ 39</b>	<b>\$ 2,926</b>
<b>Other Investments</b>						
Cash and cash equivalents	\$ —	\$ —	\$ 11	\$ —	\$ —	\$ 21
Municipal bonds	3	—	47	2	—	44
<b>Total Other Investments</b>	<b>\$ 3</b>	<b>\$ —</b>	<b>\$ 58</b>	<b>\$ 2</b>	<b>\$ —</b>	<b>\$ 65</b>
<b>Total Investments</b>	<b>\$ 1,175</b>	<b>\$ 17</b>	<b>\$ 3,239</b>	<b>\$ 952</b>	<b>\$ 39</b>	<b>\$ 2,991</b>

The table below summarizes the maturity date for debt securities.

(in millions)	September 30, 2017
Due in one year or less	\$ 74
Due after one through five years	309
Due after five through 10 years	194
Due after 10 years	482
<b>Total</b>	<b>\$ 1,059</b>

Realized gains and losses, which were determined on a specific identification basis, from sales of AFS securities were as follows.

(in millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Realized gains	\$ 16	\$ 21	\$ 58	\$ 71
Realized losses	12	13	47	49

## Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)

## DUKE ENERGY PROGRESS

The following table presents the estimated fair value of investments in AFS securities.

(in millions)	September 30, 2017			December 31, 2016		
	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value
<b>NDTF</b>						
Cash and cash equivalents	\$ —	\$ —	\$ 46	\$ —	\$ —	\$ 45
Equity securities	882	11	1,683	704	21	1,505
Corporate debt securities	5	—	144	4	1	120
Municipal bonds	4	2	281	2	8	263
U.S. government bonds	5	1	303	5	2	275
Other debt securities	—	—	4	—	—	5
<b>Total NDTF</b>	<b>\$ 896</b>	<b>\$ 14</b>	<b>\$ 2,461</b>	<b>\$ 715</b>	<b>\$ 32</b>	<b>\$ 2,213</b>
<b>Other Investments</b>						
Cash and cash equivalents	\$ —	\$ —	\$ 1	\$ —	\$ —	\$ 1
<b>Total Investments</b>	<b>\$ 896</b>	<b>\$ 14</b>	<b>\$ 2,462</b>	<b>\$ 715</b>	<b>\$ 32</b>	<b>\$ 2,214</b>

The table below summarizes the maturity date for debt securities.

(in millions)	September 30, 2017
Due in one year or less	\$ 16
Due after one through five years	209
Due after five through 10 years	136
Due after 10 years	371
<b>Total</b>	<b>\$ 732</b>

Realized gains and losses, which were determined on a specific identification basis, from sales of AFS securities were as follows.

(in millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Realized gains	\$ 14	\$ 18	\$ 49	\$ 60
Realized losses	11	11	41	42

## Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)

## DUKE ENERGY FLORIDA

The following table presents the estimated fair value of investments in AFS securities.

(in millions)	September 30, 2017			December 31, 2016		
	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value
<b>NDTF</b>						
Cash and cash equivalents	\$ —	\$ —	\$ 49	\$ —	\$ —	\$ 48
Equity securities	272	3	391	231	5	356
Corporate debt securities	2	—	61	1	1	54
Municipal bonds	—	—	1	—	—	1
U.S. government bonds	2	—	215	3	1	251
Other debt securities	—	—	3	—	—	3
<b>Total NDTF<sup>(a)</sup></b>	<b>\$ 276</b>	<b>\$ 3</b>	<b>\$ 720</b>	<b>\$ 235</b>	<b>\$ 7</b>	<b>\$ 713</b>
<b>Other Investments</b>						
Cash and cash equivalents	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 4
Municipal bonds	3	—	47	2	—	44
<b>Total Other Investments</b>	<b>\$ 3</b>	<b>\$ —</b>	<b>\$ 47</b>	<b>\$ 2</b>	<b>\$ —</b>	<b>\$ 48</b>
<b>Total Investments</b>	<b>\$ 279</b>	<b>\$ 3</b>	<b>\$ 767</b>	<b>\$ 237</b>	<b>\$ 7</b>	<b>\$ 761</b>

- (a) During the nine months ended September 30, 2017, Duke Energy Florida continued to receive reimbursements from the NDTF for costs related to ongoing decommissioning activity of the Crystal River Unit 3 nuclear plant.

The table below summarizes the maturity date for debt securities.

(in millions)	September 30, 2017
Due in one year or less	\$ 58
Due after one through five years	100
Due after five through 10 years	58
Due after 10 years	111
<b>Total</b>	<b>\$ 327</b>

Realized gains and losses, which were determined on a specific identification basis, from sales of AFS securities were as follows.

(in millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Realized gains	\$ 2	\$ 3	\$ 9	\$ 11
Realized losses	1	2	6	7

**DUKE ENERGY INDIANA**

The following table presents the estimated fair value of investments in AFS securities.

(in millions)	September 30, 2017			December 31, 2016		
	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value	Gross Unrealized Holding Gains	Gross Unrealized Holding Losses	Estimated Fair Value
<b>Investments</b>						
Equity securities	\$ 44	\$ —	\$ 91	\$ 33	\$ —	\$ 79
Corporate debt securities	—	—	3	—	—	2
Municipal bonds	—	1	28	—	1	28
U.S. government bonds	—	—	—	—	—	1
<b>Total Investments</b>	<b>\$ 44</b>	<b>\$ 1</b>	<b>\$ 122</b>	<b>\$ 33</b>	<b>\$ 1</b>	<b>\$ 110</b>

The table below summarizes the maturity date for debt securities.

(in millions)	September 30, 2017
Due in one year or less	\$ 4
Due after one through five years	12
Due after five through 10 years	8
Due after 10 years	7
<b>Total</b>	<b>\$ 31</b>

Realized gains and losses, which were determined on a specific identification basis, from sales of AFS securities were insignificant for the three and nine months ended September 30, 2017, and 2016.

**12. FAIR VALUE MEASUREMENTS**

Fair value is the exchange price to sell an asset or transfer a liability in an orderly transaction between market participants at the measurement date. The fair value definition focuses on an exit price versus the acquisition cost. Fair value measurements use market data or assumptions market participants would use in pricing the asset or liability, including assumptions about risk and the risks inherent in the inputs to the valuation technique. These inputs may be readily observable, corroborated by market data or generally unobservable. Valuation techniques maximize the use of observable inputs and minimize use of unobservable inputs. A midmarket pricing convention (the midpoint price between bid and ask prices) is permitted for use as a practical expedient.

Fair value measurements are classified in three levels based on the fair value hierarchy:

**Level 1** – Unadjusted quoted prices in active markets for identical assets or liabilities that the reporting entity can access at the measurement date. An active market is one in which transactions for an asset or liability occur with sufficient frequency and volume to provide ongoing pricing information.

**Level 2** – A fair value measurement utilizing inputs other than quoted prices included in Level 1 that are observable, either directly or indirectly, for an asset or liability. Inputs include (i) quoted prices for similar assets or liabilities in active markets, (ii) quoted prices for identical or similar assets or liabilities in markets that are not active (iii) and inputs other than quoted market prices that are observable for the asset or liability, such as interest rate curves and yield curves observable at commonly quoted intervals, volatilities and credit spreads. A Level 2 measurement cannot have more than an insignificant portion of its valuation based on unobservable inputs. Instruments in this category include non-exchange-traded derivatives, such as over-the-counter forwards, swaps and options; certain marketable debt securities; and financial instruments traded in less-than-active markets.

**Level 3** – Any fair value measurement that includes unobservable inputs for more than an insignificant portion of the valuation. These inputs may be used with internally developed methodologies that result in management's best estimate of fair value. Level 3 measurements may include long-term instruments that extend into periods in which observable inputs are not available.

**Not Categorized** – Certain investments are not categorized within the Fair Value hierarchy. These investments are measured based on the fair value of the underlying investments but may not be readily redeemable at that fair value.

Fair value accounting guidance permits entities to elect to measure certain financial instruments that are not required to be accounted for at fair value, such as equity method investments or the company's own debt, at fair value. The Duke Energy Registrants have not elected to record any of these items at fair value.



**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

Transfers between levels represent assets or liabilities that were previously (i) categorized at a higher level for which the inputs to the estimate became less observable or (ii) classified at a lower level for which the inputs became more observable during the period. The Duke Energy Registrant's policy is to recognize transfers between levels of the fair value hierarchy at the end of the period. There were no transfers between levels during the three and nine months ended September 30, 2017, and 2016.

Valuation methods of the primary fair value measurements disclosed below are as follows.

**Investments in equity securities**

The majority of investments in equity securities are valued using Level 1 measurements. Investments in equity securities are typically valued at the closing price in the principal active market as of the last business day of the quarter. Principal active markets for equity prices include published exchanges such as New York Stock Exchange (NYSE) and Nasdaq Stock Market. Foreign equity prices are translated from their trading currency using the currency exchange rate in effect at the close of the principal active market. There was no after-hours market activity that was required to be reflected in the reported fair value measurements.

**Investments in debt securities**

Most investments in debt securities are valued using Level 2 measurements because the valuations use interest rate curves and credit spreads applied to the terms of the debt instrument (maturity and coupon interest rate) and consider the counterparty credit rating. If the market for a particular fixed-income security is relatively inactive or illiquid, the measurement is Level 3.

**Commodity derivatives**

Commodity derivatives with clearinghouses are classified as Level 1. Other commodity derivatives, including Piedmont's natural gas supply contracts, are primarily valued using internally developed discounted cash flow models that incorporate forward price, adjustments for liquidity (bid-ask spread) and credit or non-performance risk (after reflecting credit enhancements such as collateral), and are discounted to present value. Pricing inputs are derived from published exchange transaction prices and other observable data sources. In the absence of an active market, the last available price may be used. If forward price curves are not observable for the full term of the contract and the unobservable period had more than an insignificant impact on the valuation, the commodity derivative is classified as Level 3. In isolation, increases (decreases) in natural gas forward prices result in favorable (unfavorable) fair value adjustments for natural gas purchase contracts; and increases (decreases) in electricity forward prices result in unfavorable (favorable) fair value adjustments for electricity sales contracts. Duke Energy regularly evaluates and validates pricing inputs used to estimate the fair value of natural gas commodity contracts by a market participant price verification procedure. This procedure provides a comparison of internal forward commodity curves to market participant generated curves.

**Interest rate derivatives**

Most over-the-counter interest rate contract derivatives are valued using financial models that utilize observable inputs for similar instruments and are classified as Level 2. Inputs include forward interest rate curves, notional amounts, interest rates and credit quality of the counterparties.

**Other fair value considerations**

See Note 2 related to the acquisition of Piedmont in 2016. See Note 11 in Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016, for a discussion of the valuation of goodwill and intangible assets.

**DUKE ENERGY**

The following tables provide recorded balances for assets and liabilities measured at fair value on a recurring basis on the Condensed Consolidated Balance Sheets. Derivative amounts in the tables below for all Duke Energy Registrants exclude cash collateral, which is disclosed in Note 10. See Note 11 for additional information related to investments by major security type for the Duke Energy Registrants.

(in millions)	September 30, 2017				
	Total Fair Value	Level 1	Level 2	Level 3	Not Categorized
NDTF equity securities	\$ 4,627	\$ 4,549	\$ —	\$ —	78
NDTF debt securities	2,167	617	1,550	—	—
Other trading and AFS equity securities	116	116	—	—	—
Other AFS debt securities	243	59	184	—	—
Derivative assets	69	4	35	30	—
Total assets	7,222	5,345	1,769	30	78
Derivative liabilities	(191)	—	(68)	(123)	—
Net assets (liabilities)	\$ 7,031	\$ 5,345	\$ 1,701	\$(93)	78

DUKE ENERGY CORPORATION – DUKE ENERGY CAROLINAS, LLC – PROGRESS ENERGY, INC. –  
DUKE ENERGY PROGRESS, LLC – DUKE ENERGY FLORIDA, LLC – DUKE ENERGY OHIO, INC. – DUKE ENERGY INDIANA, LLC –  
PIEDMONT NATURAL GAS COMPANY, INC.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

(in millions)	December 31, 2016				
	Total Fair Value	Level 1	Level 2	Level 3	Not Categorized
NDTF equity securities	\$ 4,106	\$ 4,029	\$ —	\$ —	77
NDTF debt securities	2,078	632	1,446	—	—
Other trading and AFS equity securities	104	104	—	—	—
Other trading and AFS debt securities	266	75	186	5	—
Derivative assets	162	5	136	21	—
Total assets	6,716	4,845	1,768	26	77
Derivative liabilities	(252)	(2)	(63)	(187)	—
Net assets (liabilities)	\$ 6,464	\$ 4,843	\$ 1,705	\$ (161)	77

The following tables provide reconciliations of beginning and ending balances of assets and liabilities measured at fair value using Level 3 measurements. Amounts included in earnings for derivatives are primarily included in Cost of natural gas on the Duke Energy Registrants' Condensed Consolidated Statements of Operations and Comprehensive Income. Amounts included in changes of net assets on the Duke Energy Registrants' Condensed Consolidated Balance Sheets are included in regulatory assets or liabilities. All derivative assets and liabilities are presented on a net basis.

(in millions)	Three Months Ended September 30, 2017			Three Months Ended September 30, 2016		
	Investments	Derivatives (net)	Total	Investments	Derivatives (net)	Total
Balance at beginning of period	\$ —	\$ (91)	\$ (91)	\$ 4	\$ 34	\$ 38
Purchases, sales, issuances and settlements:						
Settlements	—	(12)	(12)	—	(9)	(9)
Total gains (losses) included on the Condensed Consolidated Balance Sheet	—	10	10	—	(2)	(2)
Balance at end of period	\$ —	\$ (93)	\$ (93)	\$ 4	\$ 23	\$ 27

(in millions)	Nine Months Ended September 30, 2017			Nine Months Ended September 30, 2016		
	Investments	Derivatives (net)	Total	Investments	Derivatives (net)	Total
Balance at beginning of period	\$ 5	\$ (166)	\$ (161)	\$ 5	\$ 10	\$ 15
Total pretax realized or unrealized gains included in comprehensive income	1	—	1	—	—	—
Purchases, sales, issuances and settlements:						
Purchases	—	55	55	—	34	34
Sales	(6)	—	(6)	(1)	—	(1)
Settlements	—	(30)	(30)	—	(22)	(22)
Total gains included on the Condensed Consolidated Balance Sheet	—	48	48	—	1	1
Balance at end of period	\$ —	\$ (93)	\$ (93)	\$ 4	\$ 23	\$ 27

#### DUKE ENERGY CAROLINAS

The following tables provide recorded balances for assets and liabilities measured at fair value on a recurring basis on the Condensed Consolidated Balance Sheets.

(in millions)	September 30, 2017				
	Total Fair Value	Level 1	Level 2	Level 3	Not Categorized
NDTF equity securities	\$ 2,553	\$ 2,475	\$ —	\$ —	78
NDTF debt securities	1,060	178	882	—	—
Derivative assets	8	—	8	—	—
Total assets	3,621	2,653	890	—	78
Derivative liabilities	(25)	—	(25)	—	—
Net assets	\$ 3,596	\$ 2,653	\$ 865	\$ —	78

## Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)

(in millions)	December 31, 2016				
	Total Fair Value	Level 1	Level 2	Level 3	Not Categorized
NDTF equity securities	\$ 2,245	\$ 2,168	\$ —	\$ —	77
NDTF debt securities	1,013	178	835	—	—
Other AFS debt securities	3	—	—	3	—
Derivative assets	33	—	33	—	—
Total assets	3,294	2,346	868	3	77
Derivative liabilities	(16)	—	(16)	—	—
Net assets	\$ 3,278	\$ 2,346	\$ 852	\$ 3	77

The following table provides a reconciliation of beginning and ending balances of assets and liabilities measured at fair value using Level 3 measurements.

(in millions)	Investments			
	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Balance at beginning of period	\$ —	\$ 3	\$ 3	\$ 3
Total pretax realized or unrealized gains included in comprehensive income	—	—	1	—
Purchases, sales, issuances and settlements:				
Sales	—	—	(4)	—
Balance at end of period	\$ —	\$ 3	\$ —	\$ 3

## PROGRESS ENERGY

The following tables provide recorded balances for assets and liabilities measured at fair value on a recurring basis on the Condensed Consolidated Balance Sheets.

(in millions)	September 30, 2017			December 31, 2016		
	Total Fair Value	Level 1	Level 2	Total Fair Value	Level 1	Level 2
NDTF equity securities	\$ 2,074	\$ 2,074	\$ —	\$ 1,861	\$ 1,861	\$ —
NDTF debt securities	1,107	439	668	1,065	454	611
Other AFS debt securities	58	11	47	65	21	44
Derivative assets	15	1	14	85	—	85
Total assets	3,254	2,525	729	3,076	2,336	740
Derivative liabilities	(22)	—	(22)	(25)	—	(25)
Net assets	\$ 3,232	\$ 2,525	\$ 707	\$ 3,051	\$ 2,336	\$ 715

## DUKE ENERGY PROGRESS

The following table provides recorded balances for assets and liabilities measured at fair value on a recurring basis on the Condensed Consolidated Balance Sheets.

(in millions)	September 30, 2017			December 31, 2016		
	Total Fair Value	Level 1	Level 2	Total Fair Value	Level 1	Level 2
NDTF equity securities	\$ 1,683	\$ 1,683	\$ —	\$ 1,505	\$ 1,505	\$ —
NDTF debt securities	778	231	547	708	207	501
Other AFS debt securities	1	1	—	1	1	—
Derivative assets	8	1	7	46	—	46
Total assets	2,470	1,916	554	2,260	1,713	547
Derivative liabilities	(7)	—	(7)	(7)	—	(7)
Net assets	\$ 2,463	\$ 1,916	\$ 547	\$ 2,253	\$ 1,713	\$ 540

## Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)

## DUKE ENERGY FLORIDA

The following table provides recorded balances for assets and liabilities measured at fair value on a recurring basis on the Condensed Consolidated Balance Sheets.

(in millions)	September 30, 2017			December 31, 2016		
	Total Fair Value	Level 1	Level 2	Total Fair Value	Level 1	Level 2
NDTF equity securities	\$ 391	\$ 391	\$ —	\$ 356	\$ 356	\$ —
NDTF debt securities	329	208	121	357	247	110
Other AFS debt securities	47	—	47	48	4	44
Derivative assets	6	—	6	39	—	39
Total assets	773	599	174	800	607	193
Derivative liabilities	(9)	—	(9)	(12)	—	(12)
Net assets	\$ 764	\$ 599	\$ 165	\$ 788	\$ 607	\$ 181

## DUKE ENERGY OHIO

The following table provides recorded balances for assets and liabilities measured at fair value on a recurring basis on the Condensed Consolidated Balance Sheets.

(in millions)	September 30, 2017			December 31, 2016		
	Total Fair Value	Level 2	Level 3	Total Fair Value	Level 2	Level 3
Derivative assets	\$ 2	\$ —	\$ 2	\$ 5	\$ —	\$ 5
Derivative liabilities	(5)	(5)	—	(6)	(6)	—
Net (liabilities) assets	\$ (3)	\$ (5)	\$ 2	\$ (1)	\$ (6)	\$ 5

The following table provides a reconciliation of beginning and ending balances of assets and liabilities measured at fair value using Level 3 measurements.

(in millions)	Derivatives (net)			
	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Balance at beginning of period	\$ 3	\$ 5	\$ 5	\$ 3
Purchases, sales, issuances and settlements:				
Purchases	—	—	3	5
Settlements	(1)	(2)	(3)	(4)
Total losses included on the Condensed Consolidated Balance Sheet	—	—	(3)	(1)
Balance at end of period	\$ 2	\$ 3	\$ 2	\$ 3

## DUKE ENERGY INDIANA

The following table provides recorded balances for assets and liabilities measured at fair value on a recurring basis on the Condensed Consolidated Balance Sheets.

(in millions)	September 30, 2017				December 31, 2016			
	Total Fair Value	Level 1	Level 2	Level 3	Total Fair Value	Level 1	Level 2	Level 3
Other AFS equity securities	\$ 91	\$ 91	\$ —	\$ —	\$ 79	\$ 79	\$ —	\$ —
Other AFS debt securities	31	—	31	—	31	—	31	—
Derivative assets	28	—	—	28	16	—	—	16
Total assets	150	91	31	28	126	79	31	16
Derivative liabilities	—	—	—	—	(2)	(2)	—	—
Net assets	\$ 150	\$ 91	\$ 31	\$ 28	\$ 124	\$ 77	\$ 31	\$ 16

## PART I

DUKE ENERGY CORPORATION – DUKE ENERGY CAROLINAS, LLC – PROGRESS ENERGY, INC. –  
DUKE ENERGY PROGRESS, LLC – DUKE ENERGY FLORIDA, LLC – DUKE ENERGY OHIO, INC. – DUKE ENERGY INDIANA, LLC –  
PIEDMONT NATURAL GAS COMPANY, INC.

## Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)

The following table provides a reconciliation of beginning and ending balances of assets and liabilities measured at fair value using Level 3 measurements.

(in millions)	Derivatives (net)			
	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Balance at beginning of period	\$ 51	\$ 29	\$ 16	\$ 7
Purchases, sales, issuances and settlements:				
Purchases	—	—	52	29
Settlements	(11)	(7)	(27)	(18)
Total (losses) gains included on the Condensed Consolidated Balance Sheet	(12)	(2)	(13)	2
Balance at end of period	\$ 28	\$ 20	\$ 28	\$ 20

## PIEDMONT

The following table provides recorded balances for assets and liabilities measured at fair value on a recurring basis on the Condensed Consolidated Balance Sheets.

(in millions)	September 30, 2017			December 31, 2016		
	Total Fair Value	Level 1	Level 3	Total Fair Value	Level 1	Level 3
Other trading equity securities	\$ 1	\$ 1	—	\$ 4	\$ 4	—
Other trading debt securities	—	—	—	1	1	—
Derivative assets	2	2	—	3	3	—
Total assets	3	3	—	8	8	—
Derivative liabilities	(123)	—	(123)	(187)	—	(187)
Net (liabilities) assets	\$ (120)	\$ 3	\$ (123)	\$ (179)	\$ 8	\$ (187)

The following table provides a reconciliation of beginning and ending balances of assets and liabilities measured at fair value using Level 3 measurements.

(in millions)	Derivatives (net)			
	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Balance at beginning of period	\$ (145)	\$ (190)	\$ (187)	\$ (149)
Total gains (losses) and settlements	22	(5)	64	(46)
Balance at end of period	\$ (123)	\$ (195)	\$ (123)	\$ (195)

## QUANTITATIVE INFORMATION ABOUT UNOBSERVABLE INPUTS

The following tables include quantitative information about the Duke Energy Registrants' derivatives classified as Level 3.

Investment Type	September 30, 2017			
	Fair Value (in millions)	Valuation Technique	Unobservable Input	Range
<b>Duke Energy Ohio</b>				
Financial Transmission Rights (FTRs)	\$ 2	RTO auction pricing	FTR price – per megawatt-hour (MWh)	\$ — - \$ 1.08
<b>Duke Energy Indiana</b>				
FTRs	28	RTO auction pricing	FTR price – per MWh	(0.82) - 6.19
<b>Piedmont</b>				
Natural gas contracts	(123)	Discounted cash flow	Forward natural gas curves – price per million British thermal unit (MMBtu)	2.12 - 3.36
<b>Duke Energy</b>				
Total Level 3 derivatives	\$ (93)			

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

December 31, 2016				
Investment Type	Fair Value (in millions)	Valuation Technique	Unobservable Input	Range
<b>Duke Energy Ohio</b>				
FTRs	\$ 5	RTO auction pricing	FTR price – per MWh	\$ 0.77 - \$ 3.52
<b>Duke Energy Indiana</b>				
FTRs	16	RTO auction pricing	FTR price – per MWh	(0.83) - 9.32
<b>Piedmont</b>				
Natural gas contracts	(187)	Discounted cash flow	Forward natural gas curves – price per MMBtu	2.31 - 4.18
<b>Duke Energy</b>				
Total Level 3 derivatives	\$ (166)			

**OTHER FAIR VALUE DISCLOSURES**

The fair value and book value of long-term debt, including current maturities, is summarized in the following table. Estimates determined are not necessarily indicative of amounts that could have been settled in current markets. Fair value of long-term debt uses Level 2 measurements.

(in millions)	September 30, 2017		December 31, 2016	
	Book Value	Fair Value	Book Value	Fair Value
Duke Energy	\$ 51,414	\$ 53,985	\$ 47,895	\$ 49,161
Duke Energy Carolinas	9,525	10,653	9,603	10,494
Progress Energy	17,637	19,615	17,541	19,107
Duke Energy Progress	7,557	8,075	7,011	7,357
Duke Energy Florida	6,696	7,475	6,125	6,728
Duke Energy Ohio	2,067	2,242	1,884	2,020
Duke Energy Indiana	3,785	4,407	3,786	4,260
Piedmont	2,036	2,193	1,821	1,933

At both September 30, 2017, and December 31, 2016, fair value of cash and cash equivalents, accounts and notes receivable, accounts payable, notes payable and commercial paper, and nonrecourse notes payable of VIEs are not materially different from their carrying amounts because of the short-term nature of these instruments and/or because the stated rates approximate market rates.

**13. VARIABLE INTEREST ENTITIES**

A VIE is an entity that is evaluated for consolidation using more than a simple analysis of voting control. The analysis to determine whether an entity is a VIE considers contracts with an entity, credit support for an entity, the adequacy of the equity investment of an entity and the relationship of voting power to the amount of equity invested in an entity. This analysis is performed either upon the creation of a legal entity or upon the occurrence of an event requiring re-evaluation, such as a significant change in an entity's assets or activities. A qualitative analysis of control determines the party that consolidates a VIE. This assessment is based on (i) what party has the power to direct the activities of the VIE that most significantly impact its economic performance and (ii) what party has rights to receive benefits or is obligated to absorb losses that could potentially be significant to the VIE. The analysis of the party that consolidates a VIE is a continual reassessment.

**CONSOLIDATED VIEs**

The obligations of the consolidated VIEs discussed in the following paragraphs are nonrecourse to the Duke Energy registrants. The registrants have no requirement to provide liquidity to, purchase assets of or guarantee performance of these VIEs unless noted in the following paragraphs.

No financial support was provided to any of the consolidated VIEs during the nine months ended September 30, 2017, and the year ended December 31, 2016, or is expected to be provided in the future, that was not previously contractually required.

**Receivables Financing – DERF / DEPR / DEFR**

Duke Energy Receivables Finance Company, LLC (DERF), Duke Energy Progress Receivables, LLC (DEPR) and Duke Energy Florida Receivables, LLC (DEFR) are bankruptcy remote, special purpose subsidiaries of Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida, respectively. DERF, DEPR and DEFR are wholly owned limited liability companies with separate legal existence from their parent companies, and their assets are not generally available to creditors of their parent companies. On a revolving basis, DERF, DEPR and DEFR buy certain accounts receivable arising from the sale of electricity and related services from their parent companies.

DERF, DEPR and DEFR borrow amounts under credit facilities to buy these receivables. Borrowing availability from the credit facilities is limited to the amount of qualified receivables purchased. The sole source of funds to satisfy the related debt obligations is cash collections from the receivables. Amounts borrowed under the credit facilities are reflected on the Condensed Consolidated Balance Sheets as Long-Term Debt.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

The most significant activity that impacts the economic performance of DERF, DEPR and DEFR are the decisions made to manage delinquent receivables. Duke Energy Carolinas, Duke Energy Progress and Duke Energy Florida consolidate DERF, DEPR and DEFR, respectively, as they make those decisions.

**Receivables Financing – CRC**

CRC is a bankruptcy remote, special purpose entity indirectly owned by Duke Energy. On a revolving basis, CRC buys certain accounts receivable arising from the sale of electricity, natural gas and related services from Duke Energy Ohio and Duke Energy Indiana. CRC borrows amounts under a credit facility to buy the receivables from Duke Energy Ohio and Duke Energy Indiana. Borrowing availability from the credit facility is limited to the amount of qualified receivables sold to CRC. The sole source of funds to satisfy the related debt obligation is cash collections from the receivables. Amounts borrowed under the credit facility are reflected on Duke Energy's Condensed Consolidated Balance Sheets as Long-Term Debt.

The proceeds Duke Energy Ohio and Duke Energy Indiana receive from the sale of receivables to CRC are typically 75 percent cash and 25 percent in the form of a subordinated note from CRC. The subordinated note is a retained interest in the receivables sold. Depending on collection experience, additional equity infusions to CRC may be required by Duke Energy to maintain a minimum equity balance of \$3 million.

CRC is considered a VIE because (i) equity capitalization is insufficient to support its operations, (ii) power to direct the activities that most significantly impact the economic performance of the entity are not performed by the equity holder and (iii) deficiencies in net worth of CRC are funded by Duke Energy. The most significant activities that impact the economic performance of CRC are decisions made to manage delinquent receivables. Duke Energy consolidates CRC as it makes these decisions. Neither Duke Energy Ohio nor Duke Energy Indiana consolidate CRC.

**Receivables Financing – Credit Facilities**

The following table summarizes the amounts and expiration dates of the credit facilities described above.

(in millions)	Duke Energy			
	CRC	Duke Energy Carolinas	Duke Energy Progress	Duke Energy Florida
		DERF	DEPR	DEFR
Expiration date	December 2018	December 2018	February 2019	April 2019
Credit facility amount	\$ 325	\$ 425	\$ 300	\$ 225
Amounts borrowed at September 30, 2017	325	425	300	225
Amounts borrowed at December 31, 2016	325	425	300	225

**Nuclear Asset-Recovery Bonds – DEFPF**

Duke Energy Florida Project Finance, LLC (DEFPF) is a bankruptcy remote, wholly owned special purpose subsidiary of Duke Energy Florida. DEFPF was formed in 2016 for the sole purpose of issuing nuclear asset-recovery bonds to finance Duke Energy Florida's unrecovered regulatory asset related to Crystal River Unit 3.

In June 2016, DEFPF issued \$1,294 million of senior secured bonds and used the proceeds to acquire nuclear asset-recovery property from Duke Energy Florida. The nuclear asset-recovery property acquired includes the right to impose, bill, collect and adjust a non-bypassable nuclear asset-recovery charge from all Duke Energy Florida retail customers until the bonds are paid in full and all financing costs have been recovered. The nuclear asset-recovery bonds are secured by the nuclear asset-recovery property, and cash collections from the nuclear asset-recovery charges are the sole source of funds to satisfy the debt obligation. The bondholders have no recourse to Duke Energy Florida.

DEFPF is considered a VIE primarily because the equity capitalization is insufficient to support its operations. Duke Energy Florida has the power to direct the significant activities of the VIE as described above, and therefore Duke Energy Florida is considered the primary beneficiary and consolidates DEFPF.

The following table summarizes the impact of DEFPF on Duke Energy Florida's Condensed Consolidated Balance Sheets.

(in millions)	September 30, 2017	December 31, 2016
Receivables of VIEs	\$ 6	\$ 6
Current Assets: Regulatory assets	51	50
Current Assets: Other	20	53
Other Noncurrent Assets: Regulatory assets	1,101	1,142
Current Liabilities: Other	3	17
Current maturities of long-term debt	53	62
Long-Term Debt	1,164	1,217



**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)****Commercial Renewables**

Certain of Duke Energy's renewable energy facilities are VIEs due to Duke Energy issuing guarantees for debt service and operations and maintenance reserves in support of debt financings. Assets are restricted and cannot be pledged as collateral or sold to third parties without prior approval of debt holders. The activities that most significantly impact the economic performance of these renewable energy facilities were decisions associated with siting, negotiating PPAs, engineering, procurement and construction and decisions associated with ongoing operations and maintenance-related activities. Duke Energy consolidates the entities as it is responsible for all of these decisions. The table below presents material balances reported on Duke Energy's Condensed Consolidated Balance Sheets related to renewables VIEs.

(in millions)	September 30, 2017	December 31, 2016
Current Assets: Other	\$ 399	\$ 223
Property, plant and equipment, cost	3,923	3,419
Accumulated depreciation and amortization	(556)	(453)
Current maturities of long-term debt	162	198
Long-Term Debt	1,780	1,097
Deferred income taxes	223	275
Other Noncurrent Liabilities: Other	247	252

**NON-CONSOLIDATED VIEs**

The following tables summarize the impact of non-consolidated VIEs on the Condensed Consolidated Balance Sheets.

(in millions)	September 30, 2017					
	Duke Energy				Duke	Duke
	Pipeline	Commercial	Other	Total	Energy	Energy
Investments	Renewables	VIEs <sup>(a)</sup>	Ohio		Indiana	
Receivables from affiliated companies	\$ —	\$ —	\$ —	\$ —	\$ 46	\$ 75
Investments in equity method unconsolidated affiliates	895	172	39	1,106	—	—
Other noncurrent assets	18	—	—	18	—	—
Total assets	\$ 913	\$ 172	\$ 39	\$ 1,124	\$ 46	\$ 75
Other current liabilities	—	—	3	3	—	—
Deferred income taxes	29	—	—	29	—	—
Other noncurrent liabilities	—	—	12	12	—	—
Total liabilities	\$ 29	\$ —	\$ 15	\$ 44	\$ —	\$ —
Net assets	\$ 884	\$ 172	\$ 24	\$ 1,080	\$ 46	\$ 75

- (a) Duke Energy holds a 50 percent equity interest in Duke-American Transmission Company, LLC (DATC). As of December 31, 2016, DATC was considered a VIE due to having insufficient equity to finance its own activities without subordinated financial support. However, DATC has sufficient equity to finance its own activities as of September 30, 2017, and, therefore, is no longer considered a VIE. Duke Energy's investment in DATC was \$45 million at September 30, 2017.

(in millions)	December 31, 2016						
	Duke Energy				Duke	Duke	Piedmont <sup>(a)</sup>
	Pipeline	Commercial	Other	Total	Energy	Energy	
Investments	Renewables	VIEs	Ohio		Indiana		
Receivables from affiliated companies	\$ —	\$ —	\$ —	\$ —	\$ 82	\$ 101	\$ —
Investments in equity method unconsolidated affiliates	487	174	90	751	—	—	139
Other noncurrent assets	12	—	—	12	—	—	—
Total assets	\$ 499	\$ 174	\$ 90	\$ 763	\$ 82	\$ 101	\$ 139
Other current liabilities	—	—	3	3	—	—	—
Other noncurrent liabilities	—	—	13	13	—	—	4
Total liabilities	\$ —	\$ —	\$ 16	\$ 16	\$ —	\$ —	\$ 4
Net assets	\$ 499	\$ 174	\$ 74	\$ 747	\$ 82	\$ 101	\$ 135

- (a) In April 2017, Piedmont transferred its non-consolidated VIE investments to a wholly owned subsidiary of Duke Energy. See "Pipeline Investments" section below for additional detail.



**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

The Duke Energy Registrants are not aware of any situations where the maximum exposure to loss significantly exceeds the carrying values shown above except for the power purchase agreement with OVEC, which is discussed below, and various guarantees, some of which are reflected in the table above as Other noncurrent liabilities. For more information on various guarantees, refer to Note 5.

**Pipeline Investments**

Duke Energy has investments in various joint ventures with pipeline projects currently under construction. These entities are considered VIEs due to having insufficient equity to finance their own activities without subordinated financial support. Duke Energy does not have the power to direct the activities that most significantly impact the economic performance, the obligation to absorb losses or the right to receive benefits of these VIEs and therefore does not consolidate these entities.

The table below presents Duke Energy's ownership interest and investment balances in these joint ventures.

Entity Name	Ownership Interest	VIE Investment Amount (in millions)	
		September 30, 2017	December 31, 2016
ACP	47%	\$ 595	\$ 265
Sabal Trail	7.5%	218	140
Constitution	24%	82	82
<b>Total</b>		<b>\$ 895</b>	<b>\$ 487</b>

At December 31, 2016, Piedmont had a 7 percent ownership interest in ACP and a 24 percent ownership interest in Constitution. In April 2017, Piedmont transferred its ownership interests in ACP and Constitution to a wholly owned subsidiary of Duke Energy at book value.

In October 2017, ACP executed a \$3.4 billion revolving credit facility with a stated maturity date of October 2021. Duke Energy entered into a guarantee agreement to support its share of the ACP revolving credit facility. Duke Energy's maximum exposure to loss under the terms of the guarantee is limited to 47 percent of the outstanding borrowings under the credit facility. Through October 2017, ACP has borrowed \$570 million against the revolving credit facility.

**Commercial Renewables**

Duke Energy has investments in various renewable energy project entities. Some of these entities are VIEs due to Duke Energy issuing guarantees for debt service and operations and maintenance reserves in support of debt financings. Duke Energy does not consolidate these VIEs because power to direct and control key activities is shared jointly by Duke Energy and other owners.

**Other VIEs**

Duke Energy holds a 50 percent equity interest in Pioneer Transmission, LLC (Pioneer). Pioneer is considered a VIE due to having insufficient equity to finance its own activities without subordinated financial support. The activities that most significantly impact Pioneer's economic performance are decisions related to the development of new transmission facilities. The power to direct these activities is jointly and equally shared by Duke Energy and the other joint venture partner, American Electric Power; therefore, Duke Energy does not consolidate Pioneer.

**OVEC**

Duke Energy Ohio's 9 percent ownership interest in OVEC is considered a non-consolidated VIE due to OVEC having insufficient equity to finance its activities without subordinated financial support. As a counterparty to an inter-company power agreement (ICPA), Duke Energy Ohio has a contractual arrangement to receive entitlements to capacity and energy from OVEC's power plants through June 2040 commensurate with its power participation ratio, which is equivalent to Duke Energy Ohio's ownership interest. Costs, including fuel, operating expenses, fixed costs, debt amortization and interest expense, are allocated to counterparties to the ICPA based on their power participation ratio. The value of the ICPA is subject to variability due to fluctuation in power prices and changes in OVEC's cost of business, including costs associated with its 2,256 MW of coal-fired generation capacity. Deterioration in the credit quality or bankruptcy of one or more parties to the ICPA could increase the costs of OVEC. In addition, certain proposed environmental rulemaking could result in future increased cost allocations.

**CRC**

See discussion under Consolidated VIEs for additional information related to CRC.

Amounts included in Receivables from affiliated companies in the above table for Duke Energy Ohio and Duke Energy Indiana reflect their retained interest in receivables sold to CRC. These subordinated notes held by Duke Energy Ohio and Duke Energy Indiana are stated at fair value. Carrying values of retained interests are determined by allocating carrying value of the receivables between assets sold and interests retained based on relative fair value. The allocated bases of the subordinated notes are not materially different than their face value because (i) the receivables generally turn over in less than two months, (ii) credit losses are reasonably predictable due to the broad customer base and lack of significant concentration and (iii) the equity in CRC is subordinate to all retained interests and thus would absorb losses first. The hypothetical effect on fair value of the retained interests assuming both a 10 percent and a 20 percent unfavorable variation in credit losses or discount rates is not material due to the short turnover of receivables and historically low credit loss history. Interest accrues to Duke Energy Ohio and Duke Energy Indiana on the retained interests using the acceptable yield method. This method generally approximates the stated rate on the notes since the allocated basis and the face value are nearly equivalent. An impairment charge is recorded against the carrying value of both retained interests and purchased beneficial interest whenever it is determined that an OTTI has occurred.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

Key assumptions used in estimating fair value are detailed in the following table.

	Duke Energy Ohio		Duke Energy Indiana	
	2017	2016	2017	2016
Anticipated credit loss ratio	0.5%	0.5%	0.3%	0.3%
Discount rate	2.0%	1.5%	2.0%	1.5%
Receivable turnover rate	13.4%	13.3%	10.7%	10.6%

The following table shows the gross and net receivables sold.

(in millions)	Duke Energy Ohio		Duke Energy Indiana	
	September 30, 2017	December 31, 2016	September 30, 2017	December 31, 2016
Receivables sold	\$ 209	\$ 267	\$ 304	\$ 306
Less: Retained interests	46	82	75	101
Net receivables sold	\$ 163	\$ 185	\$ 229	\$ 205

The following table shows sales and cash flows related to receivables sold.

(in millions)	Duke Energy Ohio				Duke Energy Indiana			
	Three Months Ended September 30,		Nine Months Ended September 30,		Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016	2017	2016	2017	2016
<b>Sales</b>								
Receivables sold	\$ 438	\$ 481	\$ 1,392	\$ 1,442	\$ 720	\$ 722	\$ 2,047	\$ 1,980
Loss recognized on sale	2	2	7	7	3	3	9	8
<b>Cash flows</b>								
Cash proceeds from receivables sold	\$ 434	\$ 468	\$ 1,421	\$ 1,432	\$ 713	\$ 703	\$ 2,064	\$ 1,958
Collection fees received	1	1	1	1	—	—	1	1
Return received on retained interests	—	1	2	2	2	2	5	4

Cash flows from sales of receivables are reflected within Operating Activities on Duke Energy Ohio's and Duke Energy Indiana's Condensed Consolidated Statements of Cash Flows.

Collection fees received in connection with servicing transferred accounts receivable are included in Operation, maintenance and other on Duke Energy Ohio's and Duke Energy Indiana's Condensed Consolidated Statements of Operations and Comprehensive Income. The loss recognized on sales of receivables is calculated monthly by multiplying receivables sold during the month by the required discount. The required discount is derived monthly utilizing a three-year weighted average formula that considers charge-off history, late charge history and turnover history on the sold receivables, as well as a component for the time value of money. The discount rate, or component for the time value of money, is the prior month-end LIBOR plus a fixed rate of 1.00 percent.

## 14. COMMON STOCK

Basic Earnings Per Share (EPS) is computed by dividing net income attributable to Duke Energy common stockholders, as adjusted for distributed and undistributed earnings allocated to participating securities, by the weighted average number of common shares outstanding during the period. Diluted EPS is computed by dividing net income attributable to Duke Energy common stockholders, as adjusted for distributed and undistributed earnings allocated to participating securities, by the diluted weighted average number of common shares outstanding during the period. Diluted EPS reflects the potential dilution that could occur if securities or other agreements to issue common stock, such as stock options and equity forward sale agreements, were exercised or settled. Duke Energy's participating securities are restricted stock units that are entitled to dividends declared on Duke Energy common stock during the restricted stock unit's vesting periods.

**Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)**

The following table presents Duke Energy's basic and diluted EPS calculations and reconciles the weighted average number of common shares outstanding to the diluted weighted average number of common shares outstanding.

(in millions, except per-share amounts)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Income from continuing operations attributable to Duke Energy common stockholders excluding impact of participating securities	\$ 954	\$ 998	\$ 2,356	\$ 2,194
Weighted average shares outstanding – basic	700	689	700	689
Equity Forwards	—	2	—	1
Weighted average shares outstanding – diluted	700	691	700	690
Earnings per share from continuing operations attributable to Duke Energy common stockholders				
Basic	\$ 1.36	\$ 1.44	\$ 3.37	\$ 3.19
Diluted	\$ 1.36	\$ 1.44	\$ 3.37	\$ 3.18
Potentially dilutive items excluded from the calculation <sup>(a)</sup>	2	2	2	2
Dividends declared per common share	\$ 0.89	\$ 0.855	\$ 2.60	\$ 2.505

(a) Performance stock awards were not included in the dilutive securities calculation because the performance measures related to the awards had not been met.

**Equity Forwards**

In March 2016, Duke Energy marketed an equity offering of 10.6 million shares of common stock. In lieu of issuing equity at the time of the offering, Duke Energy entered into equity forward sale agreements with Barclays (the Equity Forwards). The Equity Forwards required Duke Energy to either physically settle the transactions by issuing 10.6 million shares, or net settle in whole or in part through the delivery or receipt of cash or shares. As of September 30, 2016, share dilution resulting from the agreements was determined under the treasury stock method.

Duke Energy physically settled the Equity Forwards in full in October 2016 following the close of the Piedmont acquisition. See Note 2 for additional information related to the Piedmont acquisition.

**15. STOCK-BASED COMPENSATION**

For employee awards, equity classified stock-based compensation cost is measured at the service inception date or the grant date, based on the estimated achievement of certain performance metrics or the fair value of the award, and is recognized as expense or capitalized as a component of property, plant and equipment over the requisite service period.

Pretax stock-based compensation costs, the tax benefit associated with stock-based compensation expense and stock-based compensation costs capitalized are included in the following table.

(in millions)	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Restricted stock unit awards	\$ 10	\$ 8	\$ 30	\$ 25
Performance awards	7	4	20	14
Pretax stock-based compensation cost	\$ 17	\$ 12	\$ 50	\$ 39
Tax benefit associated with stock-based compensation expense	\$ 6	\$ 5	\$ 18	\$ 14
Stock-based compensation costs capitalized	1	—	2	2

Prior to Duke Energy acquiring Piedmont, Piedmont had an incentive compensation plan for eligible officers and other participants. Piedmont's total pretax stock-based compensation costs were approximately \$2 million and \$5 million for the three and nine months ended September 30, 2016, respectively. The tax benefit associated with Piedmont's stock-based compensation expense for the three and nine months ended September 30, 2016, was immaterial.

**16. EMPLOYEE BENEFIT PLANS****DEFINED BENEFIT RETIREMENT PLANS**

Duke Energy maintains, and the Subsidiary Registrants participate in, qualified and non-qualified, non-contributory defined benefit retirement plans. Duke Energy's policy is to fund amounts on an actuarial basis to provide assets sufficient to meet benefit payments to be paid to plan participants. The following table includes information related to the Duke Energy Registrants' contributions to its U.S. qualified defined benefit pension plans.

(in millions)	Duke Energy	Duke Energy Ohio	Piedmont
Anticipated 2017 contributions	\$ 19	\$ 4	\$ 11
Contributions made during the nine months ended September 30, 2017	8	4	—
Remaining estimated contributions to be made in 2017	\$ 11	\$ —	\$ 11

Duke Energy did not make any contributions to its U.S. qualified defined benefit pension plans during the nine months ended September 30, 2016.

Net periodic benefit costs disclosed in the tables below represent the cost of the respective benefit plan for the periods presented. However, portions of the net periodic benefit costs disclosed in the tables below have been capitalized as a component of property, plant and equipment. Amounts presented in the tables below for the Subsidiary Registrants represent the amounts of pension and other post-retirement benefit costs allocated by Duke Energy for employees of the Subsidiary Registrants. Additionally, the Subsidiary Registrants are allocated their proportionate share of pension and post-retirement benefit costs for employees of Duke Energy's shared services affiliate that provides support to the Subsidiary Registrants. These allocated amounts are included in the governance and shared service costs discussed in Note 9. Duke Energy uses a December 31 measurement date for its defined benefit retirement plan assets and obligations.

**QUALIFIED PENSION PLANS**

The following tables include the components of net periodic pension costs for qualified pension plans.

(in millions)	Three Months Ended September 30, 2017							
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont
Service cost	\$ 40	\$ 12	\$ 12	\$ 6	\$ 5	\$ 1	\$ 2	\$ 3
Interest cost on projected benefit obligation	82	20	25	12	13	4	7	3
Expected return on plan assets	(136)	(35)	(43)	(21)	(21)	(7)	(11)	(6)
Amortization of actuarial loss	36	8	14	6	7	1	3	3
Amortization of prior service credit	(6)	(2)	(1)	—	—	—	—	(1)
Other	2	—	1	—	—	—	—	—
Net periodic pension costs	\$ 18	\$ 3	\$ 8	\$ 3	\$ 4	\$ (1)	\$ 1	\$ 2

(in millions)	Three Months Ended September 30, 2016							
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont
Service cost	\$ 36	\$ 12	\$ 11	\$ 6	\$ 4	\$ 1	\$ 2	\$ 3
Interest cost on projected benefit obligation	83	21	27	12	14	5	7	2
Expected return on plan assets	(128)	(35)	(42)	(21)	(21)	(6)	(10)	(6)
Amortization of actuarial loss	33	8	14	6	7	1	3	2
Amortization of prior service credit	(4)	(2)	(1)	—	(1)	—	—	(1)
Other	2	1	1	—	1	—	—	—
Net periodic pension costs	\$ 22	\$ 5	\$ 10	\$ 3	\$ 4	\$ 1	\$ 2	\$ —

## Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)

(in millions)	Nine Months Ended September 30, 2017							
	Duke	Duke	Duke	Duke	Duke	Duke	Duke	Duke
	Energy	Energy	Progress	Energy	Energy	Energy	Energy	Piedmont
Service cost	\$ 120	\$ 36	\$ 36	\$ 18	\$ 15	\$ 3	\$ 6	\$ 9
Interest cost on projected benefit obligation	246	60	75	36	39	14	21	9
Expected return on plan assets	(408)	(106)	(129)	(63)	(63)	(21)	(33)	(18)
Amortization of actuarial loss	108	24	42	18	21	3	9	9
Amortization of prior service credit	(18)	(6)	(3)	—	—	—	—	(3)
Other	6	—	3	1	—	—	—	1
Net periodic pension costs	\$ 54	\$ 8	\$ 24	\$ 10	\$ 12	\$ (1)	\$ 3	\$ 7

(in millions)	Nine Months Ended September 30, 2016							
	Duke	Duke	Duke	Duke	Duke	Duke	Duke	Duke
	Energy	Energy	Progress	Energy	Energy	Energy	Energy	Piedmont
Service cost	\$ 109	\$ 36	\$ 32	\$ 18	\$ 14	\$ 3	\$ 6	\$ 8
Interest cost on projected benefit obligation	249	64	80	37	42	15	21	7
Expected return on plan assets	(386)	(106)	(126)	(62)	(63)	(20)	(31)	(18)
Amortization of actuarial loss	99	24	41	17	21	3	9	6
Amortization of prior service credit	(12)	(6)	(3)	(1)	(1)	—	—	(2)
Other	6	2	2	1	1	—	—	—
Net periodic pension costs	\$ 65	\$ 14	\$ 26	\$ 10	\$ 14	\$ 1	\$ 5	\$ 1

**NON-QUALIFIED PENSION PLANS**

The following tables include the components of net periodic pension costs for non-qualified pension plans for registrants with non-qualified pension costs.

(in millions)	Three Months Ended September 30, 2017				
	Duke	Duke	Duke	Duke	Duke
	Energy	Energy	Progress	Energy	Energy
Service cost	\$ —	\$ —	\$ —	\$ —	\$ —
Interest cost on projected benefit obligation	4	—	1	1	1
Amortization of actuarial loss	2	—	1	—	—
Net periodic pension costs	\$ 6	\$ —	\$ 2	\$ 1	\$ 1

(in millions)	Three Months Ended September 30, 2016				
	Duke	Duke	Duke	Duke	Duke
	Energy	Energy	Progress	Energy	Energy
Service cost	\$ 1	\$ —	\$ —	\$ —	\$ —
Interest cost on projected benefit obligation	4	—	2	—	—
Amortization of actuarial loss	2	—	1	1	1
Amortization of prior service credit	(1)	—	—	—	—
Net periodic pension costs	\$ 6	\$ —	\$ 3	\$ 1	\$ 1

## Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)

(in millions)	Nine Months Ended September 30, 2017				
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida
	Service cost	\$ —	\$ —	\$ —	\$ —
Interest cost on projected benefit obligation	10	1	3	2	2
Amortization of actuarial loss	6	—	3	—	—
Net periodic pension costs	\$ 16	\$ 1	\$ 6	\$ 2	\$ 2

(in millions)	Nine Months Ended September 30, 2016				
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida
	Service cost	\$ 2	\$ —	\$ —	\$ —
Interest cost on projected benefit obligation	11	1	4	1	1
Amortization of actuarial loss	6	—	2	1	1
Amortization of prior service credit	(1)	—	—	—	—
Net periodic pension costs	\$ 18	\$ 1	\$ 6	\$ 2	\$ 2

**OTHER POST-RETIREMENT BENEFIT PLANS**

Duke Energy provides, and the Subsidiary Registrants participate in, some health care and life insurance benefits for retired employees on a contributory and non-contributory basis.

The following tables include the components of net periodic other post-retirement benefit costs.

(in millions)	Three Months Ended September 30, 2017							
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont
	Service cost	\$ 1	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Interest cost on accumulated post-retirement benefit obligation	9	2	4	2	2	—	1	—
Expected return on plan assets	(3)	(2)	—	—	—	—	—	—
Amortization of actuarial loss	2	—	5	3	2	—	—	—
Amortization of prior service credit	(29)	(2)	(21)	(14)	(8)	—	—	—
Net periodic other post-retirement benefit costs	\$ (20)	\$ (2)	\$ (12)	\$ (9)	\$ (4)	\$ —	\$ 1	\$ —

(in millions)	Three Months Ended September 30, 2016							
	Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont
	Service cost	\$ —	\$ —	\$ 1	\$ —	\$ —	\$ —	\$ —
Interest cost on accumulated post-retirement benefit obligation	9	2	4	2	3	—	1	—
Expected return on plan assets	(2)	(2)	(1)	—	—	—	—	—
Amortization of actuarial loss (gain)	2	—	5	3	2	(1)	—	—
Amortization of prior service credit	(35)	(4)	(26)	(16)	(8)	—	(1)	—
Net periodic other post-retirement benefit costs	\$ (26)	\$ (4)	\$ (17)	\$ (11)	\$ (3)	\$ (1)	\$ —	\$ 1

## Combined Notes to Condensed Consolidated Financial Statements – (Unaudited) – (Continued)

(in millions)	Nine Months Ended September 30, 2017							
	Duke	Duke	Duke	Duke	Duke	Duke	Duke	Duke
	Energy	Energy	Progress	Energy	Energy	Energy	Energy	Energy
	Energy	Carolin	Energy	Progress	Florida	Ohio	Indiana	Piedmont
Service cost	\$ 3	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Interest cost on accumulated post-retirement benefit obligation	27	6	11	6	6	—	1	—
Expected return on plan assets	(10)	(6)	—	—	—	—	—	—
Amortization of actuarial loss (gain)	6	(2)	15	9	6	(1)	—	—
Amortization of prior service credit	(87)	(6)	(63)	(41)	(23)	—	—	—
Net periodic other post-retirement benefit costs	\$ (61)	\$ (8)	\$ (37)	\$ (26)	\$ (11)	\$ (1)	\$ 1	\$ —

(in millions)	Nine Months Ended September 30, 2016							
	Duke	Duke	Duke	Duke	Duke	Duke	Duke	Duke
	Energy	Energy	Progress	Energy	Energy	Energy	Energy	Energy
	Energy	Carolin	Energy	Progress	Florida	Ohio	Indiana	Piedmont
Service cost	\$ 2	\$ —	\$ 1	\$ —	\$ —	\$ —	\$ —	\$ 1
Interest cost on accumulated post-retirement benefit obligation	26	6	11	6	6	1	3	1
Expected return on plan assets	(9)	(6)	(1)	—	—	—	(1)	(1)
Amortization of actuarial loss (gain)	5	(2)	16	9	7	(2)	(1)	—
Amortization of prior service credit	(106)	(10)	(77)	(50)	(26)	—	(1)	—
Net periodic other post-retirement benefit costs	\$ (82)	\$ (12)	\$ (50)	\$ (35)	\$ (13)	\$ (1)	\$ —	\$ 1

## DEFINED CONTRIBUTION RETIREMENT PLANS

## EMPLOYEE SAVINGS PLANS

Duke Energy sponsors, and the Subsidiary Registrants participate in, employee savings plans that cover substantially all U.S. employees. The following table presents employer contributions made by Duke Energy and expensed by the Subsidiary Registrants.

(in millions)	Duke	Duke	Duke	Duke	Duke	Duke	Duke	Duke
	Energy	Energy	Progress	Energy	Energy	Energy	Energy	Energy
	Energy	Carolin	Energy	Progress	Florida	Ohio	Indiana	Piedmont
Three Months Ended September 30,								
2017	\$ 43	\$ 14	\$ 12	\$ 9	\$ 4	\$ 1	\$ 2	\$ 2
2016	39	13	12	8	3	1	2	2
Nine Months Ended September 30,								
2017	\$ 147	\$ 49	\$ 42	\$ 30	\$ 13	\$ 3	\$ 7	\$ 5
2016	130	44	39	27	11	3	6	5

## MONEY PURCHASE PENSION PLAN

Duke Energy provides, and Piedmont participates in, the Money Purchase Pension (MPP) plan, which is a defined contribution pension plan that allows certain employees to direct investments and assume risk of investment returns. In January 2017, a \$2 million contribution was made to the MPP plan.



**17. INCOME TAXES****EFFECTIVE TAX RATES**

The effective tax rates from continuing operations for each of the Duke Energy Registrants are included in the following table.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2017	2016	2017	2016
Duke Energy	27.6%	34.0%	30.4%	31.7%
Duke Energy Carolinas	32.9%	34.3%	34.1%	34.4%
Progress Energy	29.1%	32.8%	31.9%	34.7%
Duke Energy Progress	31.7%	31.4%	32.4%	33.5%
Duke Energy Florida	34.8%	36.0%	36.1%	37.0%
Duke Energy Ohio	33.3%	36.8%	34.4%	32.5%
Duke Energy Indiana	38.3%	35.2%	39.0%	34.0%
Piedmont <sup>(a)</sup>	47.6%	40.0%	36.1%	37.7%

(a) Piedmont is in a net loss position for the three months ended September 30, 2017, and 2016.

The decrease in the effective tax rate (ETR) for Duke Energy for the three months ended September 30, 2017, is primarily due to higher research credits, tax benefits of legal entity restructuring and prior year unfavorable impacts of finalizing federal tax audits. The decrease in the ETR for Duke Energy for the nine months ended September 30, 2017, is primarily due to higher research credits, tax benefits of legal entity restructuring and higher production tax credits related to wind projects placed in service; partially offset by lower investment tax credits due to lower solar investments.

The decrease in the ETR for Duke Energy Carolinas for the three months ended September 30, 2017, is primarily due to the favorable impact of research credits, provision to return true ups, and lower North Carolina corporate tax rates.

The decrease in the ETR for Progress Energy for the three and nine months ended September 30, 2017, is primarily due to the favorable impact of research credits and lower North Carolina corporate tax rates.

The decrease in the ETR for Duke Energy Progress for the nine months ended September 30, 2017, is primarily due to the favorable impact of research credits and lower North Carolina corporate tax rates.

The decrease in the ETR for Duke Energy Florida for the three months ended September 30, 2017, is primarily due to the favorable impact of research credits.

The decrease in the ETR for Duke Energy Ohio for the three months ended September 30, 2017, is primarily due to the favorable impact of research credits. The increase in the ETR for Duke Energy Ohio for the nine months ended September 30, 2017, is primarily due to an immaterial out of period adjustment in the prior year related to deferred tax balances associated with property, plant and equipment.

The increase in the ETR for Duke Energy Indiana for the three months ended September 30, 2017, is primarily due to state tax credits recorded in the prior year. The increase in the ETR for Duke Energy Indiana for the nine months ended September 30, 2017, is primarily due to an immaterial out of period adjustment in the prior year related to deferred tax balances associated with property, plant and equipment.

The increase in the ETR for Piedmont for the three months ended September 30, 2017, is primarily due to favorable tax return true ups and lower North Carolina corporate tax rates in relation to pretax losses. The decrease in the ETR for Piedmont for the nine months ended September 30, 2017, is primarily due to favorable tax return true ups and lower North Carolina corporate tax rates.

**TAXES ON FOREIGN EARNINGS**

As of December 31, 2015, Duke Energy's intention was to indefinitely reinvest any future undistributed foreign earnings earned after December 31, 2014. In February 2016, Duke Energy announced it had initiated a process to divest the International Disposal Group and, accordingly, no longer intended to indefinitely reinvest post-2014 undistributed foreign earnings. This change in the company's intent, combined with the extension of bonus depreciation by Congress in late 2015, allowed Duke Energy to more efficiently utilize foreign tax credits and reduce U.S. deferred tax liabilities associated with historical unremitted foreign earnings by approximately \$95 million for the nine months ended September 30, 2016. Due to the classification of the International Disposal Group as discontinued operations, income tax amounts related to the International Disposal Group's foreign earnings are presented within (Loss) Income from Discontinued Operations, net of tax on the Condensed Consolidated Statements of Operations. See Note 2 for additional information related to the sale of the International Disposal Group.

**18. SUBSEQUENT EVENTS**

For information on additional subsequent events related to business segments, regulatory matters, commitments and contingencies and VIEs, see Notes 3, 4, 5 and 13.



## ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following combined Management's Discussion and Analysis of Financial Condition and Results of Operations is separately filed by Duke Energy Corporation (collectively with its subsidiaries, Duke Energy) and Duke Energy Carolinas, LLC (Duke Energy Carolinas), Progress Energy, Inc. (Progress Energy), Duke Energy Progress, LLC (Duke Energy Progress), Duke Energy Florida, LLC (Duke Energy Florida), Duke Energy Ohio, Inc. (Duke Energy Ohio), Duke Energy Indiana, LLC (Duke Energy Indiana) and Piedmont Natural Gas Company, Inc. (Piedmont) (collectively referred to as the Subsidiary Registrants). However, none of the registrants make any representation as to information related solely to Duke Energy or the Subsidiary Registrants of Duke Energy other than itself.

### DUKE ENERGY

Duke Energy is an energy company headquartered in Charlotte, North Carolina. Duke Energy operates in the United States (U.S.) primarily through its wholly owned subsidiaries, Duke Energy Carolinas, Duke Energy Progress, Duke Energy Florida, Duke Energy Ohio, Duke Energy Indiana and Piedmont. When discussing Duke Energy's consolidated financial information, it necessarily includes the results of the Subsidiary Registrants, which, along with Duke Energy, are collectively referred to as the Duke Energy Registrants. Piedmont's results of operations are included in Duke Energy's results for the three and nine months ended September 30, 2017, but not for the three and nine months ended September 30, 2016, as Piedmont's earnings are only included in Duke Energy's consolidated results subsequent to the acquisition date. See below for additional information regarding the acquisition.

Management's Discussion and Analysis should be read in conjunction with the Condensed Consolidated Financial Statements and Notes for the nine months ended September 30, 2017, and with Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016, Piedmont's Annual Report on Form 10-K for the year ended October 31, 2016, and the transition report filed by Piedmont on Form 10-Q (Form 10-QT) as of December 31, 2016, for the transition period from November 1, 2016, to December 31, 2016.

### Executive Overview

#### *Hurricane Irma*

In September 2017, Hurricane Irma caused widespread damage across the Southeast region, at its peak leaving approximately 1.3 million Duke Energy Florida customers without power. Duke Energy's restoration efforts in response to this devastating storm utilized a team of over 12,000 line and service crews and hundreds of employee volunteers. Storm restoration costs (including capital) for the Duke Energy Florida service territory are currently estimated at approximately \$500 million. The vast majority of these costs have been deferred to the balance sheet for future recovery from customers in Florida, per existing state statute. Lost revenues associated with Hurricane Irma were approximately \$20 million in the third quarter of 2017. See Note 4 to the Condensed Consolidated Financial Statements, "Regulatory Matters" for additional information.

#### *Regulatory Activity*

In the third quarter of 2017, Duke Energy advanced regulatory activity underway in multiple jurisdictions, achieving several key milestones.

In August 2017, Duke Energy Carolinas filed a base rate case with the North Carolina Utilities Commission. The rate request was driven by capital investments in new, highly efficient natural gas combined-cycle plants and other plant upgrades, coal ash basin closure activities and grid improvement projects. Hearings are scheduled to commence in February 2018.

In Florida, Duke Energy worked closely with stakeholders to build upon and extend the existing settlement agreement from 2013. In late August, Duke Energy Florida reached a favorable agreement with numerous parties in the state, including the consumer advocate, and that agreement was approved by the Florida Public Service Commission (FPSC) in late October. As outlined in the settlement, Duke Energy Florida agreed to no longer recover any remaining costs associated with the canceled Levy Nuclear Project and as a result incurred a pretax impairment charge of \$135 million during the third quarter.

See Note 4 to the Condensed Consolidated Financial Statements, "Regulatory Matters" for additional information.

#### *2016 Acquisition of Piedmont Natural Gas*

On October 3, 2016, Duke Energy completed the acquisition of Piedmont for a total cash purchase price of \$5.0 billion and assumed Piedmont's existing long-term debt, which had a fair value of approximately \$2.0 billion at the time of the acquisition. The acquisition provides a foundation for Duke Energy to establish a broader, long-term strategic natural gas infrastructure growth platform to complement the existing natural gas pipeline investments and regulated natural gas business in the Midwest.

Duke Energy incurred pretax nonrecurring transaction and integration costs associated with the acquisition of \$23 million and \$69 million for the three and nine months ended September 30, 2017, respectively, and \$65 million and \$256 million for the three and nine months ended September 30, 2016, respectively. Acquisition-related costs in the prior year were principally due to losses on forward-starting interest rate swaps related to the acquisition financing of \$22 million and \$190 million for the three and nine months ended September 30, 2016, respectively. For additional information on the swaps see Note 10 to the Condensed Consolidated Financial Statements, "Derivatives and Hedging."

Duke Energy expects to incur system integration and other acquisition-related transition costs, primarily through 2018, that are necessary to achieve certain anticipated cost savings, efficiencies and other benefits. See Note 2 to the Condensed Consolidated Financial Statements, "Acquisitions and Dispositions," for additional information regarding the transaction.

### 2016 Sale of International Energy

In December 2016, Duke Energy sold its Latin American generation businesses (International Disposal Group) in two separate transactions for a combined enterprise value of \$2.4 billion. The transactions generated cash proceeds of \$1.9 billion, excluding transaction costs, which were primarily used to reduce Duke Energy holding company debt. Due to the transactions, results of the International Disposal Group are classified as discontinued operations. See Note 2 to the Condensed Consolidated Financial Statements, "Acquisitions and Dispositions" for additional information.

### Results of Operations

#### Non-GAAP Measures

Management's Discussion and Analysis includes financial information prepared in accordance with generally accepted accounting principles (GAAP) in the U.S., as well as certain non-GAAP financial measures. Generally, a non-GAAP financial measure is a numerical measure of financial performance, financial position or cash flows that excludes (or includes) amounts that are included in (or excluded from) the most directly comparable measure calculated and presented in accordance with GAAP. Non-GAAP financial measures should be viewed as a supplement to, and not a substitute for, financial measures presented in accordance with GAAP. Non-GAAP measures presented may not be comparable to similarly titled measures used by other companies because other companies may not calculate the measures in the same manner.

Management evaluates financial performance in part based on non-GAAP financial measures, including adjusted earnings and adjusted diluted earnings per share (EPS). Adjusted earnings and adjusted diluted EPS represent income from continuing operations attributable to Duke Energy, adjusted for the dollar and per-share impact of special items. As discussed below, special items represent certain charges and credits, which management believes are not indicative of Duke Energy's ongoing performance.

Management believes the presentation of adjusted earnings and adjusted diluted EPS provides useful information to investors, as it provides them with an additional relevant comparison of Duke Energy's performance across periods. Management uses these non-GAAP financial measures for planning and forecasting and for reporting financial results to the Duke Energy Board of Directors, employees, stockholders, analysts and investors. Adjusted diluted EPS is also used as a basis for employee incentive bonuses. The most directly comparable GAAP measures for adjusted earnings and adjusted diluted EPS are Net Income Attributable to Duke Energy Corporation (GAAP Reported Earnings) and Diluted EPS Attributable to Duke Energy Corporation common stockholders (GAAP Reported EPS), respectively.

Special items included in the periods presented include the following items, which management believes do not reflect ongoing costs:

- Costs to Achieve Mergers represent charges that result from strategic acquisitions.
- Cost Savings Initiatives represent severance charges related to companywide initiatives, excluding merger integration, to standardize processes and systems, leverage technology and workforce optimization.
- Commercial Renewables Impairments represents other-than-temporary and asset impairments.
- Florida Settlement represents an impairment charge related to the Levy nuclear project based on a settlement agreement approved by regulators.

Adjusted earnings also include operating results of the International Disposal Group, which have been classified as discontinued operations. Management believes inclusion of the operating results of the Disposal Group within adjusted earnings and adjusted diluted EPS results in a better reflection of Duke Energy's financial performance during the period.

#### Three Months Ended September 30, 2017, as compared to September 30, 2016

GAAP Reported EPS was \$1.36 for the third quarter of 2017 compared to \$1.70 for the third quarter of 2016. The decrease in GAAP Reported EPS was primarily due to less favorable weather, an impairment at Duke Energy Florida and prior year income from discontinued operations including International Energy which was sold in 2016; partially offset by a lower effective tax rate, lower costs associated with the Piedmont acquisition and growth from investments.

As discussed above, management also evaluates financial performance based on adjusted diluted EPS. Duke Energy's third quarter 2017 adjusted diluted EPS was \$1.59 compared to \$1.68 for the third quarter of 2016. The following table reconciles non-GAAP measures, including adjusted diluted EPS, to their most directly comparable GAAP measures.

(in millions, except per-share amounts)	Three Months Ended September 30,			
	2017		2016	
	Earnings	EPS	Earnings	EPS
GAAP Reported Earnings/GAAP Reported EPS	\$ 954	\$ 1.36	\$ 1,176	\$ 1.70
Adjustments:				
Costs to Achieve Mergers <sup>(a)</sup>	14	0.03	52	0.07
Cost Savings Initiatives <sup>(b)</sup>	—	—	12	0.02
Commercial Renewables Impairments <sup>(c)</sup>	56	0.08	45	0.07
Florida Settlement <sup>(d)</sup>	84	0.12	—	—
Discontinued Operations <sup>(e)</sup>	2	—	(122)	(0.18)
Adjusted Earnings/Adjusted Diluted EPS	\$ 1,110	\$ 1.59	\$ 1,163	\$ 1.68

- (a) Net of \$9 million tax benefit in 2017 and \$32 million tax benefit in 2016.
- (b) Net of \$7 million tax benefit in 2016.
- (c) Net of \$28 million tax benefit in 2017 and \$26 million tax benefit in 2016.
- (d) Net of \$51 million tax benefit in 2017.
- (e) The 2016 amount represents tax adjustments related to previously sold businesses not related to the International Disposal Group.

The decrease in adjusted earnings for the three months ended September 30, 2017, compared to the same period in 2016 was primarily due to:

- Lower regulated electric revenues due to less favorable weather in the current year, including lost revenues related to Hurricane Irma;
- The prior year operating results of the International Disposal Group, which was sold in December 2016; and
- Higher financing costs, primarily due to the Piedmont acquisition.

Partially offset by:

- Higher regulated electric revenues from increased pricing and riders driven by new rates in Duke Energy Progress South Carolina, base rate adjustments in Florida, and energy efficiency rider revenues in North Carolina;
- Additional earnings from incremental investments in the Atlantic Coast Pipeline (ACP) natural gas pipeline; and
- Lower income taxes due to prior year unfavorable tax adjustments and benefits in the current year from legal entity restructuring.

#### **Nine Months Ended September 30, 2017, as compared to September 30, 2016**

Duke Energy's GAAP Reported EPS was \$3.36 for the nine months ended September 30, 2017, compared to \$3.44 for the nine months ended September 30, 2016. The decrease in GAAP Reported EPS was driven by less favorable weather compared to the prior year, an impairment at Duke Energy Florida and prior year income from discontinued operations including International Energy which was sold in 2016; partially offset by lower costs associated with the Piedmont acquisition, lower severance charges, effective cost control and growth from investments.

As discussed above, management also evaluates financial performance based on adjusted diluted EPS. Duke Energy's adjusted diluted EPS for the nine months ended September 30, 2017, was \$3.63 compared to \$3.88 for the nine months ended September 30, 2016. The following table reconciles non-GAAP measures, including adjusted diluted EPS, to their most directly comparable GAAP measures.

(in millions, except per-share amounts)	Nine Months Ended September 30,			
	2017		2016	
	Earnings	EPS	Earnings	EPS
GAAP Reported Earnings/GAAP Reported EPS	\$ 2,356	\$ 3.36	\$ 2,379	\$ 3.44
Adjustments:				
Costs to Achieve Mergers <sup>(a)</sup>	43	0.06	195	0.28
Cost Savings Initiatives <sup>(b)</sup>	—	—	39	0.06
Commercial Renewables Impairments <sup>(c)</sup>	56	0.08	45	0.07
Florida Settlement <sup>(d)</sup>	84	0.12	—	—
Discontinued Operations <sup>(e)</sup>	4	0.01	21	0.03
Adjusted Earnings/Adjusted Diluted EPS	\$ 2,543	\$ 3.63	\$ 2,679	\$ 3.88

- (a) Net of \$26 million tax benefit in 2017 and \$120 million tax benefit in 2016.
- (b) Net of \$24 million tax benefit in 2016.
- (c) Net of \$28 million tax benefit in 2017 and \$26 million tax benefit in 2016.
- (d) Net of \$51 million tax benefit in 2017.
- (e) The 2016 amount includes an impairment charge related to certain assets in Central America that were sold in 2016, partially offset by a tax benefit related to previously sold businesses not related to the International Disposal Group.

The decrease in adjusted earnings for the nine months ended September 30, 2017, compared to the same period in 2016 was primarily due to:

- Lower regulated electric revenues due to unfavorable weather compared to the prior year; and
- The prior year operating results of the International Disposal Group, which was sold in December 2016. The 2016 operating results included a benefit from the revaluation of deferred income taxes. See Note 17 to the Condensed Consolidated Financial Statements, "Income Taxes," for additional information.

Partially offset by:

- Higher regulated electric revenues from increased pricing and riders driven by new rates in Duke Energy Progress South Carolina, base rate adjustments in Florida and energy efficiency rider revenues in North Carolina, as well as growth in weather-normal retail volumes;
- Lower operations, maintenance and other expense, net of amounts recoverable in rates, at Electric Utilities and Infrastructure resulting from ongoing cost efficiency efforts and lower year-to-date storm costs than the prior year;
- Higher allowance for funds used during construction (AFUDC) equity due to capital investments at the electric utilities; and

- Additional earnings from incremental investments in the ACP and Sabal Trail natural gas pipelines.

## SEGMENT RESULTS

Management evaluates segment performance based on segment income. Segment income is defined as income from continuing operations net of income attributable to noncontrolling interests. Segment income includes intercompany revenues and expenses that are eliminated on the Condensed Consolidated Financial Statements.

Due to the Piedmont acquisition and the sale of International Energy in the fourth quarter of 2016, Duke Energy's segment structure was realigned to include the following segments: Electric Utilities and Infrastructure, Gas Utilities and Infrastructure and Commercial Renewables. The remainder of Duke Energy's operations is presented as Other. Prior period information has been recast to conform to the current segment structure. See Note 2 to the Condensed Consolidated Financial Statements, "Acquisitions and Dispositions," for further information on the Piedmont acquisition and International Energy sale and Note 3, "Business Segments," for additional information on Duke Energy's segments.

### Electric Utilities and Infrastructure

(in millions)	Three Months Ended September 30,			Nine Months Ended September 30,		
	2017	2016	Variance	2017	2016	Variance
<b>Operating Revenues</b>	\$ 6,129	\$ 6,340	\$ (211)	\$ 16,234	\$ 16,430	\$ (196)
<b>Operating Expenses</b>						
Fuel used in electric generation and purchased power	1,872	2,016	(144)	4,875	5,102	(227)
Operation, maintenance and other	1,297	1,291	6	3,833	3,819	14
Depreciation and amortization	777	729	48	2,228	2,139	89
Property and other taxes	277	274	3	808	799	9
Impairment charges	132	9	123	134	12	122
Total operating expenses	4,355	4,319	36	11,878	11,871	7
<b>Gains on Sales of Other Assets and Other, net</b>	—	1	(1)	4	3	1
<b>Operating Income</b>	1,774	2,022	(248)	4,360	4,562	(202)
<b>Other Income and Expenses</b>	67	75	(8)	222	215	7
<b>Interest Expense</b>	305	287	18	925	829	96
<b>Income Before Income Taxes</b>	1,536	1,810	(274)	3,657	3,948	(291)
<b>Income Tax Expense</b>	516	621	(105)	1,273	1,391	(118)
<b>Segment Income</b>	\$ 1,020	\$ 1,189	\$ (169)	\$ 2,384	\$ 2,557	\$ (173)
Duke Energy Carolinas gigawatt-hours (GWh) sales	24,135	25,508	(1,373)	66,159	67,890	(1,731)
Duke Energy Progress GWh sales	18,827	20,033	(1,206)	50,026	54,011	(3,985)
Duke Energy Florida GWh sales	12,132	12,440	(308)	31,177	31,542	(365)
Duke Energy Ohio GWh sales	6,672	7,214	(542)	18,632	19,117	(485)
Duke Energy Indiana GWh sales	8,795	9,073	(278)	24,975	26,624	(1,649)
Total Electric Utilities and Infrastructure GWh sales	70,561	74,268	(3,707)	190,969	199,184	(8,215)
Net proportional megawatt (MW) capacity in operation				48,909	49,411	(502)

### Three Months Ended September 30, 2017, as Compared to September 30, 2016

Electric Utilities and Infrastructure's results were impacted by less favorable weather and an impairment at Duke Energy Florida, partially offset by growth from investments. The following is a detailed discussion of the variance drivers by line item.

**Operating Revenues.** The variance was driven primarily by:

- a \$163 million decrease in fuel revenues due to lower retail sales volumes; and
- a \$160 million decrease in retail sales, net of fuel revenues, due to less favorable weather in the current year, including lost revenues related to Hurricane Irma.

Partially offset by:

- a \$90 million increase in retail pricing due to Duke Energy Florida's base rate adjustments for the Osprey acquisition and Hines Chillers and the Duke Energy Progress South Carolina rate case, as well as increased rider revenues related to energy efficiency programs, Duke Energy Florida's nuclear asset securitization, and Midwest capital investments.

**Operating Expenses.** The variance was driven primarily by:

- a \$123 million increase in impairment charges primarily due to write-off of remaining unrecovered Levy Nuclear Project costs at Duke Energy Florida in the current year; and
- a \$48 million increase in depreciation and amortization expense primarily due to additional plant in service.

Partially offset by:

- a \$144 million decrease in fuel expense, including purchased power, driven by lower retail sales.

**Interest Expense.** The increase was primarily due to higher debt outstanding in the current year to fund growth.

**Income Tax Expense.** The variance was primarily due to a decrease in pretax income and higher research credits, partially offset by the North Carolina corporate tax rate reduction in the prior year. The effective tax rates for the three months ended September 30, 2017, and 2016 were 33.6 percent and 34.3 percent, respectively.

#### **Nine Months Ended September 30, 2017, as Compared to September 30, 2016**

Electric Utilities and Infrastructure's results were impacted by less favorable weather compared to the prior year and an impairment at Duke Energy Florida, partially offset by growth from investments and higher weather-normal retail sales volumes. The following is a detailed discussion of the variance drivers by line item.

**Operating Revenues.** The variance was driven primarily by:

- a \$380 million decrease in retail sales, net of fuel revenues, due to unfavorable weather compared to the prior year, including lost revenues related to Hurricane Irma; and
- a \$256 million decrease in fuel revenues primarily due to lower retail sales volumes.

Partially offset by:

- a \$346 million increase in rider revenues related to energy efficiency programs, Duke Energy Florida's nuclear asset securitization, Midwest transmission and distribution capital investments, and Duke Energy Indiana's Edwardsport Integrated Gasification Combined Cycle (IGCC) plant, as well as an increase in retail pricing due to Duke Energy Florida's base rate adjustments for the Osprey acquisition and Hines Chillers and the Duke Energy Progress South Carolina rate case; and
- a \$59 million increase in weather-normal sales volumes to retail customers.

**Operating Expenses.** The variance was driven primarily by:

- a \$122 million increase in impairment charges primarily due to the write-off of remaining unrecovered Levy Nuclear Project costs in the current year at Duke Energy Florida; and
- an \$89 million increase in depreciation and amortization expense primarily due to additional plant in service;

Partially offset by:

- a \$227 million decrease in fuel expense, including purchased power, primarily due to lower retail sales and changes in generation mix.

**Interest Expense.** The increase was primarily due to higher debt outstanding in the current year and Duke Energy Florida's Crystal River 3 (CR3) regulatory asset debt return ending in June 2016 upon securitization.

**Income Tax Expense.** The variance was primarily due to a decrease in pretax income and higher research credits, partially offset by the North Carolina corporate tax rate reduction. The effective tax rates for the nine months ended September 30, 2017, and 2016 were 34.8 percent and 35.2 percent, respectively.

#### **Matters Impacting Future Electric Utilities and Infrastructure Results**

An order from regulatory authorities disallowing recovery of costs related to closure of ash impoundments could have an adverse impact on Electric Utilities and Infrastructure's financial position, results of operations and cash flows. See Note 4 and Note 7 to the Condensed Consolidated Financial Statements, "Regulatory Matters" and "Asset Retirement Obligations," respectively, for additional information.

On May 18, 2016, the North Carolina Department of Environmental Quality (NCDEQ) issued proposed risk classifications for all coal ash surface impoundments in North Carolina. All ash impoundments not previously designated as high priority by the North Carolina Coal Ash Management Act of 2014 (Coal Ash Act) were designated as intermediate risk. Certain impoundments classified as intermediate risk, however, may be reassessed in the future as low risk pursuant to legislation signed by the former North Carolina governor on July 14, 2016. Electric Utilities and Infrastructure's estimated asset retirement obligations (AROs) related to the closure of North Carolina ash impoundments are based upon the mandated closure method or a probability weighting of potential closure methods for the impoundments that may be reassessed to low risk. As the final risk ranking classifications in North Carolina are delineated, final closure plans and corrective action measures are developed and approved for each site, the closure work progresses and the closure method scope and remedial methods are determined, the complexity of work and the amount of coal combustion material could be different than originally estimated and, therefore, could materially impact Electric Utilities and Infrastructure's financial position. See Note 9 in Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016, "Asset Retirement Obligations," for additional information.

Duke Energy is a party to multiple lawsuits and could be subject to fines and other penalties related to operations at certain North Carolina facilities with ash basins. The outcome of these lawsuits and potential fines and penalties could have an adverse impact on Electric Utilities and Infrastructure's financial position, results of operations and cash flows. See Note 5 to the Condensed Consolidated Financial Statements, "Commitments and Contingencies," for additional information.

In the fourth quarter of 2016, Hurricane Matthew caused historic flooding, extensive damage and widespread power outages within the Duke Energy Progress service territory. Duke Energy Progress filed a petition with the North Carolina Utilities Commission (NCUC) requesting an accounting order to defer incremental operation and maintenance and capital costs incurred in response to Hurricane Matthew and other significant 2016 storms. Current estimated incremental costs are approximately \$116 million. The NCUC will address this request in Duke Energy Progress' currently pending rate case. A final order from the NCUC that disallows the deferral and future recovery of all or a significant portion of the incremental storm restoration costs incurred could result in an adverse impact on Electric Utilities and Infrastructure's financial position, results of operations and cash flows. See Note 4 to the Condensed Consolidated Financial Statements, "Regulatory Matters," for additional information.

Duke Energy has several rate cases pending. Duke Energy Kentucky filed an electric rate case with the Kentucky Public Service Commission (KPSC) on September 1, 2017, to recover costs of capital investments in generation, transmission and distribution systems and to recover other incremental expenses since its previous rate case. Duke Energy Carolinas and Duke Energy Progress filed general rate cases with the NCUC on August 25, 2017, and June 1, 2017, respectively, to recover costs of complying with Coal Combustion Residuals (CCR) regulations and the Coal Ash Act, as well as costs of capital investments in generation, transmission and distribution systems and any increase in expenditures subsequent to previous rate cases. In March 2017, Duke Energy Ohio filed an electric distribution base rate case application and supporting testimony with the Public Utility Commission of Ohio (PUCO). Electric Utilities and Infrastructure's earnings could be impacted adversely if these rate increases are delayed or denied by the KPSC, NCUC or PUCO. See Note 4 to the Condensed Consolidated Financial Statements, "Regulatory Matters," for additional information.

On August 29, 2017, Duke Energy Florida filed a 2017 Second Revised and Restated Settlement Agreement (2017 Settlement) with the FPSC. The 2017 Settlement was approved by the FPSC on October 25, 2017. See Note 4 to the Condensed Consolidated Financial Statements, "Regulatory Matters," for additional information about the 2017 Settlement. In accordance with the 2017 Settlement, Duke Energy Florida will not seek recovery of any costs associated with the ongoing Westinghouse contract litigation, which is currently being appealed. See Note 5 to the Condensed Consolidated Financial Statements, "Commitments and Contingencies" for additional information about the litigation. An unfavorable appeals ruling on that matter could have an adverse impact on Electric Utilities and Infrastructure's financial position, results of operations and cash flows.

In September 2017, Hurricane Irma caused extensive damage and widespread power outages within the Duke Energy Florida service territory. Duke Energy Florida has not completed the final accumulation of storm restoration costs incurred. Total storm restoration costs, including capital, are currently estimated at approximately \$500 million. In accordance with a regulatory order with FPSC, certain incremental operation and maintenance storm restoration costs are classified as a regulatory asset recognizing the probable recoverability of these costs under FPSC's storm rule. The Company will make a petition by the end of 2017 to FPSC for recovery of costs. Duke Energy Florida's cash flows could be impacted by the timing of cost recovery. See Note 4, "Regulatory Matters," to the Condensed Consolidated Financial Statements for additional information.

#### Gas Utilities and Infrastructure

(in millions)	Three Months Ended September 30,			Nine Months Ended September 30,		
	2017	2016	Variance	2017	2016	Variance
<b>Operating Revenues</b>	\$ 272	\$ 89	\$ 183	\$ 1,243	\$ 358	\$ 885
<b>Operating Expenses</b>						
Cost of natural gas	68	6	62	402	64	338
Operation, maintenance and other	93	30	63	291	90	201
Depreciation and amortization	57	19	38	171	59	112
Property and other taxes	25	12	13	81	44	37
Total operating expenses	243	67	176	945	257	688
<b>Operating Income</b>	29	22	7	298	101	197
<b>Other Income and Expenses</b>	22	7	15	60	13	47
<b>Interest Expense</b>	26	6	20	78	19	59
<b>Income Before Income Taxes</b>	25	23	2	280	95	185
<b>Income Tax Expense</b>	6	8	(2)	101	32	69
<b>Segment Income</b>	\$ 19	\$ 15	\$ 4	\$ 179	\$ 63	\$ 116
Piedmont LDC throughput (dekatherms) <sup>(a)</sup>	107,490,775	—	107,490,775	334,781,316	—	334,781,316
Duke Energy Midwest LDC throughput (Mcf)	9,904,644	9,568,340	336,304	52,940,410	57,023,986	(4,083,576)

(a) Includes throughput subsequent to Duke Energy's acquisition of Piedmont on October 3, 2016.

#### Three Months Ended September 30, 2017, as Compared to September 30, 2016

Gas Utilities and Infrastructure's higher results were primarily due to increased investments in the ACP pipeline. Piedmont's losses included in Gas Utilities and Infrastructure's results were \$5 million for the three months ended September 30, 2017. All variances are related to the inclusion of Piedmont's results of operations as a result of Duke Energy's acquisition of Piedmont on October 3, 2016, except for the following:

**Other Income and Expenses.** The variance was driven primarily by increased investments in the ACP pipeline.

**Nine Months Ended September 30, 2017, as Compared to September 30, 2016**

Gas Utilities and Infrastructure's higher results were due to the inclusion of Piedmont's earnings in the current year as a result of Duke Energy's acquisition of Piedmont on October 3, 2016, as well as growth from investments in ACP and Sabal Trail pipelines. Piedmont's earnings included in Gas Utilities and Infrastructure's results were \$95 million for the nine months ended September 30, 2017. All variances are related to the inclusion of Piedmont's results of operations, except for the following:

**Other Income and Expenses.** The variance was driven primarily by increased investments in the ACP and Sabal Trail pipelines.

**Matters Impacting Future Gas Utilities and Infrastructure Results**

Gas Utilities and Infrastructure has a 24 percent ownership interest in Constitution Pipeline Company, LLC (Constitution), a natural gas pipeline project slated to transport natural gas supplies to major northeastern markets. On April 22, 2016, the New York State Department of Environmental Conservation denied Constitution's application for a necessary water quality certification for the New York portion of the Constitution pipeline. Constitution has stopped construction and discontinued capitalization of future development costs until the project's uncertainty is resolved. To the extent the legal and regulatory proceedings have unfavorable outcomes, or if Constitution concludes that the project is not viable or does not go forward, an impairment charge of up to the recorded investment in the project, net of any cash and working capital returned, may be recorded. With the project on hold, funding of project costs has ceased until resolution of legal actions. At September 30, 2017, Duke Energy's investment in Constitution was \$82 million.

Rapidly rising interest rates without timely or adequate updates to the regulated allowed return on equity or failure to achieve the anticipated benefits of the Piedmont merger, including cost savings and growth targets, could significantly impact the estimated fair value of reporting units in Gas Utilities and Infrastructure. In the event of a significant decline in the estimated fair value of the reporting units, goodwill impairment charges could be recorded. The carrying value of goodwill within Gas Utilities and Infrastructure was approximately \$1,924 million at September 30, 2017.

**Commercial Renewables**

(in millions)	Three Months Ended September 30,			Nine Months Ended September 30,		
	2017	2016	Variance	2017	2016	Variance
<b>Operating Revenues</b>	\$ 95	\$ 139	\$ (44)	\$ 333	\$ 365	\$ (32)
<b>Operating Expenses</b>						
Operation, maintenance and other	56	98	(42)	191	253	(62)
Depreciation and amortization	39	34	5	116	96	20
Property and other taxes	9	8	1	26	20	6
Impairment charges	76	—	76	76	—	76
Total operating expenses	180	140	40	409	369	40
<b>Gains on Sales of Other Assets and Other, net</b>	1	2	(1)	5	4	1
<b>Operating (Loss) Income</b>	(84)	1	(85)	(71)	—	(71)
<b>Other Income and Expenses</b>	(10)	(76)	66	(12)	(78)	66
<b>Interest Expense</b>	22	15	7	64	38	26
<b>Loss Before Income Taxes</b>	(116)	(90)	(26)	(147)	(116)	(31)
<b>Income Tax Benefit</b>	(65)	(65)	—	(146)	(127)	(19)
<b>Less: Loss Attributable to Noncontrolling Interests</b>	(2)	(1)	(1)	(3)	(2)	(1)
<b>Segment (Loss) Income</b>	\$ (49)	\$ (24)	\$ (25)	\$ 2	\$ 13	\$ (11)
Renewable plant production, GWh	1,760	1,801	(41)	6,276	5,619	657
Net proportional MW capacity in operation				2,908	2,725	183

**Three Months Ended September 30, 2017, as Compared to September 30, 2016**

Commercial Renewables' results were impacted by lower investment tax credits (ITCs), higher interest expense on new debt financings and higher losses from Duke Energy's REC Solar investment. The following is a detailed discussion of the variance drivers by line item.

**Operating Revenues.** The decrease was primarily due to lower engineering, procurement and construction revenues from REC Solar.

**Operating Expenses.** The increase was primarily due to a \$69 million pretax impairment charge in the current year related to a wholly owned non-contracted wind project, partially offset by lower operations and maintenance expense at REC Solar. For additional information see Note 3 to the Condensed Consolidated Financial Statements, "Business Segments."

**Other Income and Expenses.** The variance was primarily due to a \$71 million pretax impairment charge in the prior year related to certain equity method investments. For additional information see Note 3 to the Condensed Consolidated Financial Statements, "Business Segments."

**Interest Expense.** The increase was primarily due to new project financings.

**Income Tax Benefit.** Lower ITCs due to lower solar investments in the current year were offset by higher production tax credits (PTCs) related to wind projects placed in service.



**Nine Months Ended September 30, 2017, as Compared to September 30, 2016**

Commercial Renewables' results were impacted by lower ITCs, higher interest expense on new debt financings and higher losses from REC Solar, partially offset by increased PTCs. The following is a detailed discussion of the variance drivers by line item.

**Operating Revenues.** The decrease was primarily due to lower engineering, procurement and construction revenues from REC Solar.

**Operating Expenses.** The increase was primarily due to a \$69 million pretax impairment charge in the current year related to a wholly owned non-contracted wind project and higher operating expenses related to new wind and solar projects placed in service, partially offset by lower operations and maintenance expense at REC Solar. For additional information see Note 3 to the Condensed Consolidated Financial Statements, "Business Segments."

**Other Income and Expenses.** The variance was primarily due to a \$71 million pretax impairment charge in the prior year related to certain equity method investments. For additional information see Note 3 to the Condensed Consolidated Financial Statements, "Business Segments."

**Interest Expense.** The variance was primarily due to new project financings and less capitalized interest due to fewer projects under construction.

**Income Tax Benefit.** The variance was primarily due to an increase in PTCs related to wind projects placed in service, partially offset by lower ITCs due to lower solar investments in the current year.

**Matters Impacting Future Commercial Renewables Results**

Changes or variability in assumptions used in calculating the fair value of the Commercial Renewables reporting units for goodwill testing purposes including but not limited to legislative actions related to tax credit extensions, long-term growth rates and discount rates could significantly impact the estimated fair value of the Commercial Renewables reporting units. In the event of a significant decline in the estimated fair value of the Commercial Renewables reporting units, goodwill or other asset impairment charges could be recorded. The carrying value of goodwill within Commercial Renewables was approximately \$115 million at September 30, 2017.

Persistently low market pricing for wind resources, primarily in the Electric Reliability Council of Texas West market, and the future expiration of tax incentives including ITCs and PTCs could result in adverse impacts to the future results of Commercial Renewables.

**Other**

(in millions)	Three Months Ended September 30,			Nine Months Ended September 30,		
	2017	2016	Variance	2017	2016	Variance
<b>Operating Revenues</b>	\$ 35	\$ 32	\$ 3	\$ 103	\$ 91	\$ 12
<b>Operating Expenses</b>						
Fuel used in electric generation and purchased power	13	14	(1)	42	37	5
Operation, maintenance and other	21	70	(49)	47	145	(98)
Depreciation and amortization	27	37	(10)	79	108	(29)
Property and other taxes	3	8	(5)	10	25	(15)
Impairment charges	—	—	—	7	2	5
Total operating expenses	64	129	(65)	185	317	(132)
<b>Gains on Sales of Other Assets and Other, net</b>	4	3	1	15	14	1
<b>Operating Loss</b>	(25)	(94)	69	(67)	(212)	145
<b>Other Income and Expenses</b>	51	24	27	100	60	40
<b>Interest Expense</b>	150	157	(7)	423	553	(130)
<b>Loss Before Income Taxes</b>	(124)	(227)	103	(390)	(705)	315
<b>Income Tax Benefit</b>	(93)	(49)	(44)	(193)	(276)	83
<b>Less: Income Attributable to Noncontrolling Interests</b>	3	3	—	8	7	1
<b>Net Expense</b>	\$ (34)	\$ (181)	\$ 147	\$ (205)	\$ (436)	\$ 231

**Three Months Ended September 30, 2017, as Compared to September 30, 2016**

Other's lower net expense was driven by tax benefits, insurance proceeds resulting from settlement of the shareholder litigation related to the Progress Energy merger, prior year donations to the Duke Energy Foundation and lower severance expenses. The following is a detailed discussion of the variance drivers by line item.

**Operating Expenses.** The decrease was primarily due to prior year donations to the Duke Energy Foundation, less captive insurance losses for Bison Insurance Company Limited and prior year severance expense related to cost savings initiatives.

**Other Income and Expenses.** The increase was driven by insurance proceeds resulting from settlement of the shareholder litigation related to the Progress Energy merger and higher earnings from the equity method investment in National Methanol Company (NMC).

**Interest Expense.** The decrease was driven by prior year losses on forward-starting interest rate swaps related to Piedmont pre-acquisition financing, partially offset by additional long-term debt outstanding in the current year. For additional information see Notes 2 and 10 to the Condensed Consolidated Financial Statements, "Acquisitions and Dispositions" and "Derivatives and Hedging," respectively.



**Income Tax Benefit.** The variance was primarily due to higher tax benefits resulting from legal entity restructuring, the 2016 North Carolina corporate tax rate reduction and prior year unfavorable impacts of finalizing federal tax audits, partially offset by lower pretax losses.

#### Nine Months Ended September 30, 2017, as Compared to September 30, 2016

Other's lower net expense was driven by prior year losses on forward-starting interest rate swaps, prior year donations to the Duke Energy Foundation, insurance proceeds resulting from settlement of the shareholder litigation related to the Progress Energy merger and decreased severance expenses. The following is a detailed discussion of the variance drivers by line item.

**Operating Expenses.** The decrease was primarily due to prior year severance expenses related to cost savings initiatives, prior year donations to the Duke Energy Foundation and lower franchise taxes resulting from a North Carolina law change.

**Other Income and Expenses.** The increase was driven by insurance proceeds resulting from settlement of the shareholder litigation related to the Progress Energy merger and higher earnings from the equity method investment in NMC.

**Interest Expense.** The decrease was primarily by prior year losses on forward-starting interest rate swaps related to Piedmont pre-acquisition financing, partially offset by higher interest costs on \$3.75 billion of debt issued in August 2016 to fund the acquisition. For additional information see Notes 2 and 10 to the Condensed Consolidated Financial Statements, "Acquisitions and Dispositions" and "Derivatives and Hedging," respectively.

**Income Tax Benefit.** The variance was primarily due to a decrease in pretax losses, partially offset by tax benefits resulting from legal entity restructuring and the net impact of North Carolina corporate tax rate reductions in 2017 and 2016.

#### Matters Impacting Future Other Results

Included in Other is Duke Energy Ohio's 9 percent ownership interest in the Ohio Valley Electric Corporation (OVEC), which owns 2,256 MW of coal-fired generation capacity. As a counterparty to an inter-company power agreement (ICPA), Duke Energy Ohio has a contractual arrangement to receive entitlements to capacity and energy from OVEC's power plants through June 2040 commensurate with its power participation ratio, which is equivalent to Duke Energy Ohio's ownership interest. Costs, including fuel, operating expenses, fixed costs, debt amortization and interest expense, are allocated to counterparties to the ICPA, including Duke Energy Ohio, based on their power participation ratio. The value of the ICPA is subject to variability due to fluctuations in power prices and changes in OVEC's costs of business. Deterioration in the credit quality or bankruptcy of one or more parties to the ICPA could increase the costs of OVEC. In addition, certain proposed environmental rulemaking costs could result in future increased cost allocations. For information on Duke Energy's regulatory filings related to OVEC, see Note 4 to the Condensed Consolidated Financial Statements, "Regulatory Matters."

The retired Beckjord generating station (Beckjord), a nonregulated facility retired during 2014, is not subject to the U.S. Environmental Protection Agency (EPA) rule related to the disposal of CCR from electric utilities. However, if costs are incurred as a result of environmental regulations or to mitigate risk associated with on-site storage of coal ash, the costs could have an adverse impact on Other's financial position, results of operations and cash flows.

Earnings from an equity method investment in NMC reflect sales of methanol and methyl tertiary butyl ether (MTBE), which generate margins that are directionally correlated with Brent crude oil prices. Weakness in the market price of Brent crude oil and related commodities may result in a decline in earnings. In October 2017, Duke Energy's economic ownership interest in NMC decreased from 25 percent to 17.5 percent.

On November 2, 2017, the U.S. House of Representatives issued its proposal for comprehensive tax reform. The U.S. Senate has not yet issued its related proposal. There is uncertainty as to whether any form of tax reform will become law and, if so, what provisions may be included in the final tax reform. Any substantial revision to the U.S. tax code, including a loss of the ability to deduct interest expense, could adversely impact Duke Energy's future earnings, cash flows or financial position.

#### (LOSS) INCOME FROM DISCONTINUED OPERATIONS, NET OF TAX

(in millions)	Three Months Ended September 30,			Nine Months Ended September 30,		
	2017	2016	Variance	2017	2016	Variance
(Loss) Income From Discontinued Operations, net of tax	\$ (2)	\$ 180	\$ (182)	\$ (4)	\$ 190	\$ (194)

#### Three Months Ended September 30, 2017, as Compared to September 30, 2016

The variance was primarily driven by a \$122 million income tax benefit in the prior year resulting from immaterial out of period deferred tax liability adjustments, as well as earnings from the International Disposal Group, which was sold in December 2016. For additional information see Note 2 to the Condensed Consolidated Financial Statements, "Acquisitions and Dispositions."

#### Nine Months Ended September 30, 2017, as Compared to September 30, 2016

The variance was primarily driven by a \$122 million income tax benefit in the prior year resulting from immaterial out of period deferred tax liability adjustments, as well as operating earnings from the International Disposal Group, partially offset by an impairment charged related to certain assets in Central America that were sold in 2016. For additional information see Note 2 to the Condensed Consolidated Financial Statements, "Acquisitions and Dispositions."

## DUKE ENERGY CAROLINAS

Management's Discussion and Analysis should be read in conjunction with the accompanying Condensed Consolidated Financial Statements and Notes for the nine months ended September 30, 2017, and 2016 and the Annual Report on Form 10-K for the year ended December 31, 2016.

## Results of Operations

(in millions)	Nine Months Ended September 30,		
	2017	2016	Variance
<b>Operating Revenues</b>	\$ 5,581	\$ 5,641	\$ (60)
<b>Operating Expenses</b>			
Fuel used in electric generation and purchased power	1,394	1,391	3
Operation, maintenance and other	1,431	1,481	(50)
Depreciation and amortization	804	802	2
Property and other taxes	206	206	—
Total operating expenses	3,835	3,880	(45)
<b>Losses on Sales of Other Assets and Other, net</b>	—	(1)	1
<b>Operating Income</b>	1,746	1,760	(14)
<b>Other Income and Expenses</b>	99	121	(22)
<b>Interest Expense</b>	314	316	(2)
<b>Income Before Income Taxes</b>	1,531	1,565	(34)
<b>Income Tax Expense</b>	522	539	(17)
<b>Net Income</b>	\$ 1,009	\$ 1,026	\$ (17)

The following table shows the percent changes in GWh sales and average number of customers. The percentages for retail customer classes represent billed sales only. Total sales includes billed and unbilled retail sales and wholesale sales to incorporated municipalities, public and private utilities and power marketers. Amounts are not weather-normalized.

Increase (Decrease) over prior year	2017
Residential sales	(6.7)%
General service sales	(2.1)%
Industrial sales	(0.5)%
Wholesale power sales	3.9 %
Joint dispatch sales	87.6 %
Total sales	(2.5)%
Average number of customers	1.5 %

## Nine Months Ended September 30, 2017, as Compared to September 30, 2016

**Operating Revenues.** The variance was driven primarily by:

- a \$213 million decrease in retail sales, net of fuel revenues, due to less favorable weather in the current year.

Partially offset by:

- an \$89 million increase in rider revenues and retail pricing primarily related to energy efficiency programs;
- a \$30 million increase in weather-normal sales volumes to retail customers, net of fuel revenues;
- a \$15 million increase in wholesale power revenues, net of sharing and fuel revenues, primarily due to additional volumes for customers served under long-term contracts; and
- an \$8 million increase in fuel revenues primarily due to changes in generation mix.

**Operating Expenses.** The variance was primarily due to a \$50 million decrease in operation, maintenance and other expense primarily due to lower expenses at generating plants, lower storm restoration costs and lower severance expenses, partially offset by higher energy efficiency program costs and higher distribution maintenance expenses.

**Other Income and Expenses.** The variance was primarily due to a decrease in recognition of post in-service equity returns for projects that had been completed prior to being reflected in customer rates.

**Income Tax Expense.** The variance was primarily due to a decrease in pretax income and the favorable impact of research credits. The effective tax rates for the nine months ended September 30, 2017, and 2016 were 34.1 percent and 34.4 percent, respectively.

## Matters Impacting Future Results

An order from regulatory authorities disallowing recovery of costs related to closure of ash impoundments could have an adverse impact on Duke Energy Carolinas' financial position, results of operations and cash flows. See Note 4 to the Condensed Consolidated Financial Statements, "Regulatory Matters" and Note 9 in Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016, "Asset Retirement Obligations," for additional information.

On May 18, 2016, the NCDEQ issued proposed risk classifications for all coal ash surface impoundments in North Carolina. All ash impoundments not previously designated as high priority by the Coal Ash Act were designated as intermediate risk. Certain impoundments classified as intermediate risk, however, may be reassessed in the future as low risk pursuant to legislation signed by the former North Carolina governor on July 14, 2016. Duke Energy Carolinas' estimated AROs related to the closure of North Carolina ash impoundments are based upon the mandated closure method or a probability weighting of potential closure methods for the impoundments that may be reassessed to low risk. As the final risk ranking classifications in North Carolina are delineated, final closure plans and corrective action measures are developed and approved for each site, the closure work progresses, and the closure method scope and remedial action methods are determined, the complexity of work and the amount of coal combustion material could be different than originally estimated and, therefore, could materially impact Duke Energy Carolinas' financial position. See Note 9 in Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016, "Asset Retirement Obligations," for additional information.

Duke Energy Carolinas is a party to multiple lawsuits and subject to fines and other penalties related to operations at certain North Carolina facilities with ash basins. The outcome of these lawsuits, fines and penalties could have an adverse impact on Duke Energy Carolinas' financial position, results of operations and cash flows. See Note 5 to the Condensed Consolidated Financial Statements, "Commitments and Contingencies," for additional information.

Duke Energy Carolinas filed a general rate case on August 25, 2017, to recover costs of complying with CCR regulations and the Coal Ash Act, as well as costs of capital investments in generation, transmission and distribution systems and any increase in expenditures subsequent to previous rate cases. Duke Energy Carolinas' earnings could be adversely impacted if the rate increase is delayed or denied by the NCUC.

**PROGRESS ENERGY**

Management's Discussion and Analysis should be read in conjunction with the accompanying Condensed Consolidated Financial Statements and Notes for the nine months ended September 30, 2017, and 2016 and the Annual Report on Form 10-K for the year ended December 31, 2016.

**Results of Operations**

(in millions)	Nine Months Ended September 30,		
	2017	2016	Variance
<b>Operating Revenues</b>	\$ 7,435	\$ 7,645	\$ (210)
<b>Operating Expenses</b>			
Fuel used in electric generation and purchased power	2,588	2,832	(244)
Operation, maintenance and other	1,650	1,699	(49)
Depreciation and amortization	958	904	54
Property and other taxes	386	375	11
Impairment charges	137	4	133
Total operating expenses	5,719	5,814	(95)
<b>Gains on Sales of Other Assets and Other, net</b>	19	18	1
<b>Operating Income</b>	1,735	1,849	(114)
<b>Other Income and Expenses</b>	65	79	(14)
<b>Interest Expense</b>	595	497	98
<b>Income Before Income Taxes</b>	1,205	1,431	(226)
<b>Income Tax Expense</b>	384	496	(112)
<b>Net Income</b>	821	935	(114)
<b>Less: Net Income Attributable to Noncontrolling Interests</b>	7	8	(1)
<b>Net Income Attributable to Parent</b>	\$ 814	\$ 927	\$ (113)

**Nine Months Ended September 30, 2017, as Compared to September 30, 2016**

**Operating Revenues.** The variance was driven primarily by:

- a \$256 million decrease in fuel revenues due to lower retail sales and changes in generation mix at Duke Energy Progress, as well as decreased capacity rates to retail customers at Duke Energy Florida, partially offset by an increase in fuel rates to retail customers; and
- a \$132 million decrease in retail sales, net of fuel revenues, due to less favorable weather in the current year, including lost revenues related to Hurricane Irma at Duke Energy Florida.

Partially offset by:

- an \$81 million increase in retail pricing due to the base rate adjustment for the Osprey acquisition and the completion of the Hines Energy Complex Chiller Uprate Project, as well as the Duke Energy Progress South Carolina rate case; and
- a \$79 million increase in rider revenues related to energy efficiency programs at Duke Energy Progress, as well as nuclear asset securitization beginning in July 2016 and extended uprate project revenues beginning in 2017 at Duke Energy Florida.

**Operating Expenses.** The variance was driven primarily by:

- a \$244 million decrease in fuel expense primarily due to lower retail sales and changes in generation mix at Duke Energy Progress, as well as decreased purchased power and lower capacity costs, partially offset by higher generation and deferred fuel costs at Duke Energy Florida; and
- a \$49 million decrease in operation, maintenance and other expense due to lower storm restoration costs at Duke Energy Progress, lower planned outage costs and lower severance expenses, partially offset by higher storm restoration costs at Duke Energy Florida.

Partially offset by:

- a \$133 million increase in impairment charges primarily due to the write-off of remaining unrecovered Levy Nuclear Project costs in the current year at Duke Energy Florida; and
- a \$54 million increase in depreciation and amortization expense primarily due to nuclear regulatory asset amortization, as well as additional plant in service at Duke Energy Florida.

**Interest Expense.** The variance was primarily due to higher debt outstanding, as well as interest charges on North Carolina fuel overcollections at Duke Energy Progress and lower debt returns driven by the CR3 regulatory asset debt return ending in June 2016 upon securitization at Duke Energy Florida.

**Income Tax Expense.** The variance was primarily due to a decrease in pretax income. The effective tax rates for the nine months ended September 30, 2017, and 2016 were 31.9 percent and 34.7 percent, respectively. The decrease in the effective tax rate was primarily due to the favorable impact of research credits and lower North Carolina corporate tax rates.

### **Matters Impacting Future Results**

An order from regulatory authorities disallowing recovery of costs related to closure of ash impoundments could have an adverse impact on Progress Energy's financial position, results of operations and cash flows. See Note 4 to the Condensed Consolidated Financial Statements, "Regulatory Matters" and Note 9 in Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016, "Asset Retirement Obligations," for additional information.

On May 18, 2016, the NCDEQ issued proposed risk classifications for all coal ash surface impoundments in North Carolina. All ash impoundments not previously designated as high priority by the Coal Ash Act were designated as intermediate risk. Certain impoundments classified as intermediate risk, however, may be reassessed in the future as low risk pursuant to legislation signed by the former North Carolina governor on July 14, 2016. Progress Energy's estimated AROs related to the closure of North Carolina ash impoundments are based upon the mandated closure method or a probability weighting of potential closure methods for the impoundments that may be reassessed to low risk. As the final risk ranking classifications in North Carolina are delineated, final closure plans and corrective action measures are developed and approved for each site, the closure work progresses, and the closure method scope and remedial action methods are determined, the complexity of work and the amount of coal combustion material could be different than originally estimated and, therefore, could materially impact Progress Energy's financial position. See Note 9 in Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016, "Asset Retirement Obligations," for additional information.

Duke Energy Progress is a party to multiple lawsuits and subject to fines and other penalties related to operations at certain North Carolina facilities with ash basins. The outcome of these lawsuits, fines and penalties could have an adverse impact on Progress Energy's financial position, results of operations and cash flows. See Note 5 to the Condensed Consolidated Financial Statements, "Commitments and Contingencies," for additional information.

In the fourth quarter of 2016, Hurricane Matthew caused historic flooding, extensive damage and widespread power outages within the Duke Energy Progress service territory. Duke Energy Progress filed a petition with the NCUC requesting an accounting order to defer incremental operation and maintenance and capital costs incurred in response to Hurricane Matthew and other significant 2016 storms. Current estimated incremental costs are approximately \$116 million. The NCUC will address this request in Duke Energy Progress' currently pending rate case. A final order from the NCUC that disallows the deferral and future recovery of all or a significant portion of the incremental storm restoration costs incurred could result in an adverse impact on Progress Energy's financial position, results of operations and cash flows.

Duke Energy Progress filed a general rate case with the NCUC on June 1, 2017. Duke Energy Progress will seek to recover costs of complying with CCR regulations and the Coal Ash Act, as well as costs of capital investments in generation, transmission and distribution systems and any increase in expenditures subsequent to previous rate cases. Progress Energy's earnings could be adversely impacted if the rate increase is delayed or denied by the NCUC.

On August 29, 2017, Duke Energy Florida filed the 2017 Settlement with the FPSC. The 2017 Settlement was approved by the FPSC on October 25, 2017. See Note 4 to the Condensed Consolidated Financial Statements, "Regulatory Matters," for additional information about the 2017 Settlement. In accordance with the 2017 Settlement, Duke Energy Florida will not seek recovery of any costs associated with the ongoing Westinghouse contract litigation, which is currently being appealed. See Note 5 to the Condensed Consolidated Financial Statements, "Commitments and Contingencies" for additional information about the litigation. An unfavorable appeals ruling on that matter could have an adverse impact on Duke Energy Florida's financial position, results of operations and cash flows.

In September 2017, Hurricane Irma caused extensive damage and widespread power outages within the Duke Energy Florida service territory. Duke Energy Florida has not completed the final accumulation of storm restoration costs incurred. Total storm restoration costs, including capital, are currently estimated at approximately \$500 million. In accordance with a regulatory order with FPSC, certain incremental operation and maintenance storm restoration costs are classified as a regulatory asset recognizing the probable recoverability of these costs under FPSC's storm rule. The Company will make a petition by the end of 2017 to FPSC for recovery of costs. Duke Energy Florida's cash flows could be impacted by the timing of cost recovery. See Note 4, "Regulatory Matters," to the Condensed Consolidated Financial Statements for additional information.

**DUKE ENERGY PROGRESS**

Management's Discussion and Analysis should be read in conjunction with the accompanying Condensed Consolidated Financial Statements and Notes for the nine months ended September 30, 2017, and 2016 and the Annual Report on Form 10-K for the year ended December 31, 2016.

**Results of Operations**

(in millions)	Nine Months Ended September 30,		
	2017	2016	Variance
<b>Operating Revenues</b>	\$ 3,878	\$ 4,103	\$ (225)
<b>Operating Expenses</b>			
Fuel used in electric generation and purchased power	1,214	1,441	(227)
Operation, maintenance and other	1,032	1,067	(35)
Depreciation and amortization	536	526	10
Property and other taxes	120	119	1
Impairment charges	—	1	(1)
Total operating expenses	2,902	3,154	(252)
<b>Gains on Sales of Other Assets and Other, net</b>	3	2	1
<b>Operating Income</b>	979	951	28
<b>Other Income and Expenses</b>	47	47	—
<b>Interest Expense</b>	217	188	29
<b>Income Before Income Taxes</b>	809	810	(1)
<b>Income Tax Expense</b>	262	271	(9)
<b>Net Income</b>	\$ 547	\$ 539	\$ 8

The following table shows the percent changes in GWh sales and average number of customers. The percentages for retail customer classes represent billed sales only. Total sales includes billed and unbilled retail sales, and wholesale sales to incorporated municipalities, public and private utilities and power marketers. Amounts are not weather-normalized.

Increase (Decrease) over prior period	2017
Residential sales	(4.6)%
General service sales	(2.0)%
Industrial sales	0.5 %
Wholesale power sales	(5.6)%
Joint dispatch sales	(35.3)%
Total sales	(7.4)%
Average number of customers	1.3 %

**Nine Months Ended September 30, 2017, as Compared to September 30, 2016**

**Operating Revenues.** The variance was driven primarily by:

- a \$242 million decrease in fuel revenues due to lower retail sales and changes in generation mix; and
- a \$73 million decrease in retail sales, net of fuel revenues, due to less favorable weather in the current year.

Partially offset by:

- a \$41 million increase in rider revenues primarily due to energy efficiency programs;
- a \$29 million increase in retail pricing due to the Duke Energy Progress South Carolina rate case;
- a \$21 million increase in wholesale power revenues, net of fuel, primarily due to higher peak demand.

**Operating Expenses.** The variance was driven primarily by:

- a \$227 million decrease in fuel expense primarily due to lower retail sales and changes in generation mix; and
- a \$35 million decrease in operation, maintenance and other expense primarily due to lower storm restoration costs.

**Interest Expense.** The increase was primarily due to higher debt outstanding, as well as interest charges on North Carolina fuel overcollections.

**Income Tax Expense.** The variance was primarily due to the favorable impact of research credits and lower North Carolina corporate tax rates. The effective tax rates for the nine months ended September 30, 2017, and 2016 were 32.4 percent and 33.5 percent, respectively. The decrease in the effective tax rate was primarily due to the favorable impact of research credits and lower North Carolina corporate tax rates.

**Matters Impacting Future Results**

An order from regulatory authorities disallowing recovery of costs related to closure of ash impoundments could have an adverse impact on Duke Energy Progress' financial position, results of operations and cash flows. See Note 4 to the Condensed Consolidated Financial Statements, "Regulatory Matters" and Note 9 in Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016, "Asset Retirement Obligations," for additional information.

On May 18, 2016, the NCDEQ issued proposed risk classifications for all coal ash surface impoundments in North Carolina. All ash impoundments not previously designated as high priority by the Coal Ash Act were designated as intermediate risk. Certain impoundments classified as intermediate risk, however, may be reassessed in the future as low risk pursuant to legislation signed by the former North Carolina governor on July 14, 2016. Duke Energy Progress' estimated AROs related to the closure of North Carolina ash impoundments are based upon the mandated closure method or a probability weighting of potential closure methods for the impoundments that may be reassessed to low risk. As the final risk ranking classifications in North Carolina are delineated, final closure plans and corrective action measures are developed and approved for each site, the closure work progresses, and the closure method scope and remedial action methods are determined, the complexity of work and the amount of coal combustion material could be different than originally estimated and, therefore, could materially impact Duke Energy Progress' financial position. See Note 9 in Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016, "Asset Retirement Obligations," for additional information.

Duke Energy Progress is a party to multiple lawsuits and subject to fines and other penalties related to operations at certain North Carolina facilities with ash basins. The outcome of these lawsuits, fines and penalties could have an adverse impact on Duke Energy Progress' financial position, results of operations and cash flows. See Note 5 to the Condensed Consolidated Financial Statements, "Commitments and Contingencies," for additional information.

In the fourth quarter of 2016, Hurricane Matthew caused historic flooding, extensive damage and widespread power outages within the Duke Energy Progress service territory. Duke Energy Progress filed a petition with the NCUC requesting an accounting order to defer incremental operation and maintenance and capital costs incurred in response to Hurricane Matthew and other significant 2016 storms. Current estimated incremental costs are approximately \$116 million. The NCUC will address this request in Duke Energy Progress' currently pending rate case. A final order from the NCUC that disallows the deferral and future recovery of all or a significant portion of the incremental storm restoration costs incurred could result in an adverse impact on Duke Energy Progress' financial position, results of operations and cash flows.

Duke Energy Progress filed a general rate case with the NCUC on June 1, 2017. Duke Energy Progress will seek to recover costs of complying with CCR regulations and the Coal Ash Act, as well as costs of capital investments in generation, transmission and distribution systems and any increase in expenditures subsequent to previous rate cases. Duke Energy Progress' earnings could be adversely impacted if the rate increase is delayed or denied by the NCUC.

## DUKE ENERGY FLORIDA

Management's Discussion and Analysis should be read in conjunction with the accompanying Condensed Consolidated Financial Statements and Notes for the nine months ended September 30, 2017, and 2016 and the Annual Report on Form 10-K for the year ended December 31, 2016.

## Results of Operations

(in millions)	Nine Months Ended September 30,		
	2017	2016	Variance
<b>Operating Revenues</b>	\$ 3,551	\$ 3,538	\$ 13
<b>Operating Expenses</b>			
Fuel used in electric generation and purchased power	1,374	1,391	(17)
Operation, maintenance and other	610	623	(13)
Depreciation and amortization	423	378	45
Property and other taxes	265	256	9
Impairment charges	137	4	133
Total operating expenses	2,809	2,652	157
<b>Operating Income</b>	<b>742</b>	<b>886</b>	<b>(144)</b>
<b>Other Income and Expenses</b>	<b>45</b>	<b>30</b>	<b>15</b>
<b>Interest Expense</b>	<b>211</b>	<b>143</b>	<b>68</b>
<b>Income Before Income Taxes</b>	<b>576</b>	<b>773</b>	<b>(197)</b>
<b>Income Tax Expense</b>	<b>208</b>	<b>286</b>	<b>(78)</b>
<b>Net Income</b>	<b>\$ 368</b>	<b>\$ 487</b>	<b>\$ (119)</b>

The following table shows the percent changes in GWh sales and average number of customers. The percentages for retail customer classes represent billed sales only. Wholesale power sales include both billed and unbilled sales. Total sales includes billed and unbilled retail sales, and wholesale sales to incorporated municipalities, public and private utilities and power marketers. Amounts are not weather-normalized.

Increase (Decrease) over prior period	2017
Residential sales	(3.6)%
General service sales	(1.3)%
Industrial sales	(1.4)%
Wholesale and other	18.5 %
Total sales	(1.2)%
Average number of customers	1.5 %

## Nine Months Ended September 30, 2017, as Compared to September 30, 2016

**Operating Revenues.** The variance was driven primarily by:

- a \$52 million increase in retail pricing primarily due to the base rate adjustment for the Osprey acquisition and the completion of the Hines Energy Complex Chiller Uprate Project;
- a \$38 million increase in rider revenues primarily due to nuclear asset securitization beginning in July 2016 and extended power uprate project revenues beginning in 2017; and
- a \$30 million increase in weather-normal sales volumes to retail customers in the current year.

Partially offset by:

- a \$59 million decrease in retail sales, net of fuel revenues, due to less favorable weather in the current year, including lost revenues related to Hurricane Irma;
- a \$31 million decrease in wholesale power revenues primarily due to contracts that expired in the prior year; and
- a \$14 million decrease in fuel and capacity revenues primarily due to a decrease in capacity rates to retail customers, partially offset by an increase in fuel rates to retail customers.

**Operating Expenses.** The variance was driven primarily by:

- a \$133 million increase in impairment charges primarily due to the write-off of remaining unrecovered Levy Nuclear Project costs in the current year; and
- a \$45 million increase in depreciation and amortization expense primarily due to nuclear regulatory asset amortization, as well as additional plant in service.



Partially offset by:

- a \$17 million decrease in fuel expense primarily due to decreased purchased power and lower capacity costs, partially offset by higher generation and deferred fuel costs; and
- a \$13 million decrease in operation, maintenance and other expense primarily due to lower planned outage costs and lower severance expenses, partially offset by higher storm restoration costs in the current year.

**Other Income and Expenses.** The variance was driven by higher AFUDC equity.

**Interest Expense.** The variance was primarily due to higher debt outstanding and lower debt returns driven by the CR3 regulatory asset debt return ending in June 2016 upon securitization.

**Income Tax Expense.** The variance was primarily due to a decrease in pretax income. The effective tax rates for the nine months ended September 30, 2017, and 2016 were 36.1 percent and 37.0 percent, respectively.

#### **Matters Impacting Future Results**

In September 2017, Hurricane Irma caused extensive damage and widespread power outages within the Duke Energy Florida service territory. Duke Energy Florida has not completed the final accumulation of storm restoration costs incurred. Total storm restoration costs, including capital, are currently estimated at approximately \$500 million. In accordance with a regulatory order with FPSC, certain incremental operation and maintenance storm restoration costs are classified as a regulatory asset recognizing the probable recoverability of these costs under FPSC's storm rule. The Company will make a petition by the end of 2017 to FPSC for recovery of costs. Duke Energy Florida's cash flows could be impacted by the timing of cost recovery. See Note 4, "Regulatory Matters," to the Condensed Consolidated Financial Statements for additional information.

On August 29, 2017, Duke Energy Florida filed the 2017 Settlement with the FPSC. The 2017 Settlement was approved by the FPSC on October 25, 2017. See Note 4 to the Condensed Consolidated Financial Statements, "Regulatory Matters," for additional information about the 2017 Settlement. In accordance with the 2017 Settlement, Duke Energy Florida will not seek recovery of any costs associated with the ongoing Westinghouse contract litigation, which is currently being appealed. See Note 5 to the Condensed Consolidated Financial Statements, "Commitments and Contingencies" for additional information about the litigation. An unfavorable appeals ruling on that matter could have an adverse impact on Duke Energy Florida's financial position, results of operations and cash flows.

## DUKE ENERGY OHIO

Management's Discussion and Analysis should be read in conjunction with the accompanying Condensed Consolidated Financial Statements and Notes for the nine months ended September 30, 2017, and 2016 and the Annual Report on Form 10-K for the year ended December 31, 2016.

## Results of Operations

(in millions)	Nine Months Ended September 30,		
	2017	2016	Variance
<b>Operating Revenues</b>			
Regulated electric	\$ 1,036	\$ 1,053	\$ (17)
Regulated natural gas	360	358	2
Nonregulated electric and other	30	22	8
Total operating revenues	1,426	1,433	(7)
<b>Operating Expenses</b>			
Fuel used in electric generation and purchased power – regulated	283	340	(57)
Fuel used in electric generation and purchased power – nonregulated	42	37	5
Cost of natural gas	69	64	5
Operation, maintenance and other	385	367	18
Depreciation and amortization	193	175	18
Property and other taxes	204	195	9
Impairment charges	1	—	1
Total operating expenses	1,177	1,178	(1)
<b>Gains on Sales of Other Assets and Other, net</b>	1	2	(1)
<b>Operating Income</b>	250	257	(7)
<b>Other Income and Expenses</b>	12	6	6
<b>Interest Expense</b>	67	63	4
<b>Income from Continuing Operations Before Income Taxes</b>	195	200	(5)
<b>Income Tax Expense from Continuing Operations</b>	67	65	2
<b>Income from Continuing Operations</b>	128	135	(7)
<b>(Loss) Income from Discontinued Operations, net of tax</b>	(1)	36	(37)
<b>Net Income</b>	\$ 127	\$ 171	\$ (44)

The following table shows the percent changes in GWh sales and average number of customers. The percentages for retail customer classes represent billed sales only. Total sales includes billed and unbilled retail sales and wholesale sales to incorporated municipalities, public and private utilities and power marketers. Amounts are not weather-normalized.

Increase (Decrease) over prior year	2017
Residential sales	(5.8)%
General service sales	(3.2)%
Industrial sales	(1.3)%
Wholesale power sales	127.3 %
Total sales	(2.5)%
Average number of customers	0.8 %

## Nine Months Ended September 30, 2017, as Compared to September 30, 2016

**Operating Revenues.** The variance was driven primarily by:

- a \$59 million decrease in fuel revenues primarily due to lower electric fuel prices and sales volumes, partially offset by higher costs passed through to natural gas customers due to higher natural gas prices; and
- a \$16 million decrease in electric retail sales, net of fuel revenues, due to less favorable weather in the current year.

Partially offset by:

- a \$40 million increase in rider revenues primarily due to energy efficiency programs and a rate increase for the distribution capital investment rider, partially offset by a decrease in the percentage of income payment plan rider due to a rate decrease;
- a \$17 million increase in PJM Interconnection, LLC (PJM) transmission revenues; and
- a \$9 million increase in other revenues related to OVEC.

**Operating Expenses.** The variance was driven primarily by:

- an \$18 million increase in operation, maintenance and other expense due to higher energy efficiency program costs and higher transmission and distribution operations costs;
- an \$18 million increase in depreciation and amortization expense due to additional plant in service and a true up related to Smart Grid assets in the prior year;
- a \$9 million increase in property and other taxes primarily due to higher property taxes;
- a \$5 million increase in nonregulated fuel expenses related to OVEC; and
- a \$5 million increase in natural gas costs due to higher natural gas prices.

Partially offset by:

- a \$57 million decrease in fuel expense driven by lower sales volumes and lower electric fuel costs.

**Other Income and Expenses.** The increase was primarily driven by higher AFUDC equity.

**Interest Expense.** The increase was primarily driven by interest related to new debt issued in June 2016.

**Discontinued Operations, Net of Tax.** The variance was driven by a prior year income tax benefit resulting from immaterial out of period deferred tax liability adjustments related to the Midwest Generation Disposal Group.

### **Matters Impacting Future Results**

An order from regulatory authorities disallowing recovery of costs related to closure of ash basins could have an adverse impact on Duke Energy Ohio's financial position, results of operations and cash flows. See Note 4 to the Condensed Consolidated Financial Statements, "Regulatory Matters" and Note 9 in Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016, "Asset Retirement Obligations," for additional information.

Duke Energy Ohio's nonregulated Beckjord station, a facility retired during 2014, is not subject to the EPA rule related to the disposal of CCR from electric utilities. However, if costs are incurred as a result of environmental regulations or to mitigate risk associated with on-site storage of coal ash at the facility, the costs could have an adverse impact on Duke Energy Ohio's financial position, results of operations and cash flows.

Duke Energy Ohio has a 9 percent ownership interest in OVEC, which owns 2,256 MW of coal-fired generation capacity. As a counterparty to an ICPA, Duke Energy Ohio has a contractual arrangement to receive entitlements to capacity and energy from OVEC's power plants through June 2040 commensurate with its power participation ratio, which is equivalent to Duke Energy Ohio's ownership interest. Costs, including fuel, operating expenses, fixed costs, debt amortization and interest expense, are allocated to counterparties to the ICPA, including Duke Energy Ohio, based on their power participation ratio. The value of the ICPA is subject to variability due to fluctuations in power prices and changes in OVEC's costs of business. Deterioration in the credit quality or bankruptcy of one or more parties to the ICPA could increase the costs of OVEC. In addition, certain proposed environmental rulemaking costs could result in future increased cost allocations.

On March 2, 2017, Duke Energy Ohio filed an electric distribution base rate application with the PUCO to address recovery of electric distribution system capital investments and any increase in expenditures subsequent to previous rate cases. The application also includes requests to continue certain current riders and establish new riders related to LED Outdoor Lighting Service and regulatory mandates. Duke Energy Ohio's earnings could be adversely impacted if the rate case and requested riders are delayed or denied by the PUCO. See Note 4 to the Condensed Consolidated Financial Statements, "Regulatory Matters," for additional information.

On September 1, 2017, Duke Energy Kentucky filed a base rate case with the KPSC to recover costs of capital investments in generation, transmission and distribution systems and to recover other incremental expenses since its last rate case filed in 2006. Duke Energy Kentucky's earnings could be adversely impacted if the rate increase is delayed or denied by the KPSC.

## DUKE ENERGY INDIANA

Management's Discussion and Analysis should be read in conjunction with the accompanying Condensed Consolidated Financial Statements and Notes for the nine months ended September 30, 2017, and 2016 and the Annual Report on Form 10-K for the year ended December 31, 2016.

## Results of Operations

(in millions)	Nine Months Ended September 30,		
	2017	2016	Variance
<b>Operating Revenues</b>	\$ 2,302	\$ 2,225	\$ 77
<b>Operating Expenses</b>			
Fuel used in electric generation and purchased power	744	690	54
Operation, maintenance and other	541	526	15
Depreciation and amortization	336	345	(9)
Property and other taxes	56	67	(11)
Impairment charges	—	8	(8)
Total operating expenses	1,677	1,636	41
<b>Gains on Sales of Other Assets and Other, net</b>	1	—	1
<b>Operating Income</b>	626	589	37
<b>Other Income and Expenses</b>	27	15	12
<b>Interest Expense</b>	132	136	(4)
<b>Income Before Income Taxes</b>	521	468	53
<b>Income Tax Expense</b>	203	159	44
<b>Net Income</b>	\$ 318	\$ 309	\$ 9

The following table shows the percent changes in GWh sales and average number of customers. The percentages for retail customer classes represent billed sales only. Total sales includes billed and unbilled retail sales and wholesale sales to incorporated municipalities, public and private utilities and power marketers. Amounts are not weather-normalized.

Increase (Decrease) over prior year	2017
Residential sales	(5.5)%
General service sales	(2.5)%
Industrial sales	0.1 %
Wholesale power sales	(19.8)%
Total sales	(6.2)%
Average number of customers	0.8 %

## Nine Months Ended September 30, 2017, as Compared to September 30, 2016

**Operating Revenues.** The variance was driven primarily by:

- a \$64 million increase in rider revenues related to the Edwardsport IGCC plant and energy efficiency programs; and
- a \$47 million increase in fuel revenues primarily due to higher purchased power costs passed through to customers and higher financial transmission right (FTR) revenues.

Partially offset by:

- an \$18 million decrease in retail sales due to less favorable weather in the current year; and
- a \$15 million decrease in wholesale power revenues, net of fuel, primarily due to a decrease in demand rates and contracts that expired in the current year.

**Operating Expenses.** The variance was driven primarily by:

- a \$54 million increase in fuel and purchased power expense, primarily due to higher purchased power volumes and prices; and
- a \$15 million increase in operation, maintenance and other expense due to growth in energy efficiency programs and higher transmission costs.

Partially offset by:

- an \$11 million decrease in property and other taxes primarily due to utilization of ITCs;
- a \$9 million decrease in depreciation and amortization primarily due to the 2017 deferral of certain asset retirement obligations and the completion of the amortization of a regulated asset for costs associated with the termination of a gasification services agreement in 2000, partially offset by new IGCC rider rates that result in a lower deferral amount and higher depreciation due to additional plant in service; and

- an \$8 million decrease in impairments and other charges primarily due to the early retirement of certain metering equipment in the prior year.

**Other Income and Expenses.** The increase was primarily driven by higher AFUDC equity.

**Income Tax Expense.** The variance was primarily due to an increase in pretax income. The effective tax rates for the nine months ended September 30, 2017, and 2016 were 39.0 percent and 34.0 percent, respectively. The increase in the effective tax rate was primarily due to an immaterial out of period adjustment in the prior year related to deferred tax balances associated with property, plant and equipment.

**Matters Impacting Future Results**

On April 17, 2015, the EPA published in the Federal Register a rule to regulate the disposal of CCR from electric utilities as solid waste. Duke Energy Indiana has interpreted the rule to identify the coal ash basin sites impacted and has assessed the amounts of coal ash subject to the rule and a method of compliance. Duke Energy Indiana's interpretation of the requirements of the CCR rule is subject to potential legal challenges and further regulatory approvals, which could result in additional ash basin closure requirements, higher costs of compliance and greater AROs. Additionally, Duke Energy Indiana has retired facilities that are not subject to the CCR rule. Duke Energy Indiana may incur costs at these facilities to comply with environmental regulations or to mitigate risks associated with on-site storage of coal ash. An order from regulatory authorities disallowing recovery of costs related to closure of ash basins could have an adverse impact on Duke Energy Indiana's financial position, results of operations and cash flows. See Note 4 to the Condensed Consolidated Financial Statements, "Regulatory Matters," for additional information.

The Indiana Utility Regulatory Commission (IURC) approved a settlement agreement between Duke Energy Indiana and multiple parties that resolves all disputes, claims and issues from the IURC proceedings related to post-commercial operating performance and recovery of ongoing operating and capital costs at the Edwardsport IGCC generating facility. The settlement agreement imposed a cost cap for retail recoverable operations and maintenance costs through 2017. An inability to manage operating costs in accordance with caps imposed pursuant to the agreement could have an adverse impact on Duke Energy Indiana's financial position, results of operations and cash flows.

## PIEDMONT

Management's Discussion and Analysis should be read in conjunction with the Condensed Consolidated Financial Statements and Notes for the nine months ended September 30, 2017, Piedmont's Annual Report on Form 10-K for the year ended October 31, 2016, and the Form 10-QT as of December 31, 2016, for the transition period from November 1, 2016, to December 31, 2016.

### Results of Operations

(in millions)	Nine Months Ended September 30,		
	2017	2016	Variance
<b>Operating Revenues</b>			
Regulated natural gas	\$ 877	\$ 815	\$ 62
Nonregulated natural gas and other	7	8	(1)
<b>Total operating revenues</b>	<b>884</b>	<b>823</b>	<b>61</b>
<b>Operating Expenses</b>			
Cost of natural gas	333	289	44
Operation, maintenance and other	226	221	5
Depreciation and amortization	109	103	6
Property and other taxes	38	33	5
Impairment charges	7	—	7
<b>Total operating expenses</b>	<b>713</b>	<b>646</b>	<b>67</b>
<b>Operating Income</b>	<b>171</b>	<b>177</b>	<b>(6)</b>
Equity in earnings of unconsolidated affiliates	8	25	(17)
Other income and expenses, net	(1)	(1)	—
<b>Total other income and expenses</b>	<b>7</b>	<b>24</b>	<b>(17)</b>
<b>Interest Expense</b>	<b>59</b>	<b>50</b>	<b>9</b>
<b>Income Before Income Taxes</b>	<b>119</b>	<b>151</b>	<b>(32)</b>
<b>Income Tax Expense</b>	<b>43</b>	<b>57</b>	<b>(14)</b>
<b>Net Income</b>	<b>\$ 76</b>	<b>\$ 94</b>	<b>(18)</b>

The following table shows the percent changes in dekatherms delivered and average number of customers. The percentages for all throughput deliveries represent billed and unbilled sales. Amounts are not weather-normalized.

Increase (Decrease) over prior year	2017
Residential deliveries	(19.2)%
Commercial deliveries	(11.8)%
Industrial deliveries	(4.3)%
Power generation deliveries	(11.0)%
For resale	(6.9)%
Total throughput deliveries	(10.5)%
Secondary market volumes	6.2 %
Average number of customers	1.6 %

Piedmont's throughput was 334,781,316 dekatherms and 374,214,204 dekatherms for the nine months ended September 30, 2017, and 2016, respectively. Due to the margin decoupling mechanism in North Carolina and weather normalization adjustment (WNA) mechanisms in South Carolina and Tennessee, changes in throughput deliveries do not have a material impact on Piedmont's revenues or earnings. The margin decoupling mechanism adjusts for variations in residential and commercial use per customer, including those due to weather and conservation. The WNA mechanisms mostly offset the impact of weather on bills rendered, but do not ensure full recovery of approved margin during periods when winter weather is significantly warmer or colder than normal.

### Nine Months Ended September 30, 2017, as Compared to September 30, 2016

**Operating Revenues.** The variance was driven primarily by:

- a \$44 million increase due to higher natural gas costs passed through to customers primarily due to higher natural gas prices; and
- a \$17 million increase in revenues to residential and commercial customers, net of natural gas costs passed through to customers, primarily due to Integrity Management Rider (IMR) rate adjustments and customer growth, partially offset by wholesale marketing revenue.

**Operating Expenses.** The variance was driven by:

- a \$44 million increase in costs of natural gas primarily due to higher natural gas prices;
- an \$11 million increase in depreciation expense and property and franchise taxes due to additional plant in service; and
- a \$7 million increase due to an impairment of software resulting from planned accounting system and process integration in 2018.

**Equity in Earnings of Unconsolidated Affiliates.** The decrease was primarily due to equity earnings from the investment in SouthStar Energy Services, LLC (SouthStar) in the prior year. Piedmont sold its 15 percent membership interest in SouthStar on October 3, 2016.

**Income Tax Expense.** The variance was primarily due to a decrease in pretax income. The effective tax rates for the nine months ended September 30, 2017, and 2016 were 36.1 percent and 37.7 percent, respectively. The decrease in the effective tax rate was primarily due to favorable tax return true ups and lower North Carolina corporate tax rates.

## LIQUIDITY AND CAPITAL RESOURCES

### Sources and Uses of Cash

Duke Energy relies primarily upon cash flows from operations, debt issuances and its existing cash and cash equivalents to fund its liquidity and capital requirements. Duke Energy's capital requirements arise primarily from capital and investment expenditures, repaying long-term debt and paying dividends to shareholders. See Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016, for a summary and detailed discussion of projected primary sources and uses of cash for 2017 to 2019.

The Subsidiary Registrants generally maintain minimal cash balances and use short-term borrowings to meet their working capital needs and other cash requirements. The Subsidiary Registrants, excluding Progress Energy (Parent), support their short-term borrowing needs through participation with Duke Energy and certain of its other subsidiaries in a money pool arrangement. The companies with short-term funds may provide short-term loans to affiliates participating under this arrangement.

Duke Energy and the Subsidiary Registrants, excluding Progress Energy (Parent), may also use short-term debt, including commercial paper and the money pool, as a bridge to long-term debt financings. The levels of borrowing may vary significantly over the course of the year due to the timing of long-term debt financings and the impact of fluctuations in cash flows from operations. From time to time, Duke Energy's current liabilities may exceed current assets resulting from the use of short-term debt as a funding source to meet scheduled maturities of long-term debt, as well as cash needs, which can fluctuate due to the seasonality of its business.

### CREDIT FACILITIES AND REGISTRATION STATEMENTS

Refer to Note 6 to the Condensed Consolidated Financial Statements, "Debt and Credit Facilities," for further information regarding Duke Energy's available credit facilities, including the Master Credit Facility.

#### Shelf Registration

In September 2016, Duke Energy filed a registration statement (Form S-3) with the U.S. Securities and Exchange Commission (SEC). Under this Form S-3, which is uncapped, the Duke Energy Registrants, excluding Progress Energy, may issue debt and other securities in the future at amounts, prices and with terms to be determined at the time of future offerings. The registration statement also allows for the issuance of common stock by Duke Energy.

In January 2017, Duke Energy amended its Form S-3 to add Piedmont as a registrant and included in the amendment a prospectus for Piedmont under which it may issue debt securities in the same manner as other Duke Energy Registrants.

### DEBT MATURITIES

Refer to Note 6 to the Condensed Consolidated Financial Statements, "Debt and Credit Facilities," for further information regarding significant components of Current Maturities of Long-Term Debt on the Condensed Consolidated Balance Sheets.

### CASH FLOWS FROM OPERATING ACTIVITIES

Cash flows from operations of Electric Utilities and Infrastructure and Gas Utilities and Infrastructure are primarily driven by sales of electricity and natural gas, respectively, and costs of operations. These cash flows from operations are relatively stable and comprise a substantial portion of Duke Energy's operating cash flows. Weather conditions, working capital and commodity price fluctuations, and unanticipated expenses including unplanned plant outages, storms, legal costs and related settlements can affect the timing and level of cash flows from operations. Duke Energy believes it has sufficient liquidity resources through the commercial paper markets, and ultimately the Master Credit and Revolving Facilities, to support these operations, including Hurricane Irma storm restoration costs. Cash flows from operations are subject to a number of other factors, including but not limited to regulatory constraints, economic trends and market volatility (see "Item 1A. Risk Factors," in the Duke Energy Registrants' Annual Reports on Form 10-K for additional information).

### Restrictive Debt Covenants

The Duke Energy Registrants' debt and credit agreements contain various financial and other covenants. The Master Credit Facility contains a covenant requiring the debt-to-total capitalization ratio not to exceed 65 percent for all borrowers except Piedmont. The debt-to-total capitalization ratio for Piedmont is not to exceed 70 percent. Failure to meet those covenants beyond applicable grace periods could result in accelerated due dates and/or termination of the agreements. As of September 30, 2017, each of the Duke Energy Registrants was in compliance with all covenants related to their debt agreements. In addition, some credit agreements may allow for acceleration of payments or termination of the agreements due to nonpayment or acceleration of other significant indebtedness of the borrower or some of its subsidiaries. None of the debt or credit agreements contain material adverse change clauses.

### Credit Ratings

Credit ratings are intended to provide credit lenders a framework for comparing the credit quality of securities and are not a recommendation to buy, sell or hold. The Duke Energy Registrants' credit ratings are dependent on the rating agencies' assessments of their ability to meet their debt principal and interest obligations when they come due. If, as a result of market conditions or other factors, the Duke Energy Registrants are unable to maintain current balance sheet strength or if earnings and cash flow outlook materially deteriorate, credit ratings could be negatively impacted.

The Duke Energy Registrants each hold credit ratings by Moody's Investors Service, Inc. (Moody's) and Standard & Poor's Rating Services (S&P). In April 2017, Fitch Ratings, Inc. (Fitch) withdrew credit ratings of the Subsidiary Registrants, with the exclusion of Piedmont, which was not previously rated by Fitch due to commercial reasons. Fitch will continue to provide credit ratings for Duke Energy Corporation.



In May 2017, Moody's changed its rating outlook for Duke Energy Corporation to stable from negative and affirmed Duke Energy Corporation's credit ratings. In August 2017, Moody's changed its rating outlook for Duke Energy Ohio to positive from stable and affirmed Duke Energy Ohio's credit ratings.

### Cash Flow Information

The following table summarizes Duke Energy's cash flows.

(in millions)	Nine Months Ended September 30,	
	2017	2016
Cash flows provided by (used in):		
Operating activities	\$ 5,011	\$ 5,611
Investing activities	(6,360)	(5,555)
Financing activities	1,239	5,266
Changes in cash and cash equivalents included in assets held for sale	—	11
Net (decrease) increase in cash and cash equivalents	(110)	5,333
Cash and cash equivalents at beginning of period	392	383
Cash and cash equivalents at end of period	\$ 282	\$ 5,716

### OPERATING CASH FLOWS

The following table summarizes key components of Duke Energy's operating cash flows.

(in millions)	Nine Months Ended September 30,	
	2017	2016
Net income	\$ 2,361	\$ 2,392
Non-cash adjustments to net income	3,937	3,585
Contributions to qualified pension plans	(8)	—
Payments for asset retirement obligations	(420)	(443)
Working capital	(859)	77
Net cash provided by operating activities	\$ 5,011	\$ 5,611

The variance was primarily due to:

- a \$936 million decrease in cash flows from working capital due to the timing of the payment of accruals, increased taxes accrued resulting from an increased effective tax rate, warmer winter weather and the absence of the International Disposal Group's operating cash flows.

Partially offset by:

- a \$321 million increase in net income after non-cash adjustments, primarily due to lower operation, maintenance and other expense and the additional Piedmont earnings contribution in the current year.

### INVESTING CASH FLOWS

The following table summarizes key components of Duke Energy's investing cash flows.

(in millions)	Nine Months Ended September 30,	
	2017	2016
Capital, investment and acquisition expenditures	\$ (6,211)	\$ (5,450)
Other investing items	(149)	(105)
Net cash used in investing activities	\$ (6,360)	\$ (5,555)

The variance was primarily due to:

- a \$761 million increase in capital, investment and acquisition expenditures due to growth in regulated generation investments and natural gas infrastructure, partially offset by a reduction in Commercial Renewables capital expenditures.

**FINANCING CASH FLOWS**

The following table summarizes key components of Duke Energy's financing cash flows.

(in millions)	Nine Months Ended September 30,	
	2017	2016
Issuances of long-term debt, net	\$ 3,675	\$ 7,659
Notes payable and commercial paper	(619)	(647)
Dividends paid	(1,825)	(1,731)
Other financing items	8	(15)
Net cash provided by financing activities	\$ 1,239	\$ 5,266

The variance was primarily due to:

- a \$3,984 million net decrease in issuances of long-term debt driven principally by the prior year \$3,750 million of senior unsecured notes used to fund a portion of the Piedmont acquisition, and prior year \$1,294 million nuclear asset-recovery bonds, offset by a \$1,047 million increase in current year redemptions; and
- a \$94 million current year increase in dividends paid.

**Summary of Significant Debt Issuances**

Refer to Note 6 to the Condensed Consolidated Financial Statements, "Debt and Credit Facilities," for further information regarding significant debt issuances.

**OTHER MATTERS****Environmental Regulations**

The Duke Energy Registrants are subject to federal, state and local regulations regarding air and water quality, hazardous and solid waste disposal and other environmental matters. These regulations can be changed from time to time and result in new obligations of the Duke Energy Registrants.

The following sections outline various proposed and recently enacted regulations that may impact the Duke Energy Registrants. Refer to Note 4 to the Condensed Consolidated Financial Statements, "Regulatory Matters," for further information regarding potential plant retirements and regulatory filings related to the Duke Energy Registrants.

**Coal Combustion Residuals**

In April 2015, the EPA published a rule to regulate the disposal of CCR from electric utilities as solid waste. The federal regulation classifies CCR as nonhazardous waste and allows for beneficial use of CCR with some restrictions. The regulation applies to all new and existing landfills, new and existing surface impoundments receiving CCR and existing surface impoundments that are no longer receiving CCR but contain liquid located at stations currently generating electricity (regardless of fuel source). The rule establishes requirements regarding landfill design, structural integrity design and assessment criteria for surface impoundments, groundwater monitoring, protection and remedial procedures and other operational and reporting procedures to ensure the safe disposal and management of CCR. As a result of the EPA rule, Duke Energy Carolinas, Progress Energy, Duke Energy Progress, Duke Energy Ohio and Duke Energy Indiana recorded additional ARO amounts during 2015. Various industry and environmental parties have appealed the EPA's CCR rule in the U.S. Court of Appeals for the District of Columbia (D.C. Circuit Court). On April 18, 2016, the EPA filed a motion with the federal court to settle five issues raised in litigation. On June 14, 2016, the court approved the motion with respect to all of those issues. Duke Energy does not expect a material impact from the settlement or that it will result in additional ARO adjustments. The Utility Solid Waste Activities Group filed a petition with the EPA seeking to have EPA reconsider certain provisions of the final rule, extend remaining compliance deadlines and ask the D.C. Circuit Court to hold the litigation in abeyance. While EPA has confirmed that it will reconsider certain provisions of the final rule, the D.C. Circuit Court denied EPA's petition to hold the litigation in abeyance. Oral argument is scheduled for November 20, 2017.

In addition to the requirements of the federal CCR regulation, CCR landfills and surface impoundments will continue to be independently regulated by most states. Cost recovery for future expenditures will be pursued through the normal ratemaking process with federal and state utility commissions and via wholesale contracts, which permit recovery of necessary and prudently incurred costs associated with Duke Energy's regulated operations. For more information, see Note 9, "Asset Retirement Obligations," in Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016.

**Coal Ash Management Act of 2014**

Asset retirement obligations recorded on the Duke Energy Carolinas and Duke Energy Progress Condensed Consolidated Balance Sheets at September 30, 2017, and December 31, 2016, include the legal obligation for closure of coal ash basins and the disposal of related ash as a result of the Coal Ash Act, the EPA CCR rule and other agreements. On July 14, 2016, the Coal Ash Act was amended, requiring Duke Energy to undertake dam improvement projects and to provide access to a permanent alternative drinking water source to certain residents within a half-mile of coal ash basin compliance boundaries and to certain other potentially impacted residents. The legislation ranked basins at the H.F. Lee, Cape Fear and Weatherspoon stations as intermediate risk, consistent with Duke Energy's previously announced plans to excavate those basins. These specific intermediate-risk basins require closure through excavation including a combination of transferring ash to an appropriate engineered landfill or conversion of the ash for beneficial use. Closure of these specific intermediate-risk basins is required to be completed no later than August 1, 2028. Upon satisfactory completion of the dam improvement projects and installation of alternative drinking water sources by October 15, 2018, the legislation requires the NCDEQ to reclassify all remaining sites, excluding H.F. Lee, Cape Fear and Weatherspoon, as low risk. In January 2017, NCDEQ issued preliminary approval of Duke Energy's plans for the alternative water sources.

Additionally, the July 2016 legislation requires the installation and operation of three large-scale coal ash beneficiation projects, which are expected to produce reprocessed ash for use in the concrete industry. Closure of basins at sites with these beneficiation projects is required to be completed no later than December 31, 2029. On October 5, 2016, Duke Energy announced Buck Steam Station as a first location for one of the beneficiation projects. On December 13, 2016, Duke Energy announced H.F. Lee as the second location. On June 30, 2017, Duke Energy announced the Cape Fear Plant as the third beneficiation location.

Provisions of the Coal Ash Act prohibit cost recovery in customer rates for unlawful discharge of ash impoundment waters occurring after January 1, 2014. The Coal Ash Act leaves the decision on cost recovery determinations related to closure of ash impoundments to the normal ratemaking processes before utility regulatory commissions. Consistent with the requirements of the Coal Ash Act, Duke Energy has submitted comprehensive site assessments and groundwater corrective plans to NCDEQ and will submit to NCDEQ site-specific coal ash impoundment closure plans in advance of closure. These plans and all associated permits must be approved by NCDEQ before closure work can begin.

For more information, see Note 9, "Asset Retirement Obligations," in Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016.

**Clean Water Act 316(b)**

The EPA published the final 316(b) cooling water intake structure rule on August 15, 2014, with an effective date of October 14, 2014. The rule applies to 26 of the electric generating facilities the Duke Energy Registrants own and operate. The rule allows for several options to demonstrate compliance and provides flexibility to the state environmental permitting agencies to make determinations on controls, if any, that will be required for cooling water intake structures. Any required intake structure modifications and/or retrofits are expected to be installed in the 2019 to 2022 time frame. Petitions challenging the rule have been filed by several groups. Oral argument was held on September 14, 2017. It is unknown when the courts will rule on the petitions. The Duke Energy Registrants cannot predict the outcome of these matters.

**Steam Electric Effluent Limitations Guidelines**

On January 4, 2016, the final Steam Electric Effluent Limitations Guidelines (ELG) rule became effective. The rule establishes new requirements for wastewater streams associated with steam electric power generation and includes more stringent controls for any new coal plants that may be built in the future. As originally written, affected facilities were required to comply between 2018 and 2023, depending on timing of new Clean Water Act (CWA) permits and waste stream. Most of the steam electric generating facilities the Duke Energy Registrants own are affected sources. The Duke Energy Registrants are well-positioned to meet the majority of the requirements of the rule due to current efforts to convert to dry ash handling. Petitions challenging the rule have been filed by several groups. On March 16, 2015, Duke Energy Indiana filed its own legal challenge to the rule with the Seventh Circuit Court of Appeals specific to the ELG rule focused on the limits imposed on IGCC facilities (gasification wastewater). All challenges to the rule were consolidated in the Fifth Circuit Court of Appeals. The Fifth Circuit Court of Appeals granted EPA's request to stay the pending litigation on the ELG rule until August 12, 2017, and on August 22, 2017, the Fifth Circuit Court of Appeals granted EPA's Motion to Govern Further Proceedings, thereby severing and suspending the claims related to flue gas desulfurization wastewater, bottom ash transport water and gasification wastewater. Claims regarding gasification wastewater were stayed, pending the issuance of the variance to Duke Energy Indiana. The litigation will continue as to claims related to other waste streams.

On August 7, 2017, EPA issued a public notice regarding its proposed decision to grant a variance to Duke Energy Indiana for mercury and total suspended solids for gasification wastewater at its Edwardsport facility. The public comment period has ended, but EPA has not finalized its decision. Separate from the litigation, EPA finalized a rule on September 12, 2017, postponing the initial applicability date for bottom ash transport water and flue gas desulfurization wastewater from 2018 to 2020 and retaining the end applicability date of 2023. Also, as part of the rule, EPA reiterated its intent to conduct a new rulemaking to revise limitation guidelines for bottom ash transport water and flue gas desulfurization wastewater.

The Duke Energy Registrants cannot predict the outcome of these matters.

### **Estimated Cost and Impacts of Rulemakings**

Duke Energy will incur capital expenditures to comply with the environmental regulations and rules discussed above. The following table provides five-year estimated costs, excluding AFUDC, of new control equipment that may need to be installed on existing power plants primarily to comply with the Coal Ash Act requirements for conversion to dry disposal of bottom ash and fly ash, CWA 316(b) and ELGs through December 31, 2021. The table excludes ash basin closure costs recorded in Asset retirement obligations on the Condensed Consolidated Balance Sheets. For more information related to AROs, see Note 9, "Asset Retirement Obligations" in Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016.

(in millions)	Estimated Cost
<b>Duke Energy</b>	<b>\$ 1,340</b>
Duke Energy Carolinas	580
Progress Energy	420
Duke Energy Progress	310
Duke Energy Florida	110
Duke Energy Ohio	90
Duke Energy Indiana	250

The Duke Energy Registrants also expect to incur increased fuel, purchased power, operation and maintenance and other expenses, in addition to costs for replacement generation for potential coal-fired power plant retirements, as a result of these regulations. Actual compliance costs incurred may be materially different from these estimates due to reasons such as the timing and requirements of EPA regulations and the resolution of legal challenges to the rules. The Duke Energy Registrants intend to seek rate recovery of necessary and prudently incurred costs associated with regulated operations to comply with these regulations.

#### **Cross-State Air Pollution Rule**

On December 3, 2015, the EPA proposed a rule to lower the Cross-State Air Pollution Rule (CSAPR) Phase 2 state ozone season nitrogen oxide (NO<sub>x</sub>) emission budgets for 23 eastern states, including North Carolina, Ohio, Kentucky and Indiana. The EPA also proposed to eliminate the CSAPR Phase 2 ozone season state NO<sub>x</sub> budgets for Florida and South Carolina. On September 7, 2016, the EPA finalized the CSAPR Update Rule that reduces the CSAPR Phase 2 state ozone season NO<sub>x</sub> emission budgets for 22 eastern states, including Ohio, Kentucky and Indiana. In the final CSAPR Update Rule, the EPA removed Florida, South Carolina and North Carolina from the ozone season NO<sub>x</sub> program. Beginning in 2017, Duke Energy Registrants in these states will not be subject to any CSAPR ozone season NO<sub>x</sub> emission limitations. For the states that remain in the program, the reduced state ozone season NO<sub>x</sub> emission budgets took effect on May 1, 2017. In Kentucky and Indiana, where Duke Energy Registrants own and operate coal-fired electric generating units (EGUs) subject to the final rule requirements, near-term responses include changing unit dispatch to run certain generating units less frequently and/or purchasing NO<sub>x</sub> allowances from the trading market. Longer term, upgrading the performance of existing NO<sub>x</sub> controls is an option. The Indiana Utility Group and the Indiana Energy Association jointly filed a petition for reconsideration asking that the EPA correct errors it made in calculating the Indiana budget and increase the budget accordingly. EPA has yet to act on the petition. Numerous parties have filed petitions with the D.C. Circuit Court challenging various aspects of the CSAPR Update Rule. Briefing in the case began on August 21, 2017. The date for oral argument has not been established. The Duke Energy Registrants cannot predict the outcome of these matters.

#### **Carbon Pollution Standards for New, Modified and Reconstructed Power Plants**

On October 23, 2015, the EPA published a final rule in the Federal Register establishing carbon dioxide (CO<sub>2</sub>) emissions limits for new, modified and reconstructed power plants. The requirements for new plants apply to plants that commenced construction after January 8, 2014. The EPA set an emissions standard for coal units of 1,400 pounds of CO<sub>2</sub> per gross MWh, which would require the application of partial carbon capture and storage (CCS) technology for a coal unit to be able to meet the limit. Utility-scale CCS is not currently a demonstrated and commercially available technology for coal-fired EGUs, and therefore the final standard effectively prevents the development of new coal-fired generation. The EPA set a final standard of 1,000 pounds of CO<sub>2</sub> per gross MWh for new natural gas combined-cycle units.

On March 28, 2017, President Trump signed an executive order directing EPA to review the rule and determine whether to suspend, revise or rescind it. On the same day, the Department of Justice (DOJ) filed a motion with the D.C. Circuit Court requesting that the court stay the litigation of the rule while it is reviewed by EPA. Subsequent to the DOJ motion, the D.C. Circuit Court canceled oral argument in the case, which had been scheduled for April 17, 2017. On August 10, 2017, the court ordered that the litigation be suspended indefinitely. The rule remains in effect pending the outcome of litigation and EPA's review. EPA has not announced a schedule for completing its review. The Duke Energy Registrants cannot predict the outcome of these matters, but do not expect the impacts of the current final standards will be material to Duke Energy's financial position, results of operations or cash flows.

#### **Clean Power Plan**

On October 23, 2015, the EPA published in the Federal Register the final Clean Power Plan (CPP) rule to regulate CO<sub>2</sub> emissions from existing fossil fuel-fired EGUs. The CPP established CO<sub>2</sub> emission rates and mass cap goals that apply to existing fossil fuel-fired EGUs. Petitions challenging the rule have been filed by several groups and on February 9, 2016, the Supreme Court issued a stay of the final CPP rule, halting implementation of the CPP until legal challenges are resolved. States in which the Duke Energy Registrants operate have suspended work on the CPP in response to the stay. Oral arguments before 10 of the 11 judges on D.C. Circuit Court were heard on September 27, 2016. The court has not issued its opinion in the case.

On March 28, 2017, President Trump signed an executive order directing EPA to review the CPP and determine whether to suspend, revise or rescind the rule. On the same day, the DOJ filed a motion with the D.C. Circuit Court requesting that the court stay the litigation of the rule while it is reviewed by EPA. On April 28, 2017, the court issued an order to suspend the litigation for 60 days. On August 8, 2017, the court, on its own motion, extended the suspension of the litigation for an additional 60 days. On October 10, 2017, EPA issued a Notice of Proposed Rulemaking to repeal the CPP based on a change to EPA's legal interpretation of the section of the Clean Air Act (CAA) on which the CPP was based. In the proposal EPA indicates that it has not determined whether it will issue a rule to replace the CPP, and if it will do so, when and what form that rule will take. The comment period on EPA's proposal ends December 15, 2017. Litigation of the CPP remains on hold in the D.C. Circuit and the February 2016 U.S. Supreme Court stay of the CPP remains in effect. The Duke Energy Registrants cannot predict the outcome of these matters.

#### **Global Climate Change**

For other information on global climate change and the potential impacts on Duke Energy, see "Other Matters" in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016.

#### **North Carolina Legislation**

In July 2017, the North Carolina General Assembly passed House Bill 589 and it was subsequently enacted into law by the governor. The law includes, among other things, overall reform of the application of the Public Utility Regulatory Policies Act of 1978 (PURPA) for new solar projects in the state, a requirement for the utility to procure approximately 2,600 MW of renewable energy through a competitive bidding process and recovery of costs related to the competitive bidding process through the fuel clause and a competitive procurement rider. Duke Energy is evaluating the impact of this law.

#### **Nuclear Matters**

For other information on nuclear matters and the potential impacts on Duke Energy, see "Other Matters" in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016.

#### **New Accounting Standards**

See Note 1 to the Condensed Consolidated Financial Statements, "Organization and Basis of Presentation," for a discussion of the impact of new accounting standards.

#### **Off-Balance Sheet Arrangements**

During the three and nine months ended September 30, 2017, there were no material changes to Duke Energy's off-balance sheet arrangements. See Note 13 to the Condensed Consolidated Financial Statements, "Variable Interest Entities," for a discussion of off-balance sheet arrangements regarding Atlantic Coast Pipeline. For additional information on Duke Energy's off-balance sheet arrangements, see "Off-Balance Sheet Arrangements" in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016.

#### **Contractual Obligations**

Duke Energy enters into contracts that require payment of cash at certain specified periods, based on certain specified minimum quantities and prices. During the three and nine months ended September 30, 2017, there were no material changes in Duke Energy's contractual obligations. For an in-depth discussion of Duke Energy's contractual obligations, see "Contractual Obligations" and "Quantitative and Qualitative Disclosures about Market Risk" in "Management's Discussion and Analysis of Financial Condition and Results of Operations" in Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016.

#### **Subsequent Events**

See Note 18 to the Condensed Consolidated Financial Statements, "Subsequent Events," for a discussion of subsequent events.

### **ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

During the three and nine months ended September 30, 2017, there were no material changes to the Duke Energy Registrants' disclosures about market risk. For an in-depth discussion of the Duke Energy Registrants' market risks, see "Quantitative and Qualitative Disclosures about Market Risk" in Item 7 of the Annual Report on Form 10-K for the Duke Energy Registrants.

### **ITEM 4. CONTROLS AND PROCEDURES**

#### **Disclosure Controls and Procedures**

Disclosure controls and procedures are controls and other procedures that are designed to ensure that information required to be disclosed by the Duke Energy Registrants in the reports they file or submit under the Securities Exchange Act of 1934 (Exchange Act) are recorded, processed, summarized and reported within the time periods specified by the SEC rules and forms.

Disclosure controls and procedures include, without limitation, controls and procedures designed to provide reasonable assurance that information required to be disclosed by the Duke Energy Registrants in the reports they file or submit under the Exchange Act are accumulated and communicated to management, including the Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Under the supervision and with the participation of management, including the Chief Executive Officer and Chief Financial Officer, the Duke Energy Registrants have evaluated the effectiveness of their disclosure controls and procedures (as such term is defined in Rule 13a-15(e) and 15d-15(e) under the Exchange Act) as of September 30, 2017, and, based upon this evaluation, the Chief Executive Officer and Chief Financial Officer have concluded that these controls and procedures are effective in providing reasonable assurance of compliance.

**Changes in Internal Control over Financial Reporting**

Under the supervision and with the participation of management, including the Chief Executive Officer and Chief Financial Officer, the Duke Energy Registrants have evaluated changes in internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the fiscal quarter ended September 30, 2017, and have concluded no change has materially affected, or is reasonably likely to materially affect, internal control over financial reporting.

## **ITEM 1. LEGAL PROCEEDINGS**

For information regarding material legal proceedings, including regulatory and environmental matters, see Note 4, "Regulatory Matters," and Note 5, "Commitments and Contingencies," to the Condensed Consolidated Financial Statements. For additional information, see Item 3, "Legal Proceedings," in Duke Energy's Annual Report on Form 10-K for the year ended December 31, 2016.

### **ITEM 1A. RISK FACTORS**

In addition to the other information set forth in this report, careful consideration should be given to the factors discussed in Part I, "Item 1A. Risk Factors" in the Duke Energy Registrants' Annual Report on Form 10-K, which could materially affect the Duke Energy Registrants' financial condition or future results.

## **ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS**

### **ISSUER PURCHASES OF EQUITY SECURITIES**

There were no issuer purchases of equity securities during the third quarter of 2017.

## ITEM 6. EXHIBITS

Exhibits filed herein are designated by an asterisk (\*). All exhibits not so designated are incorporated by reference to a prior filing, as indicated. Items constituting management contracts or compensatory plans or arrangements are designated by a double asterisk (\*\*). The Company agrees to furnish upon request to the Commission a copy of any omitted schedules or exhibits upon request on all items designated by a triple asterisk (\*\*\*)

Exhibit Number		Duke Energy	Duke Energy Carolinas	Progress Energy	Duke Energy Progress	Duke Energy Florida	Duke Energy Ohio	Duke Energy Indiana	Piedmont
4.1	<a href="#">Seventeenth Supplemental Indenture, dated as of August 10, 2017 (incorporated by reference to Exhibit 4.1 to Registrant's Current Report on Form 8-K filed on August 10, 2017, File No. 1-32853).</a>	X							
4.2	<a href="#">Eighty-Seventh Supplemental Indenture, dated as of September 1, 2017 (incorporated by reference to Exhibit 4.1 to Registrant's Current Report on Form 8-K filed on September 8, 2017, File No. 1-3382).</a>				X				
*10.1	<a href="#">Amendment to Duke Energy Corporation Executive Savings Plan, effective as of January 1, 2014.</a>	X							
*12	<a href="#">Computation of Ratio of Earnings to Fixed Charges – DUKE ENERGY CORPORATION.</a>	X							
*31.1.1	<a href="#">Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>	X							
*31.1.2	<a href="#">Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>		X						
*31.1.3	<a href="#">Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>			X					
*31.1.4	<a href="#">Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>				X				
*31.1.5	<a href="#">Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>					X			
*31.1.6	<a href="#">Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>						X		
*31.1.7	<a href="#">Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>							X	
*31.1.8	<a href="#">Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>								X
*31.2.1	<a href="#">Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>	X							
*31.2.2	<a href="#">Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>		X						
*31.2.3	<a href="#">Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>			X					
*31.2.4	<a href="#">Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>				X				
*31.2.5	<a href="#">Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>					X			
*31.2.6	<a href="#">Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>						X		



## PART II

*31.2.7	<a href="#">Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>								X	
*31.2.8	<a href="#">Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</a>									X
*32.1.1	<a href="#">Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</a>	X								
*32.1.2	<a href="#">Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</a>		X							
*32.1.3	<a href="#">Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</a>			X						
*32.1.4	<a href="#">Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</a>				X					
*32.1.5	<a href="#">Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</a>					X				
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*32.2.6	<a href="#">Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</a>						X			
*32.2.7	<a href="#">Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</a>							X		
*32.2.8	<a href="#">Certification Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</a>									X
*101.INS	XBRL Instance Document.	X	X	X	X	X	X	X	X	X
*101.SCH	XBRL Taxonomy Extension Schema Document.	X	X	X	X	X	X	X	X	X

## PART II

*101.CAL	XBRL Taxonomy Calculation Linkbase Document.	X	X	X	X	X	X	X	X
*101.LAB	XBRL Taxonomy Label Linkbase Document.	X	X	X	X	X	X	X	X
*101.PRE	XBRL Taxonomy Presentation Linkbase Document.	X	X	X	X	X	X	X	X
*101.DEF	XBRL Taxonomy Definition Linkbase Document.	X	X	X	X	X	X	X	X

The total amount of securities of the registrant or its subsidiaries authorized under any instrument with respect to long-term debt not filed as an exhibit does not exceed 10 percent of the total assets of the registrant and its subsidiaries on a consolidated basis. The registrant agrees, upon request of the SEC, to furnish copies of any or all of such instruments to it.

**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrants have duly caused this report to be signed on their behalf by the undersigned thereunto duly authorized.

DUKE ENERGY CORPORATION  
DUKE ENERGY CAROLINAS, LLC  
PROGRESS ENERGY, INC.  
DUKE ENERGY PROGRESS, LLC  
DUKE ENERGY FLORIDA, LLC  
DUKE ENERGY OHIO, INC.  
DUKE ENERGY INDIANA, LLC  
PIEDMONT NATURAL GAS COMPANY, INC.

Date: November 3, 2017

/s/ STEVEN K. YOUNG

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Steven K. Young  
Executive Vice President and Chief Financial Officer  
(Principal Financial Officer)

Date: November 3, 2017

/s/ WILLIAM E. CURRENS JR.

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William E. Currens Jr.  
Senior Vice President, Chief Accounting Officer  
and Controller  
(Principal Accounting Officer)

# Annual Energy Outlook 2017

with projections to 2050



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## Overview/key takeaways

EIA's Annual Energy Outlook provides modeled projections of domestic energy markets through 2050, and includes cases with different assumptions of macroeconomic growth, world oil prices, technological progress, and energy policies. With strong domestic production and relatively flat demand, the United States becomes a net energy exporter over the projection period in most cases.



### The Annual Energy Outlook provides long-term energy projections for the United States

- Projections in the *Annual Energy Outlook 2017* (AEO2017) are not predictions of what will happen, but rather modeled projections of what may happen given certain assumptions and methodologies.
- The AEO is developed using the National Energy Modeling System (NEMS), an integrated model that aims to capture various interactions of economic changes and energy supply, demand, and prices.
- Energy market projections are subject to much uncertainty, as many of the events that shape energy markets and future developments in technologies, demographics, and resources cannot be foreseen with certainty.
- More information about the assumptions used in developing these projections is available shortly after the release of each AEO.
- The AEO is published pursuant to the Department of Energy Organization Act of 1977, which requires the U.S. Energy Information Administration (EIA) Administrator to prepare annual reports on trends and projections for energy use and supply.



## What is the Reference case?

- The Reference case projection assumes trend improvement in known technologies, along with a view of economic and demographic trends reflecting the current central views of leading economic forecasters and demographers.
- It generally assumes that current laws and regulations affecting the energy sector, including sunset dates for laws that have them, are unchanged throughout the projection period.
- The potential impacts of proposed legislation, regulations, or standards are not reflected in the Reference case.
- EIA addresses the uncertainty inherent in energy projections by developing side cases with different assumptions of macroeconomic growth, world oil prices, technological progress, and energy policies.
- Projections in the AEO should be interpreted with a clear understanding of the assumptions that inform them and the limitations inherent in any modeling effort.

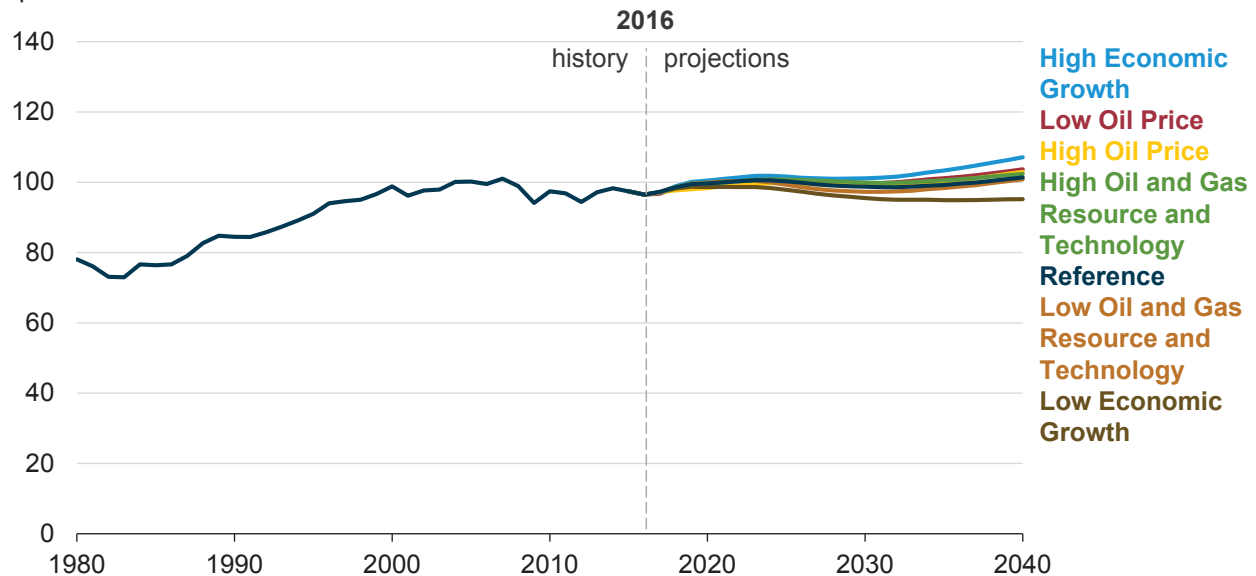


## What are the side cases?

- Oil prices are driven by global market balances that are mainly influenced by factors external to the NEMS model. In the High Oil Price case, the price of Brent crude in 2016 dollars reaches \$226 per barrel (b) by 2040, compared to \$109/b in the Reference case and \$43/b in the Low Oil Price case.
- In the High Oil and Gas Resource and Technology case, lower costs and higher resource availability than in the Reference case allow for higher production at lower prices. In the Low Oil and Gas Resource and Technology case, more pessimistic assumptions about resources and costs are applied.
- The effects of economic assumptions on energy consumption are addressed in the High and Low Economic Growth cases, which assume compound annual growth rates for U.S. gross domestic product of 2.6% and 1.6%, respectively, from 2016–40, compared with 2.2% annual growth in the Reference case.
- A case assuming that the Clean Power Plan (CPP) is not implemented can be compared with the Reference case to show how the absence of that policy could affect energy markets and emissions.

## Energy consumption varies minimally across all AEO cases—

**Total energy consumption**  
quadrillion British thermal units

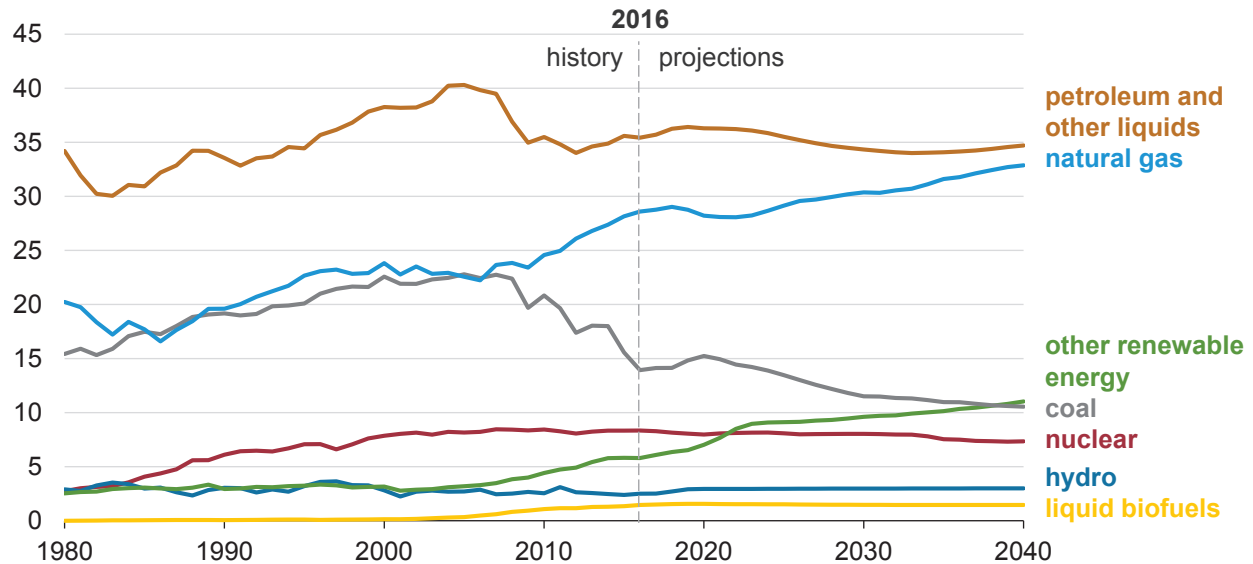


## —bounded by the High and Low Economic Growth cases

- In the Reference case, total energy consumption increases by 5% between 2016 and 2040.
- Because a significant portion of energy consumption is related to economic activity, energy consumption is projected to increase by approximately 11% in the High Economic Growth case and to remain nearly flat in the Low Economic Growth case.
- Although the Oil and Gas Resource and Technology cases affect the production of energy, the impact on domestic energy consumption is less significant.
- In all AEO cases, the electric power sector remains the largest consumer of primary energy.
- Projections of total energy consumption (and supply) are sensitive to the conversions used to represent the primary energy content of noncombustible energy resources. AEO2017 uses fossil-equivalence to represent the energy content of renewable fuels.

## Domestic energy consumption remains relatively flat in the Reference case—

**Energy consumption (Reference case)**  
quadrillion British thermal units



## —but the fuel mix changes significantly

- Overall U.S. energy consumption remains relatively flat in the Reference case, rising 5% from the 2016 level by 2040 and somewhat close to its previous peak. Varying assumptions about economic growth rates or energy prices considered in the AEO2017 side cases affect projected consumption.
- Natural gas use increases more than other fuel sources in terms of quantity of energy consumed, led by demand from the industrial and electric power sectors.
- Petroleum consumption remains relatively flat as increases in energy efficiency offset growth in the transportation and industrial activity measures.
- Coal consumption decreases as coal loses market share to natural gas and renewable generation in the electric power sector.
- On a percentage basis, renewable energy grows the fastest because capital costs fall with increased penetration and because current state and federal policies encourage its use.
- Liquid biofuels growth is constrained by relatively flat transportation energy use and blending limitations.

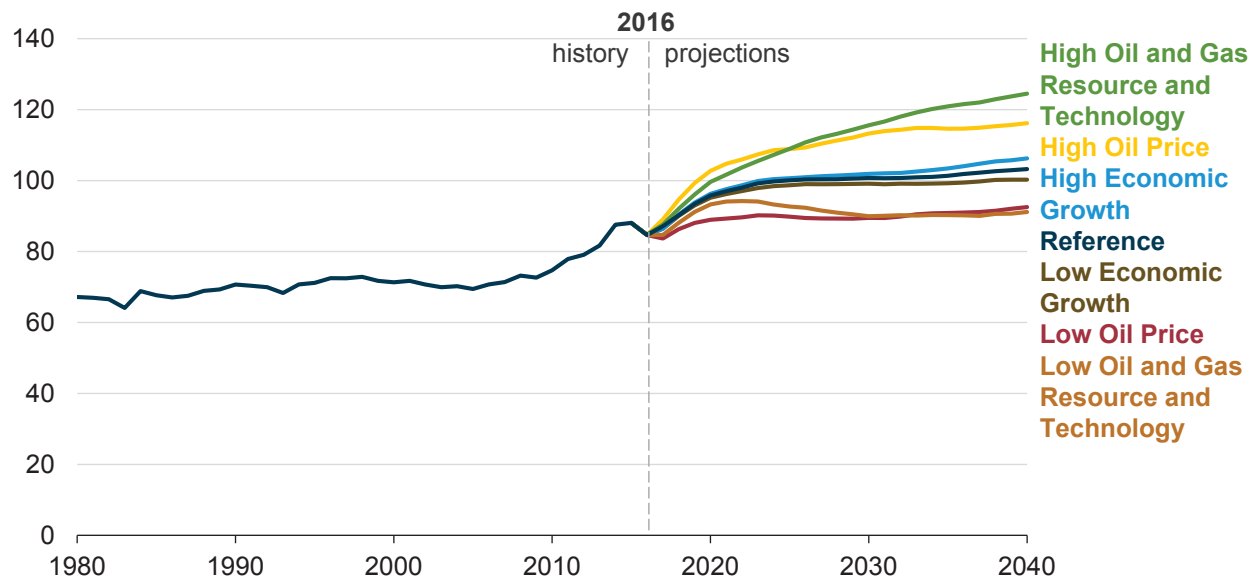




## Energy production ranges from nearly flat in the Low Oil and Gas Resource and Technology case—

### Total energy production

quadrillion British thermal units



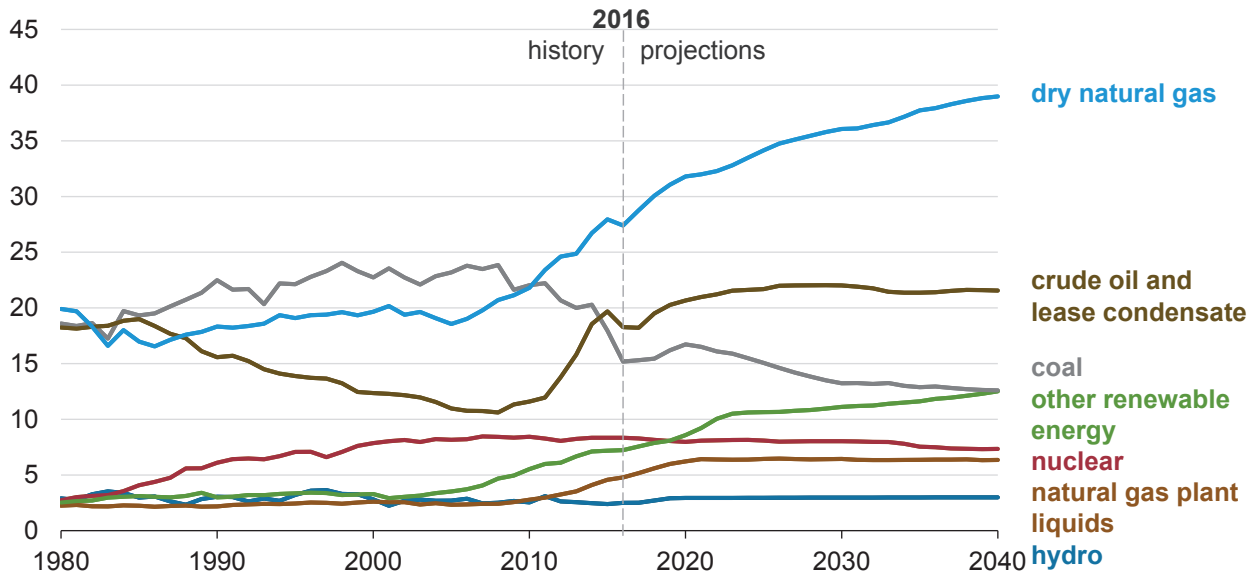
## —to continued growth in the High Resource and Technology case

- Unlike energy consumption, which varies less across AEO2017 cases, projections of energy production vary widely.
- Total energy production increases by more than 20% from 2016 through 2040 in the Reference case, led by increases in renewables, natural gas, and crude oil production.
- Production growth is dependent on technology, resources, and market conditions.
- The High Oil and Gas Resource and Technology case assumes higher estimates of unproved Alaska resources; offshore Lower 48 resources; and onshore Lower 48 tight oil, tight gas, and shale gas resources than in the Reference case. This case also assumes lower costs of producing these resources. The Low Oil and Gas Resource and Technology case assumes the opposite.
- The High Oil Price case illustrates the impact of higher world demand for petroleum products, lower Organization of the Petroleum Exporting Countries (OPEC) upstream investment, and higher non-OPEC exploration and development costs. The Low Oil Price case assumes the opposite.

## U.S. energy production continues to increase in the Reference case—

### Energy production (Reference case)

quadrillion British thermal units



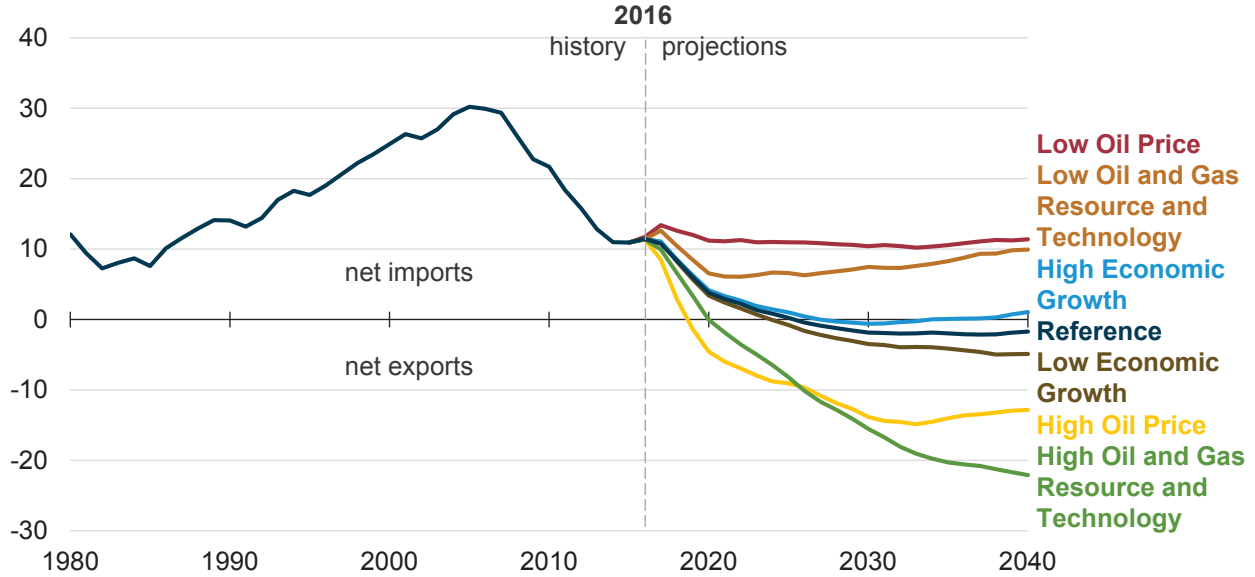
## —led by growth in natural gas and renewables

- Natural gas production accounts for nearly 40% of U.S. energy production by 2040 in the Reference case. Varying assumptions about resources, technology, and prices in alternative cases significantly affect the projection for U.S. production.
- Crude oil production in the Reference case increases from current levels, then levels off around 2025 as tight oil development moves into less productive areas. Like natural gas, projected crude oil production varies considerably with assumptions about resources and technology.
- Coal production trends in the Reference case reflect the domestic regulatory environment, including the implementation of the Clean Power Plan, and export market constraints.
- Nonhydroelectric renewable energy production grows, reflecting cost reductions and existing policies at the federal and state level that promote the use of wind and solar energy.
- Nuclear generation declines modestly over 2017–40 in the Reference case as new builds already being developed and plant uprates nearly offset retirements. The decline in nuclear generation accelerates beyond 2040 as a significant share of existing plants is assumed to be retired at age 60.

## The United States becomes a net energy exporter in most cases—

### Net energy trade

quadrillion British thermal units

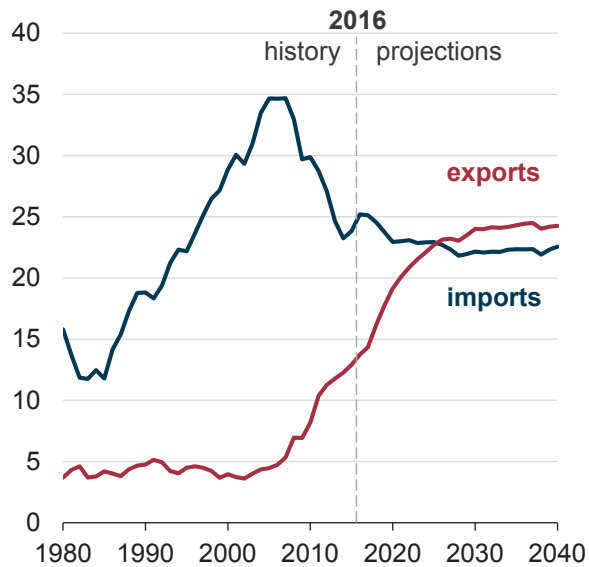


## —and under high resource and technology assumptions, net exports are significantly higher than in the Reference case

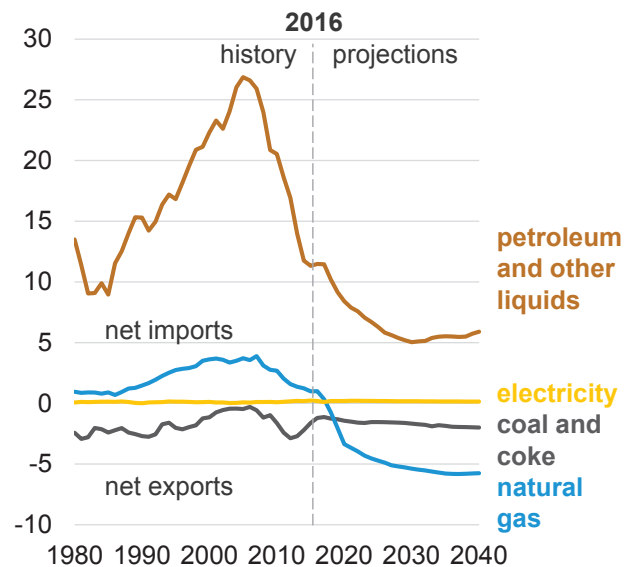
- The United States is projected to become a net energy exporter by 2026 in the Reference case projections, but the transition occurs earlier in three of the AEO2017 side cases.
- Net exports are highest in the High Oil and Gas Resource and Technology case as favorable geology and technological developments combine to produce oil and natural gas at lower prices.
- The High Oil Price case includes favorable economic conditions for producers, but consumption is lower in response to higher prices. Without substantial improvements in technology and more favorable resource availability, U.S. energy production declines in the 2030s.
- In the Low Oil Price and Low Oil and Gas Resource and Technology cases, the United States remains a net importer over the analysis period.
- In the Low Oil and Gas Resource and Technology case, the conditions are unfavorable for U.S. crude oil production at levels that support exports.
- In the Low Oil Price case, prices are too low to provide a strong incentive for high U.S. production.

## The United States becomes a net energy exporter in the Reference case—

**Energy trade (Reference case)**  
quadrillion British thermal units



**Net energy trade (Reference case)**  
quadrillion British thermal units



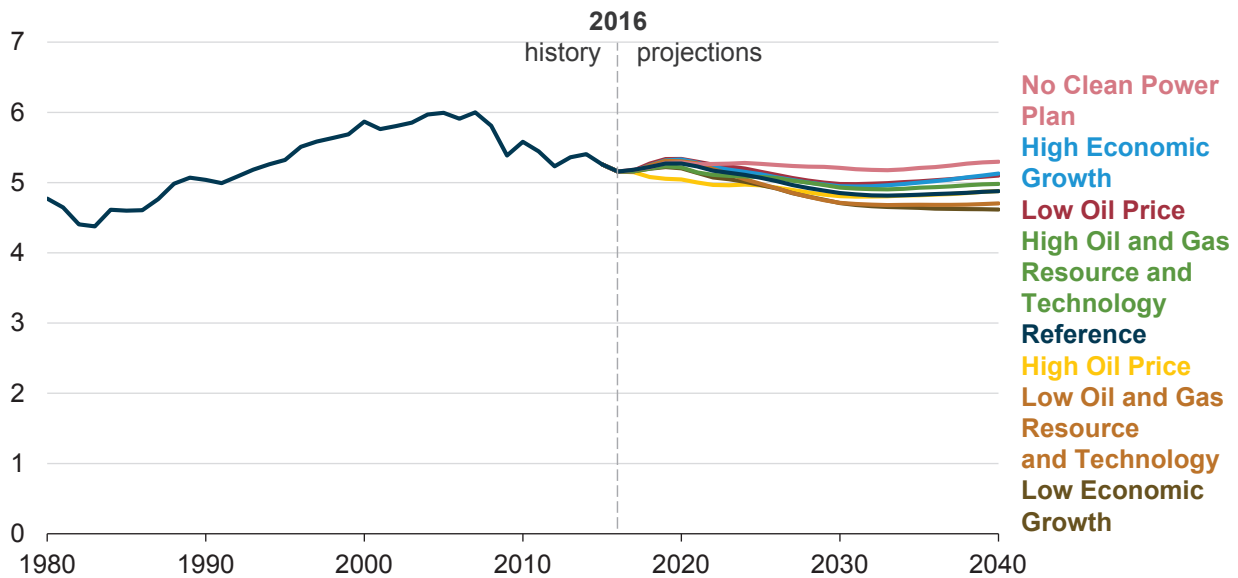
## —as natural gas exports increase and net petroleum imports decrease

- The United States has been a net energy importer since 1953, but declining energy imports and growing energy exports make the United States a net energy exporter by 2026 in the Reference case projection.
- Crude oil and petroleum products dominate U.S. energy trade. The United States is both an importer and exporter of petroleum liquids, importing mostly crude oil and exporting mostly petroleum products such as gasoline and diesel throughout the Reference case projection.
- Natural gas trade, which has historically been mostly shipments by pipeline from Canada and to Mexico, is projected to be increasingly dominated by liquefied natural gas exports to more distant destinations.
- The United States continues to be a net exporter of coal (including coal coke), but its exports growth is not expected to increase significantly because of competition from other global suppliers closer to major markets.



## Energy-related carbon dioxide emissions decline in most AEO cases—

**Energy-related carbon dioxide emissions**  
billion metric tons of carbon dioxide



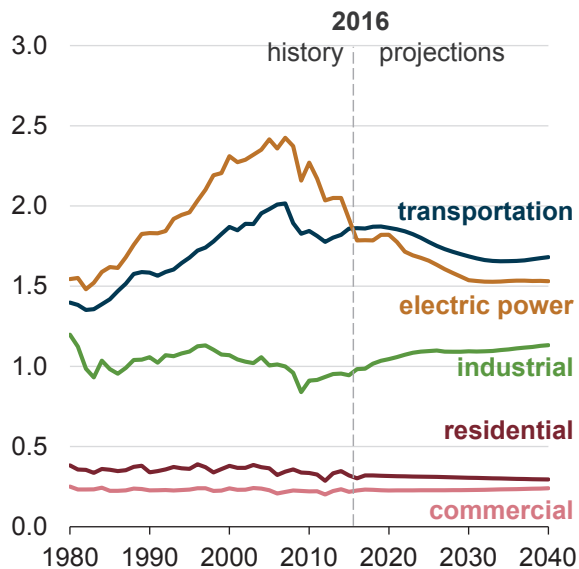
## —with the highest emissions projected in the No Clean Power Plan case

- The electric power sector accounted for about 40% of the U.S. total energy-related carbon dioxide (CO<sub>2</sub>) emissions in 2011, with a declining share in recent years.
- The Clean Power Plan (CPP), which is currently stayed pending judicial review, requires states to develop plans to reduce CO<sub>2</sub> emissions from existing generating units that use fossil fuels.
- Combined with lower natural gas prices and the extension of renewable tax credits, the CPP accelerates a shift toward less carbon-intensive electricity generation.
- The Reference case includes the CPP and assumes that states select the mass-based limits on CO<sub>2</sub> emissions. An alternative case in AEO2017 assumes that the CPP is not implemented.
- AEO2016 included extensive analysis of the CPP and presented several side cases that examined various compliance options available to states.

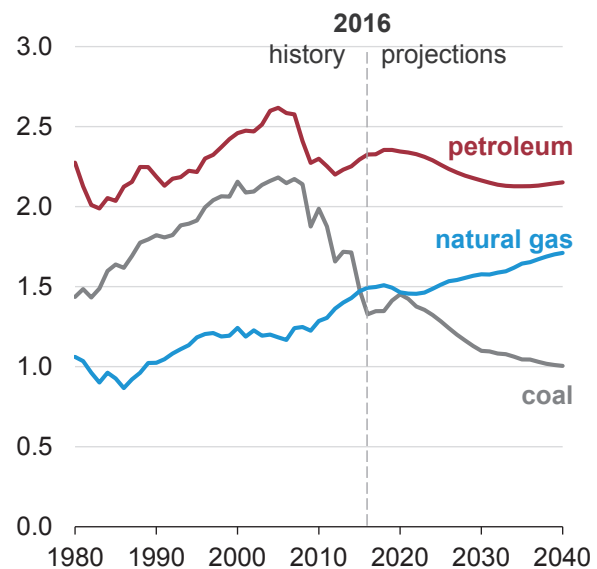
## Reference case energy-related carbon dioxide emissions fall—

### U.S. energy-related carbon dioxide emissions (Reference case)

billion metric tons of carbon dioxide



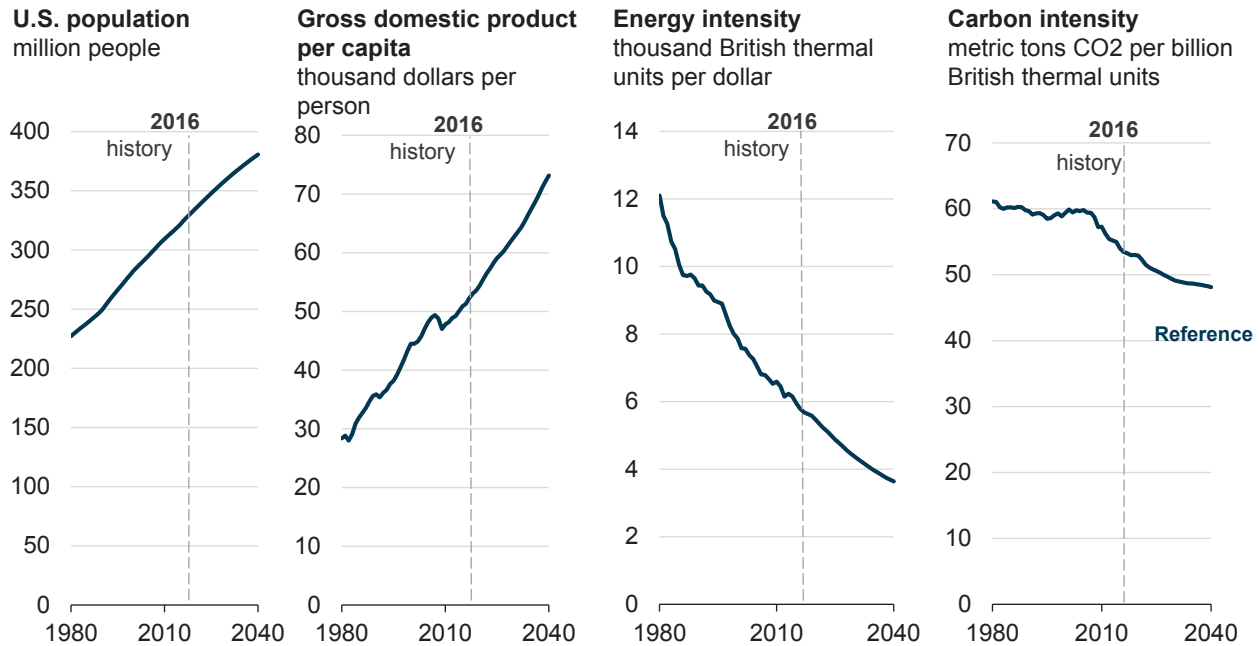
billion metric tons of carbon dioxide



## —but at a slower rate than in the recent past

- From 2005 to 2016, energy-related carbon dioxide (CO<sub>2</sub>) emissions fell at an average annual rate of 1.4%. From 2016 to 2040, energy-related CO<sub>2</sub> emissions fall 0.2% annually in the Reference case.
- In the industrial sector, growth in domestic industries, such as bulk chemicals, leads to higher energy consumption and emissions.
- In the electric power sector, coal-fired plants are replaced primarily with new natural gas, solar, and wind capacity, which reduces electricity-related CO<sub>2</sub> emissions.
- Direct emissions in the residential and commercial building sectors are largely from space heating, water heating, and cooking equipment. The CO<sub>2</sub> emissions associated with the use of electricity in these sectors exceed the direct emissions from these sectors.
- Energy-related CO<sub>2</sub> emissions from the transportation sector surpassed those from the electric power sector in 2016. Transportation CO<sub>2</sub> emissions remain relatively flat after 2030 as consumption and the carbon intensity of transportation fuels stay relatively constant.

Although population and economic output per capita are assumed to continue rising—



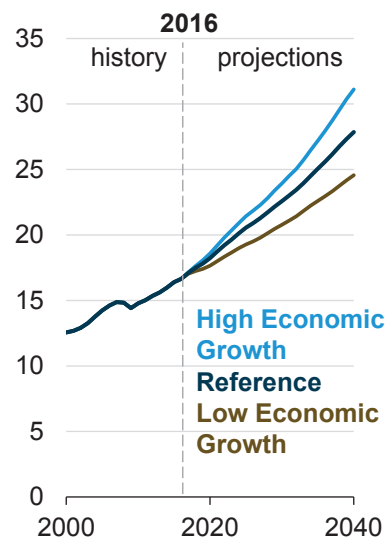
—energy intensity and carbon intensity are projected to continue falling in the Reference case

- In the United States, the amount of energy used per unit of economic growth (energy intensity) has declined steadily for many years, while the amount of CO2 emissions associated with energy consumption (carbon intensity) has generally declined since 2008.
- These trends are projected to continue as energy efficiency, fuel economy improvements, and structural changes in the economy all lower energy intensity.
- Carbon intensity declines largely as a result of changes in the U.S. energy mix that reduce the consumption of carbon-intensive fuels and increase the use of low- or no-carbon fuels.
- By 2040, energy intensity and carbon intensity are 37% and 10% lower than their respective 2016 values in the Reference case, which assumes only the laws and regulations currently in place.

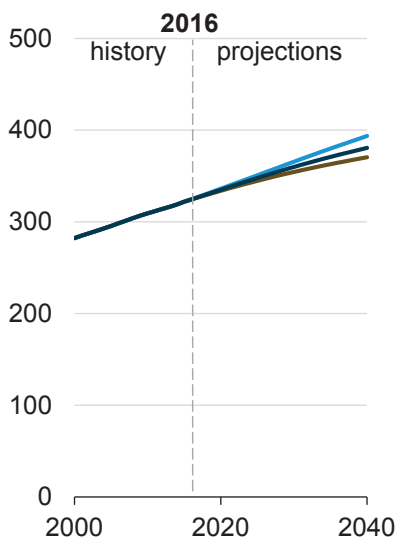


## Different macroeconomic assumptions address the energy implications of the uncertainty—

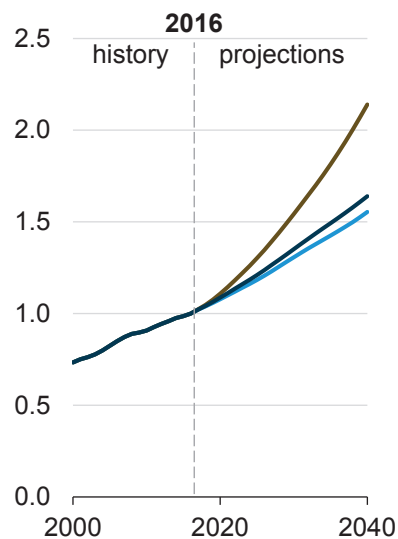
**Gross domestic product**  
trillion 2009 dollars



**Population**  
millions



**Price index (2016 = 1.0)**  
GDP chain-type price index



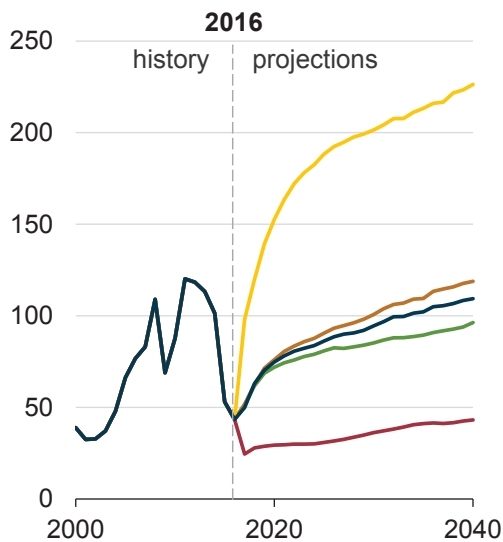
## —surrounding future economic trends

- The Reference, High Economic Growth, and Low Economic Growth cases illustrate three possible paths for U.S. economic growth. The High Economic Growth case assumes higher annual growth and lower annual inflation rates (2.6% and 1.9%, respectively) than in the Reference case (2.2% and 2.1%, respectively), while the Low Economic Growth case assumes lower growth and higher inflation rates (1.6% and 3.2%, respectively).
- In general, higher economic growth (as measured by gross domestic product) leads to greater investment, increased consumption of goods and services, more trade, and greater energy consumption.
- Differences among the cases reflect different expectations for growth in population, labor force, capital stock, and productivity. These changes affect growth rates in household formation, industrial activity, and amounts of travel, as well as investment decisions for energy production.
- All three cases assume smooth economic growth and do not anticipate business cycles or large economic shocks.

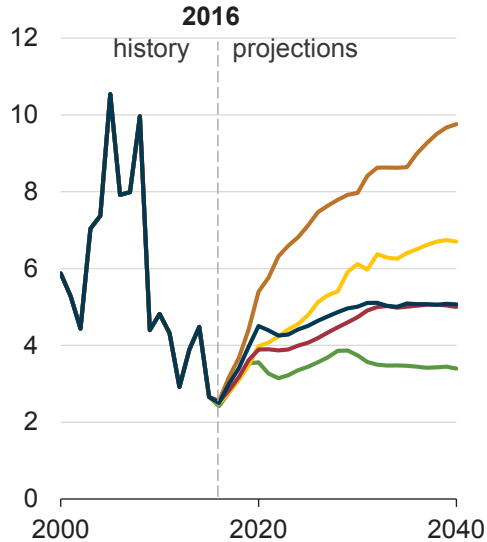


## Reference case oil prices rise from current levels while natural gas prices remain relatively low—

**North Sea Brent oil price**  
2016 dollars per barrel



**Henry Hub natural gas price**  
2016 dollars per million Btu



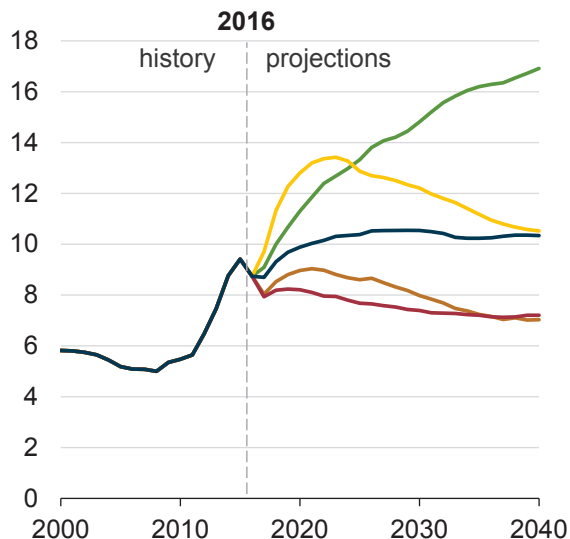
**Low Oil and Gas Resource and Technology**  
**High Oil Price**  
**Reference**  
**Low Oil Price**  
**High Oil and Gas Resource and Technology**

## —price paths in the side cases are very different from those in the Reference case

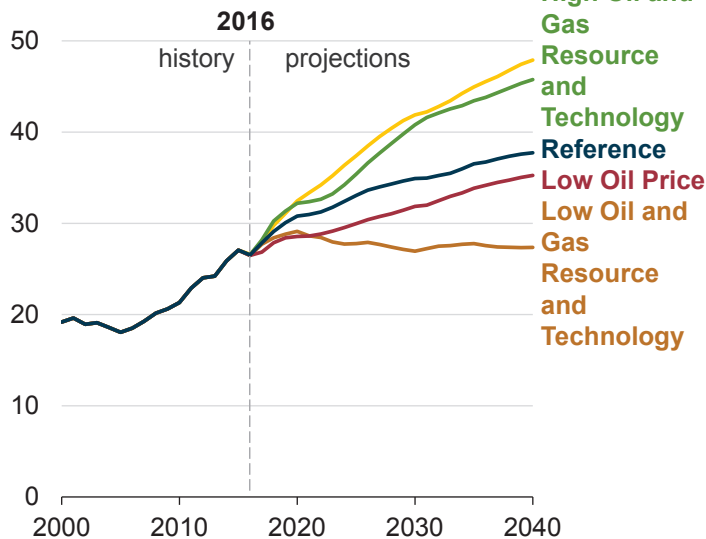
- In real terms, crude oil prices in 2016 (based on the global benchmark North Sea Brent) were at their lowest levels since 2004, and natural gas prices (based on the domestic benchmark Henry Hub) were the lowest since prior to 1990. Both prices are projected to increase over the projection period.
- Crude oil prices in the Reference case are projected to rise at a faster rate in the near term than in the long term. However, price paths vary significantly across the AEO2017 side cases that differ in assumptions about U.S. resources and technology and global market conditions.
- Natural gas prices in the Reference case also rise and then remain relatively flat at about \$5 per million British thermal units (MMBtu) over 2030–40, then rise again over the following decade (not shown on the graph). Projected U.S. natural gas prices are highly sensitive to assumptions about domestic resource and technology explored in the side cases.

## United States crude oil and natural gas production depends on oil prices—

**Crude oil production**  
million barrels per day



**Dry natural gas production**  
trillion cubic feet



## —as well as resource availability and technological improvements

- Projections of tight oil and shale gas production are uncertain because large portions of the known formations have relatively little or no production history, and extraction technologies and practices continue to evolve rapidly. Continued high rates of drilling technology improvement could increase well productivity and reduce drilling, completion, and production costs.
- In the High Oil and Gas Resource and Technology case, both crude oil and natural gas production continue to grow.
- Crude oil prices affect natural gas production primarily through changes in global natural gas consumption/exports, as well as increases in natural gas production from oil formations (associated gas).
- In the High Oil Price case, the difference between the crude oil and natural gas prices creates more incentive to consume natural gas in energy-intensive industries and for transportation, and to export it overseas as liquefied natural gas, all of which drive U.S. production upward. Without the more favorable resources and technological developments found in the High Oil and Gas Resource and Technology case, U.S. crude oil production begins to decline in the High Oil Price case, and by 2040, production is nearly the same as in the Reference case.



## Critical drivers and uncertainty

Various factors influence the model results in AEO2017, including: new and existing laws and regulations, updated data, changing market conditions, and model improvements since AEO2016.



### New laws and regulations reflected in the Reference Case

- California state law SB-32, which was passed in 2016, requires statewide greenhouse gas emissions to be 40% below the 1990 level by 2030. This law has cross-cutting effects in California, particularly on electricity and transportation emissions, and also has national implications because of the size of California's energy market.
- The second phase of Federal Greenhouse Gas and Fuel Efficiency standards for medium- and heavy-duty vehicles was issued in 2016. These standards, which ramp up through model year 2027, reduce energy consumption in the transportation sector in the midterm.



## Significant data updates

- Data from the 2012 Commercial Buildings Energy Consumption Survey (CBECS) were released in 2016, leading to revised estimates of commercial building mix and energy consumption.
- Updated data on lower battery costs increased EIA's outlook for sales of battery electric vehicles and plug-in hybrid electric vehicles.



## Model improvements

- This AEO is the first projection to include model results through 2050, which are available on the [AEO page of the EIA website](#). The graphics in this presentation focus on projections through 2040.
- AEO2017 better captures the dynamics of well productivity that occur when tight oil development moves into less productive areas and as tighter well spacing in established areas diminishes the productivity of each well.
- In contrast to prior AEOs, the AEO2017 Reference case does not assume all nuclear plants that operate through the end of a 60-year period (a 40-year initial operating license plus a 20-year license renewal period) will apply for and receive a subsequent license renewal (SLR) and operate for an additional 20 years. Instead, 25% of reactors reaching age 60 are assumed to retire.



## Changing market conditions


- Continuing the trend in previous AEOs, demand for crude oil imports weakens as Lower 48 onshore tight oil development continues to be the main driver of total U.S. crude oil production, accounting for about 60% of cumulative domestic production between 2016 and 2040 in the Reference case.
- Policy-driven economic incentives accelerate renewable generation. With a continued (but reduced) tax credit, solar capacity growth continues throughout the projection period, while tax credits provided for plants entering service until, but no later than 2024, provide incentives for new wind capacity in the near term.
- With solar energy's declining capital costs and solar electricity output that is highest during times of high (on-peak) demand, solar capacity is anticipated to grow throughout the projection period.



EIA will continue to update and refine the market dynamics and technologies in future AEOs, especially with the projection extended to 2050. Ongoing work aims to:

### Electric Power

- Energy storage: Improve the representation of energy storage to accommodate multiple grid services including spinning reserve and renewables integration.
- Renewable generation: Include improved representation of intermittent generation resources such as wind and solar. Examine the potential for transmission enhancements to mitigate regional effects of high levels of wind and solar generation. Develop higher resolution time-of-day and seasonal value and operational impact of wind.
- Utility rate structure: Estimate the impact of high levels of distributed photovoltaic generation on utility rate structure.
- Generator retirement: Assess the vintage of the electric generation fleet and potential for future retirements and life extension for all technologies, including existing nuclear, coal, natural gas, and renewable fleets.




EIA will continue to update and refine the market dynamics and technologies in future AEOs, especially with the projection extended to 2050. Ongoing work aims to:

### Liquid Fuels

- Natural gas plant liquids: Re-examine and improve natural gas plant liquids production to allow for changing proportions in produced natural gas over time.
- Technology: Update biofuels and emerging technological assumptions for gas-to-liquids, coal-to-liquids, and carbon sequestration. Improve feedstock curves for all biofuel technologies.

### Natural Gas

- Transmission: Improve representation of natural gas market flows with a redesigned NEMS module, allowing for increased flexibility to respond to changing market dynamics (i.e., changing regional flows/bi-directional flow). Improve regional and temporal granularity.



EIA will continue to update and refine the market dynamics and technologies in future AEOs, especially with the projection extended to 2050. Ongoing work aims to:

### Transportation

- Technology: Add autonomous vehicle technologies in the transportation sector and consider their implications for on-road fuel economy and total travel demand. Develop the capability to evaluate scenarios where commercial delivery vehicles can operate without human operators and do not require occupant protection features.
- Behavior: Examine the impact of ridesharing programs on travel behavior, including the amount of travel and vehicle choice decisions.
- Fleet mix: Examine determinants of the evolution of the light-duty vehicle fleet mix, which can affect fuel use given the different fuel economy standards for passenger cars and light trucks.



EIA will continue to update and refine the market dynamics and technologies in future AEOs, especially with the projection extended to 2050. Ongoing work aims to:

### Buildings

- Distributed generation: Conduct further research and enhance building representation of distributed generation such as photovoltaic, including battery technologies.
- Technology: Review the spread of light emitting diodes and other efficient technologies in buildings. Investigate the adoption of sensor technologies for lights and heating/air conditioning in buildings.

### Industrial

- Technology: Incorporate technological change into the industrial model. Apply ongoing technology assessment research in metal-based durables and bulk chemicals to revise energy-intensity projections in those industries.
- Environment: Research the feasibility of carbon capture and storage and implement for carbon-intensive industries such as bulk chemicals, steel, and cement.

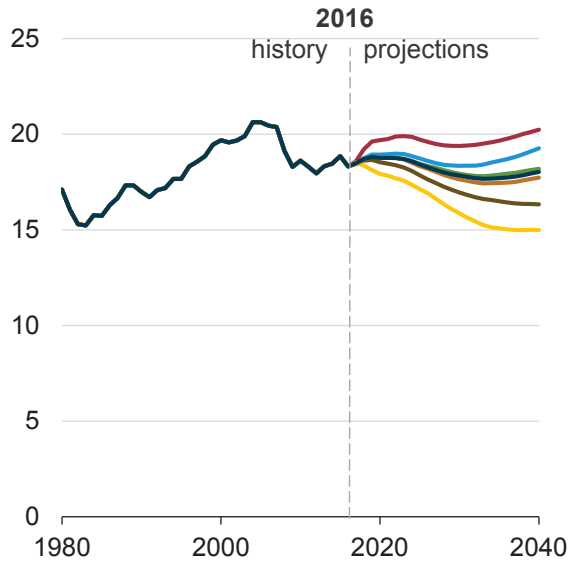


## Petroleum and other liquids

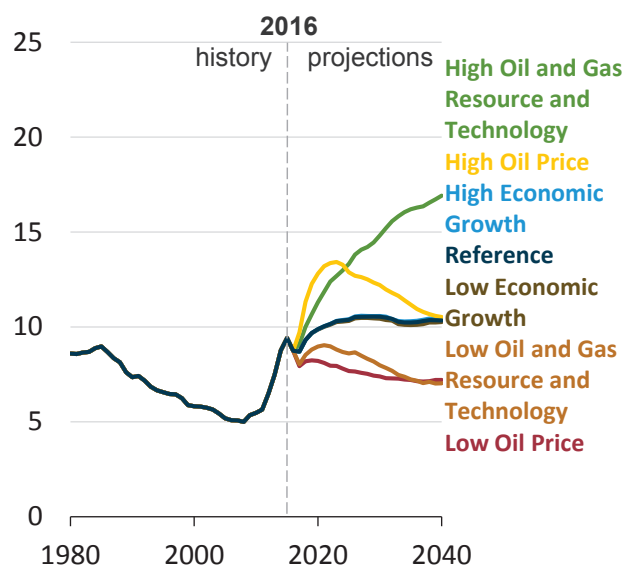
U.S. crude oil production rebounds from recent lows, driven by continued development of tight oil resources. With consumption flat to down compared to recent history, net crude oil and petroleum product imports as a percentage of U.S. product supplied decline across most cases.

## U.S. petroleum product consumption remains below 2005 levels through 2040 in most AEO2017 cases—

**Petroleum product consumption**  
million barrels per day



**Crude oil production**  
million barrels per day



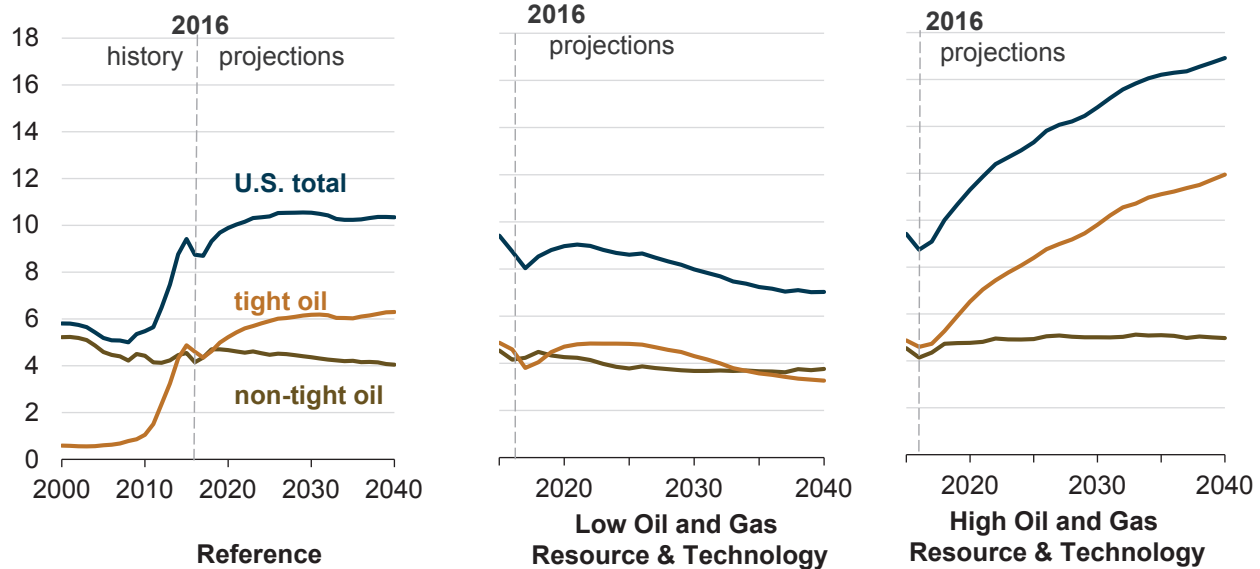
## —while crude oil production rebounds from recent declines

- In all cases, U.S. petroleum consumption is projected to remain below the 2005 level, the highest recorded to date, through 2040.
- Low oil prices result in increased domestic consumption in the Low Oil Price case. Simultaneously, low prices drive down domestic production, resulting in generally higher import levels.
- The domestic wellhead price does not change significantly in the economic growth cases, resulting in consumption that is similar to the Reference case level.
- Reference case U.S. crude oil production is projected to recover from recent declines, as upstream producers increase output because of the combined effects of the rise in prices from recent lows and cost reductions.
- In the Reference case, higher refinery inputs in the near term absorb higher forecast levels of U.S. crude oil production, limiting changes to imports. Eventually, net crude oil imports increase because domestic crude production does not keep pace with refinery inputs as domestic refiners expand product exports.



## Tight oil dominates U.S. production in the Reference case—

### Crude oil production million barrels per day



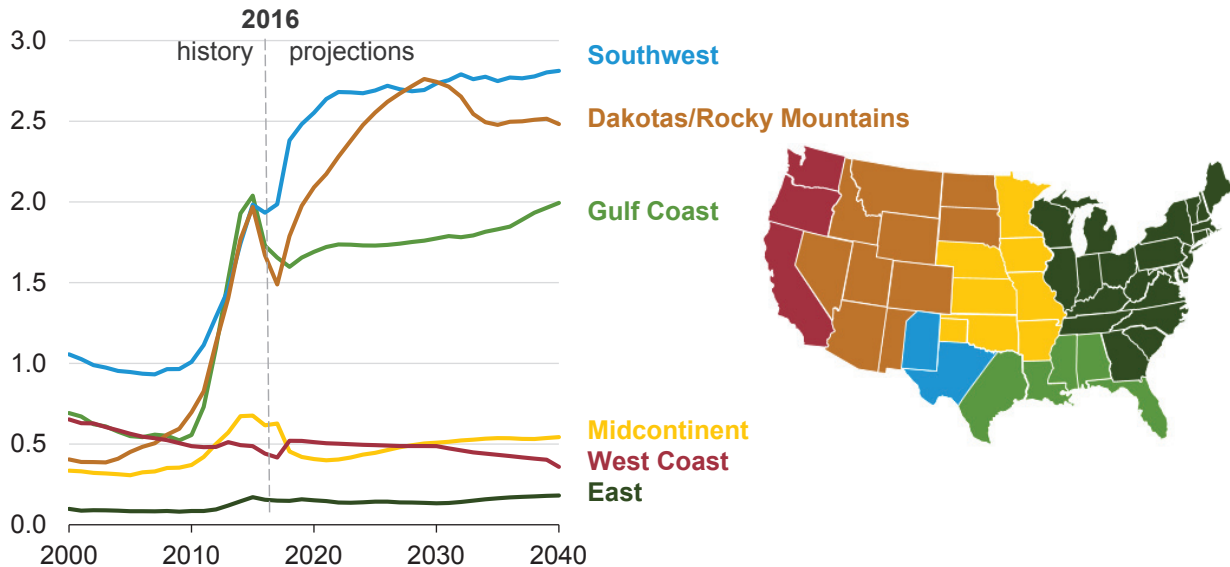
## —but other types of oil production continue to yield significant volumes

- Despite rising prices, Reference case U.S. crude oil production levels off between 10 and 11 million barrels per day as tight oil development moves into less productive areas and as well productivity gradually decreases.
- Lower 48 onshore tight oil development continues to be the main driver of total U.S. crude oil production, accounting for about 60% of the total cumulative domestic production in the Reference case domestic between 2016 and 2040.
- Announced discoveries in deepwater Gulf of Mexico lead to production increases in the Lower 48 states offshore through 2020. Reference case offshore production then declines until 2034, with the rate of decline slowing through 2040 as production from new discoveries offset declines in legacy fields.
- In the High Oil and Gas Resource and Technology case, higher well productivity reduces development and production costs per unit, resulting in more resource development than in the Reference case. These assumptions are based on higher initial estimated ultimate recovery per well, larger volumes of onshore Lower 48 tight oil and shale gas resources, and higher rates of long-term technology improvement.

## The Southwest and Dakotas/Rocky Mountains regions lead growth in tight oil production in the Reference case—

### Lower 48 onshore crude oil production by region (Reference case)

million barrels per day

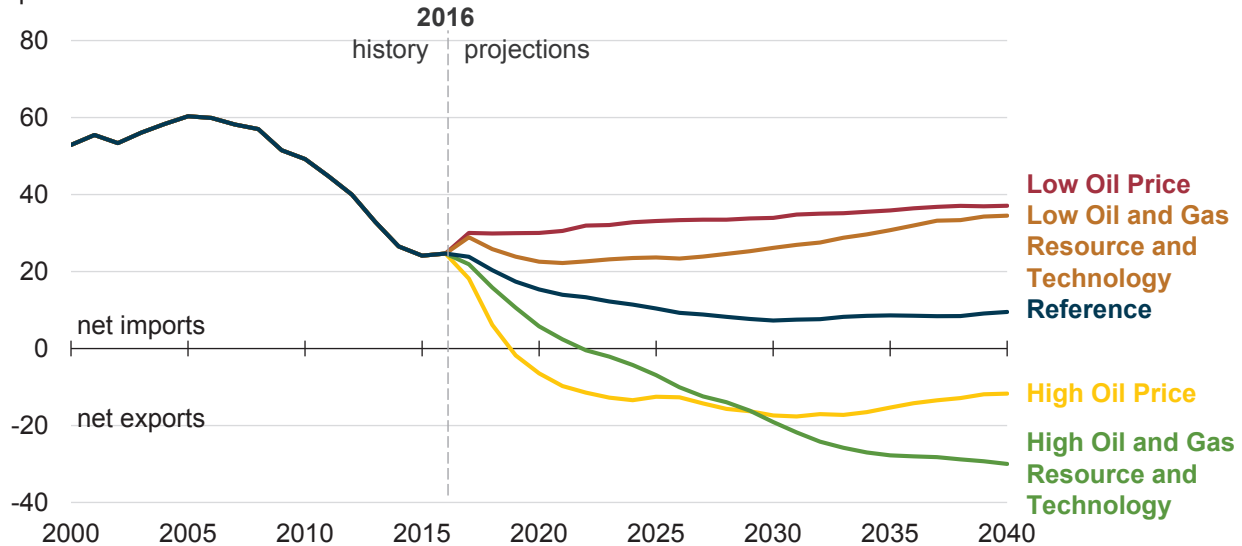


## —and the Gulf Coast region remains an important contributor to overall production levels

- Growth in Lower 48 onshore crude oil production is projected to occur mainly in the Southwest, Dakotas/Rocky Mountains, and Gulf Coast regions.
- Growth in crude oil production in the Southwest is supported by increases in the Permian basin, which includes both tight and non-tight formations.
- Growth in the Dakotas/Rocky Mountains crude oil production is driven by increased production from the Bakken play, which is exclusively tight oil.
- Production in the Gulf Coast region, primarily from the Eagle Ford and Austin Chalk plays, increases throughout most of the projection period.

## In most cases, the United States remains a net petroleum importer—

**Petroleum net imports as a percentage of products supplied**  
percent

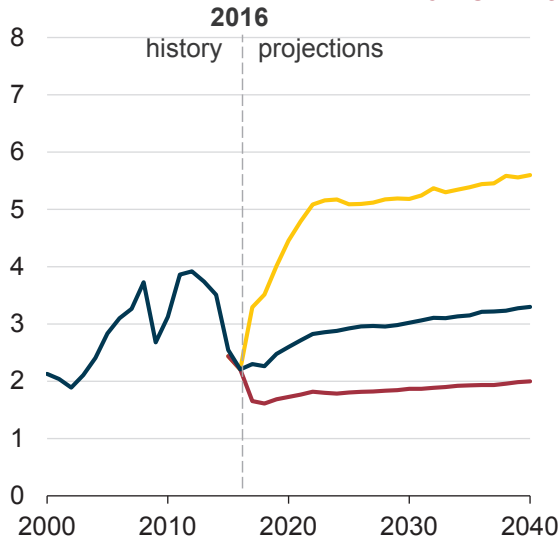


## —but in the High Oil Price and the High Oil and Gas Resource and Technology cases, the United States becomes a net exporter

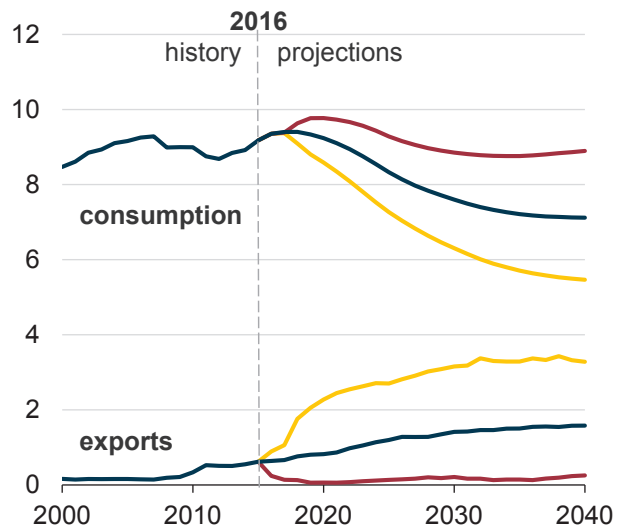
- In the Reference case, net crude oil and petroleum product imports as a percentage of U.S. product supplied fall through 2030.
- The Low Oil Price case results in lower U.S. crude oil production because of the lack of economic incentive for producers to drill in higher-cost tight oil formations and offshore crude oil reserves. Relatively lower prices in this case result in higher domestic product demand that promotes higher crude oil and petroleum product imports.
- In the High Oil Price case, high crude oil prices lead to increased U.S. crude oil production from higher-cost production areas and result in lower domestic petroleum product demand, which leads to lower product imports.
- In the High Oil and Gas Resource and Technology case, U.S. crude oil and petroleum liquids exports are higher compared with the Reference case.

## U.S. motor gasoline consumption and exports are sensitive to changes in prices—

**Motor gasoline retail prices**



**Motor gasoline consumption and gross exports**  
million barrels per day



## —although efficiency improvements result in declining consumption across all cases

- U.S. average retail prices for motor gasoline are driven largely by changes in crude oil prices because crude oil is the main input used to produce motor gasoline.
- Improvements in vehicle fuel efficiency contribute to falling U.S. motor gasoline consumption, while high levels of refinery output result in continued growth of motor gasoline exports through 2040.
- In the Low Oil Price case, greater domestic motor gasoline consumption and lower domestic crude oil production results in lower exports of motor gasoline.
- The High Oil Price case results in lower domestic motor gasoline consumption and greater exports, reflecting the domestic gasoline demand response to higher prices as well as the U.S. refining industry's competitive advantage.

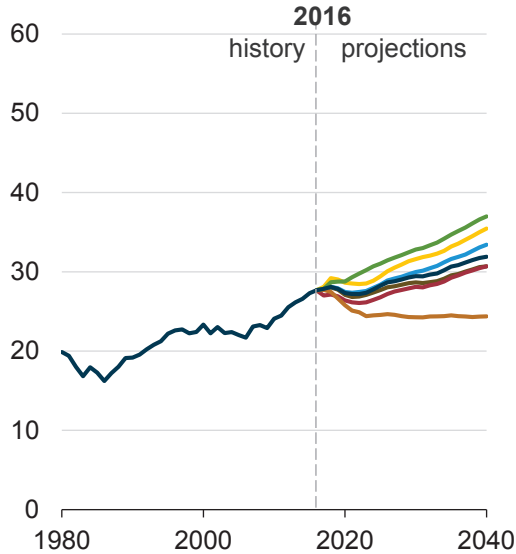


## Natural gas

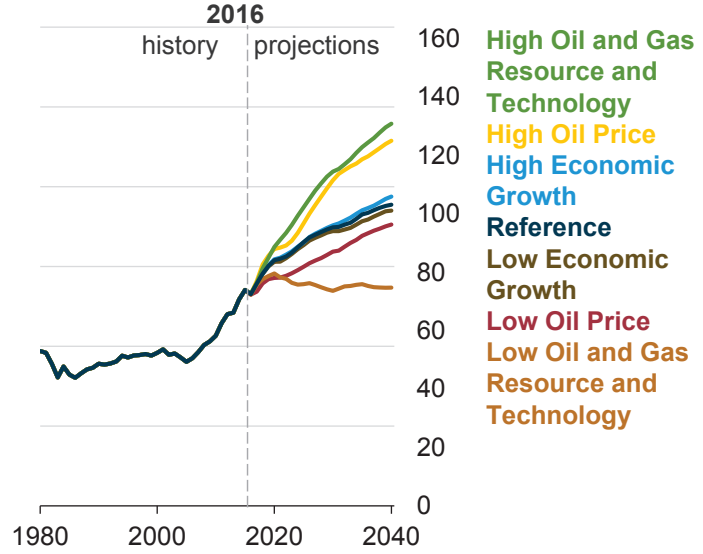
Across most cases, natural gas production increases despite relatively low and stable natural gas prices, supporting higher levels of domestic consumption and natural gas exports. Projections are sensitive to resource and technology assumptions.

## U.S. natural gas consumption increases across most cases through most of the projection period—

**Natural gas consumption**  
trillion cubic feet



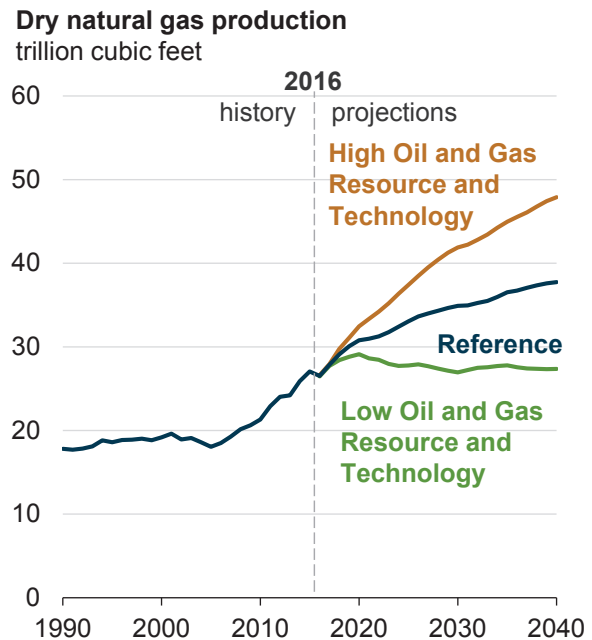
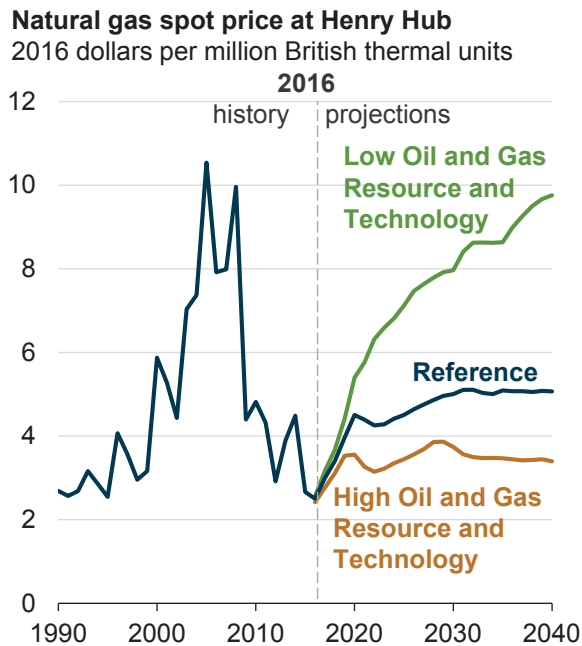
**Natural gas production**  
billion cubic feet per day



## —and in combination with growing net exports, supports production growth

- In the Reference case, natural gas production over the 2016–20 period is projected to grow at about the same rapid rate (nearly 4% annual average) as it has since 2005. Since 2005, technologies to more efficiently produce natural gas from shale and tight formations have driven prices down, spurring growth in consumption and net exports.
- Beyond 2020, natural gas production in the Reference case is projected to grow at a lower rate (1.0% annual average) as net export growth moderates, domestic natural gas use becomes more efficient, and prices slowly rise. Rising prices are moderated by assumed advances in oil and natural gas extraction technologies.
- Near-term production growth is supported by large, capital-intensive projects, such as new liquefaction export terminals and petrochemical plants, built in response to low natural gas prices.
- Despite decreasing in the near term, in all cases, other than the Low Oil and Gas Resource and Technology case, U.S. natural gas consumption is expected to increase during much of the projection period.

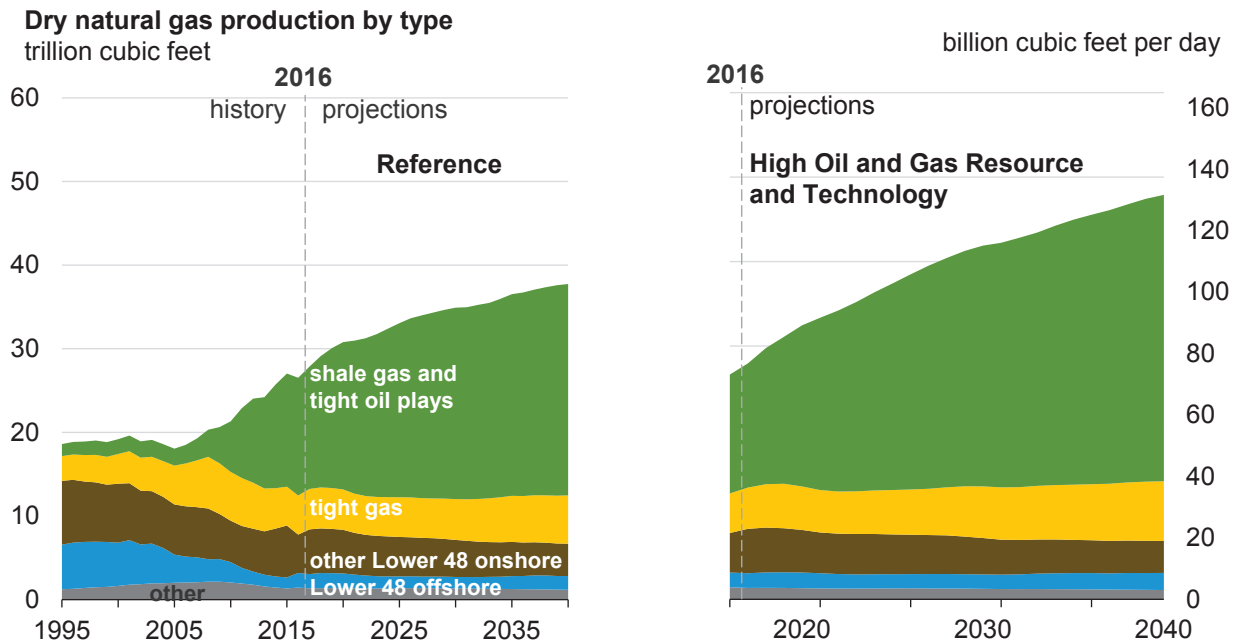
## Natural gas prices are projected to increase—



## —and are sensitive to the availability of new technology and resources

- The range of projected Henry Hub natural gas prices depends on the assumptions about the availability of oil and natural gas resources and drilling technology.
- In the Reference case, the natural gas spot prices at the U.S. benchmark Henry Hub in Louisiana rise because of increased drilling levels, production expansion into less prolific and more expensive-to-produce areas, and demand from both petrochemical and liquefied natural gas export facilities.
- Reference case prices rise modestly from 2020 through 2030 as electric power consumption increases; however, natural gas prices stay relatively flat after 2030 as technology improvements keep pace with rising demand.
- In the High Oil and Gas Resource and Technology case, lower costs and higher resource availability allow for increased levels of production at lower prices, increasing domestic consumption and exports.
- In the Low Oil and Gas Resource and Technology case, prices near historical highs drive down domestic consumption and exports.

## U.S. natural gas production growth is the result of continued development of shale gas and tight oil plays—



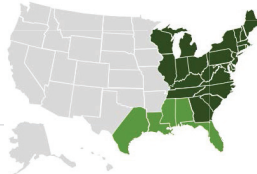
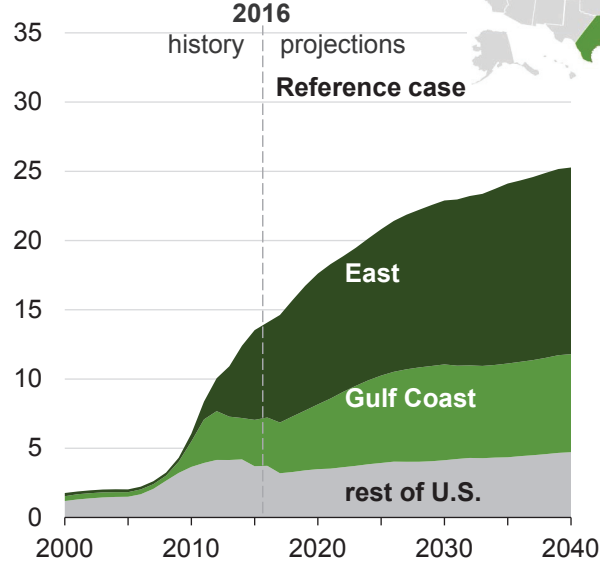
## —which account for nearly two-thirds of natural gas production by 2040

- Production from shale gas and associated gas from tight oil plays is the largest contributor to natural gas production growth, accounting for nearly two-thirds of total U.S. production by 2040 in the Reference case.
- Tight gas production is the second-largest source of domestic natural gas supply in the Reference case, but its share falls through the late-2020s as the result of growing development of shale gas and tight oil plays.
- As new discoveries offset declines in legacy fields, offshore natural gas production in the United States increases over the projection period.
- Production of coalbed methane generally continues to decline through 2040 because of unfavorable economic conditions for producing that resource.

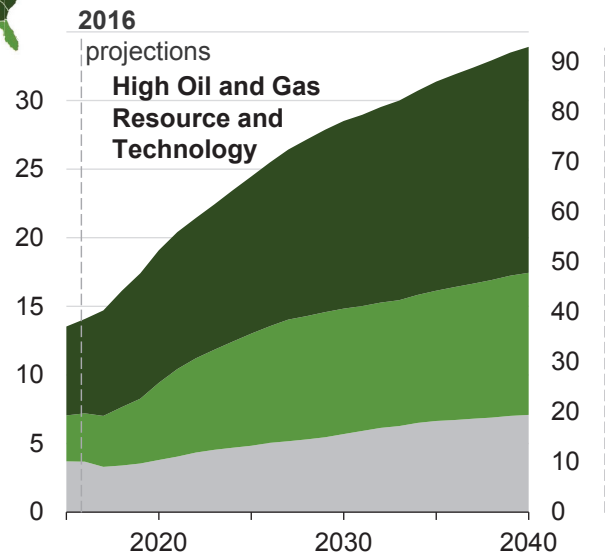


## Plays in the East lead production of U.S. natural gas from shale resources in the Reference case—

**Shale gas production by region**  
trillion cubic feet



billions cubic feet per day

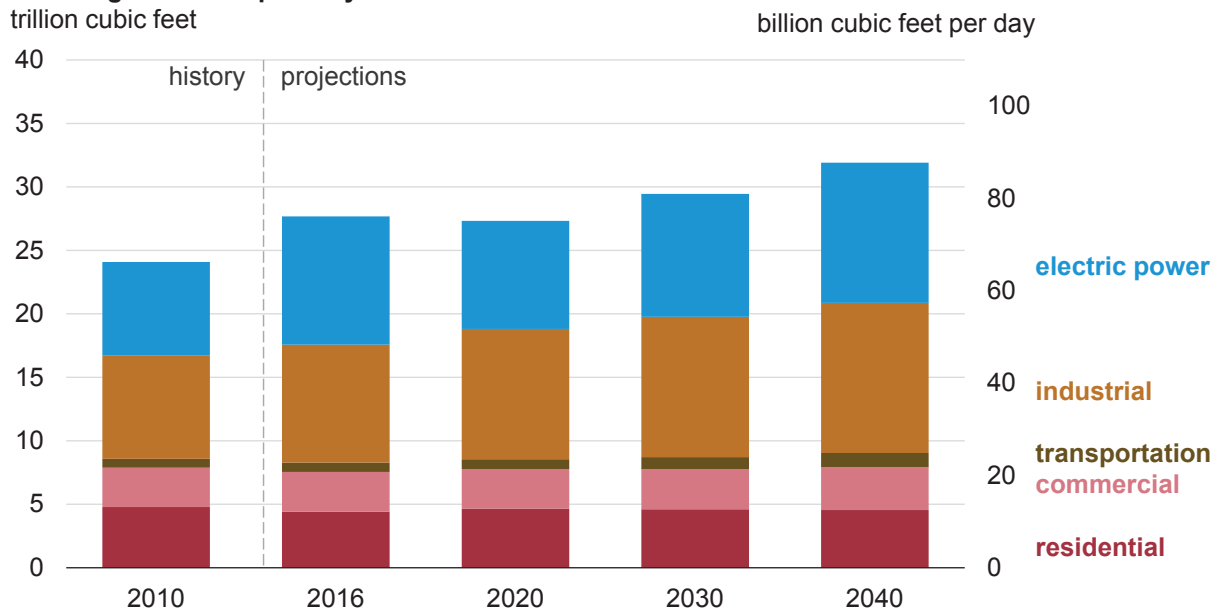


## —but Gulf Coast onshore production also grows

- Continued development of the Marcellus and Utica plays in the East is the main driver of growth in total U.S. shale gas production and the main source of total U.S. dry natural gas production.
- Production from the Eagle Ford and Haynesville plays along the Gulf Coast is a secondary contributor to domestic dry natural gas production, with production largely leveling off in the 2030s.
- Continued technological advancement and improvement in industry practices is expected to lower costs and to increase the expected ultimate recovery per well. These changes have a significant cumulative effect in plays that extend over wide areas and have large undeveloped resources (Marcellus, Utica, and Haynesville).

## Increasing demand from industrial and electric power markets drive rising domestic consumption of natural gas in the Reference case—

### Natural gas consumption by sector

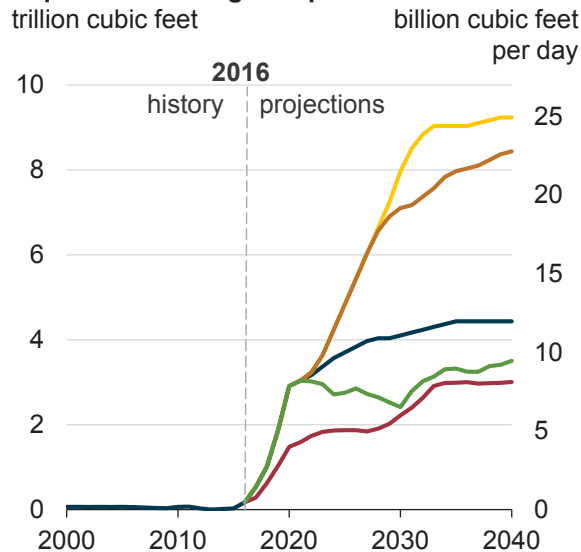


## —with comparatively little growth in the residential and commercial sectors

- The industrial sector is the largest consumer of natural gas during most years in the Reference case projections. Major natural gas consumers include the petrochemical industry (where natural gas is used as a feedstock in the production of methanol, ammonia, and fertilizer), other energy-intensive industries that use natural gas for heat and power, and liquefied natural gas producers.
- After a brief near-term decline attributable to strong growth in renewables generation and price competition with coal, natural gas used for electric power generation generally increases after 2020. In particular, the Clean Power Plan (CPP) and the scheduled expiration of renewable tax credits in the mid-2020s result in an increase in the electric power sector's natural gas use. Natural gas consumption in the electric power sector is about 6% higher in the Reference case in 2040 than the No CPP case.
- Natural gas consumption in the residential and commercial sectors remains largely flat as a result of efficiency gains that balance increases in the number of housing units and commercial floor space.
- Although natural gas use rises in the transportation sector, it remains a small share of both total natural gas consumption and transportation fuel demand.

## U.S. LNG export levels vary across cases and reflect both the level of global demand—

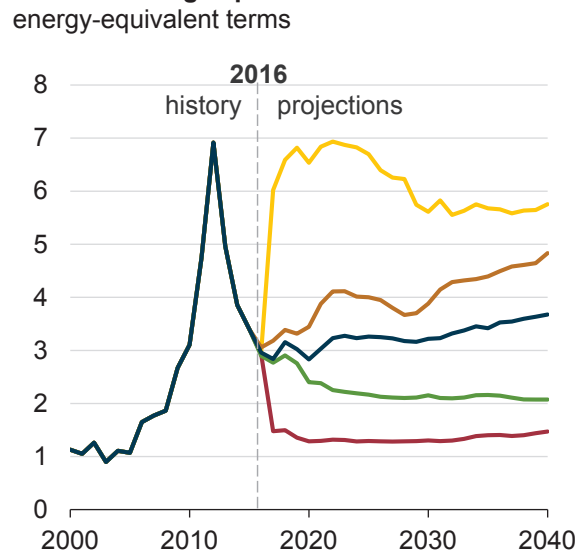
### Liquefied natural gas exports



Reference

High and Low Oil and Gas Resource and Technology

### Oil-to-natural gas price ratio

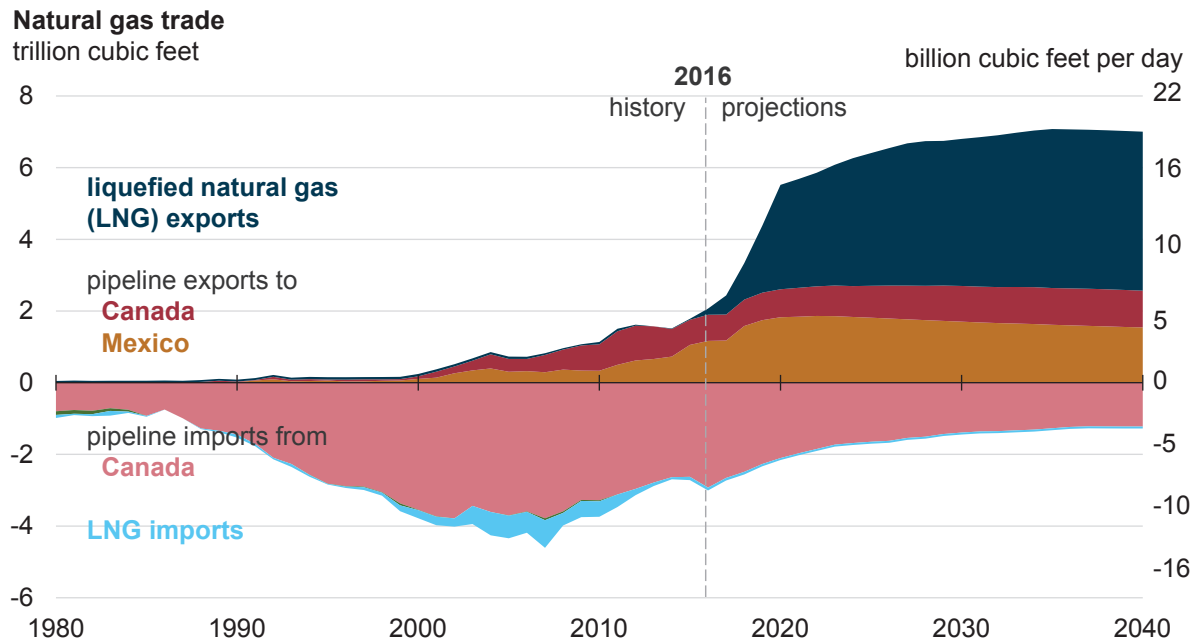


High and Low Oil Price

## —and the difference between domestic and global natural gas prices, with the latter more heavily influenced by oil prices

- Currently, most liquefied natural gas (LNG) is traded under oil price-linked contracts, in part because oil can substitute for natural gas in industry and for power generation. However, as the LNG market expands, contracts are expected to change, weakening their ties to oil prices.
- When the oil-to-natural gas price ratio is highest, as in the High Oil Price case, U.S. LNG exports are at their highest levels. Demand for LNG generally increases as consumers move away from petroleum products, and LNG produced in the United States has the advantage of domestic spot prices that are less sensitive to global oil prices than supplies from other sources. In the Low Oil Price case, LNG exports from the United States are at their lowest levels throughout the projection period.
- In the High Oil and Gas Resource and Technology case, low U.S. natural gas prices make U.S. LNG exports competitive relative to other suppliers. Conversely, higher U.S. natural gas prices in the Low Oil and Gas Resource and Technology case result in lower U.S. LNG exports.

## Increased natural gas trade is dominated by liquefied natural gas exports in the Reference case—



## —while pipeline imports into the United States continue to decline

- In the Reference case, liquefied natural gas (LNG) is projected to dominate U.S. natural gas exports by the early-2020s. The first LNG export facility in the Lower 48, Sabine Pass, began operations in 2016, and four more LNG export facilities are scheduled to be completed by 2020.
- After 2020, U.S. exports of LNG grow at a more modest rate as U.S.-sourced LNG becomes less competitive in global energy markets.
- U.S. natural gas exports to Mexico continue to rise in the short term as pipeline infrastructure currently under development allows for rising exports to meet Mexico's increased demand for natural gas to fuel electric power generation.
- U.S. imports of natural gas from Canada, primarily from the West where most of Canada's natural gas is produced, continue to decline, while U.S. exports to Canada—primarily to the East—continue to increase because of Eastern Canada's proximity to abundant natural gas resources in the Marcellus basin.

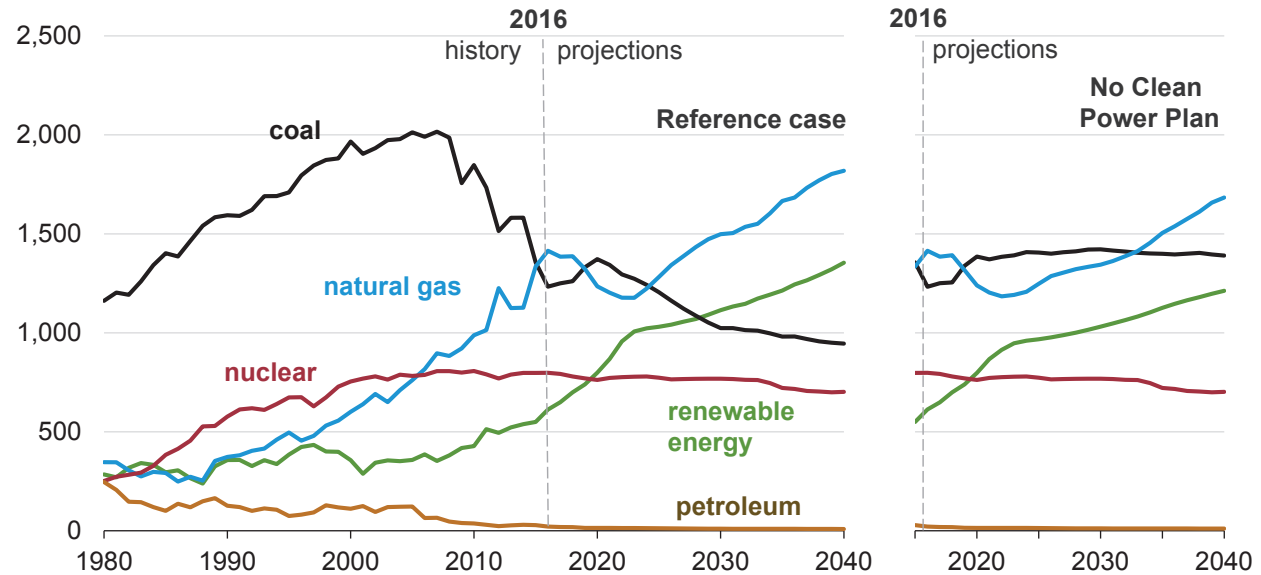


## Electricity

As demand grows modestly, the primary driver for new capacity in the Reference case is the retirement of older, less efficient fossil fuel units—largely spurred by the Clean Power Plan (CPP)—and the near-term availability of renewable energy tax credits. Even if the CPP is not implemented, low natural gas prices and the tax credits result in natural gas and renewables as the primary sources of new generation capacity. The future generation mix is sensitive to the price of natural gas and the growth in electricity demand.

## Fuel prices and current laws and regulations drive growing shares of renewables and natural gas in the electricity generation mix—

**U.S. net electricity generation from select fuels**  
billion kilowatthours



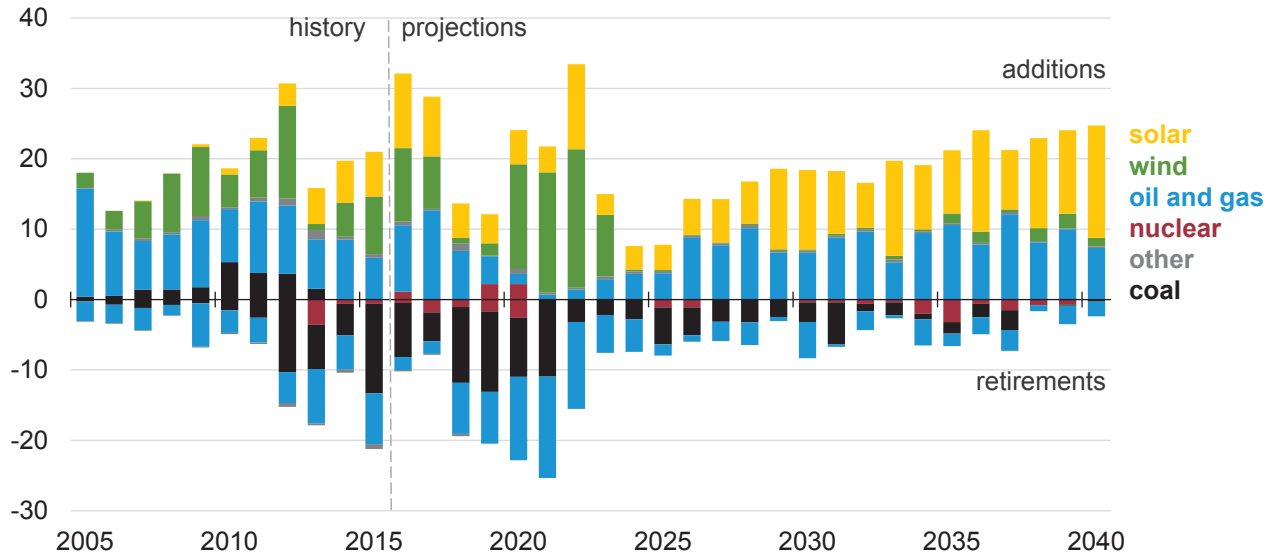
## —as coal’s share declines over time in the Reference case

- Fuel prices drive near-term natural gas and coal shares. As natural gas prices rebound from their 20-year lows which occurred in 2016, coal regains a larger generation share over natural gas through 2020.
- Federal tax credits drive near-term growth in renewable generation, displacing growth in natural gas.
- In the longer term, policy (Clean Power Plan, renewables tax credits, and California’s SB32) and unfavorable economic conditions compared with natural gas and renewables result in declining coal generation and growing natural gas and renewables generation in the Reference case.

## Lower capital costs and the availability of tax credits boost near-term wind additions and sustain solar additions—

### Annual electricity generating capacity additions and retirements (Reference case)

gigawatts

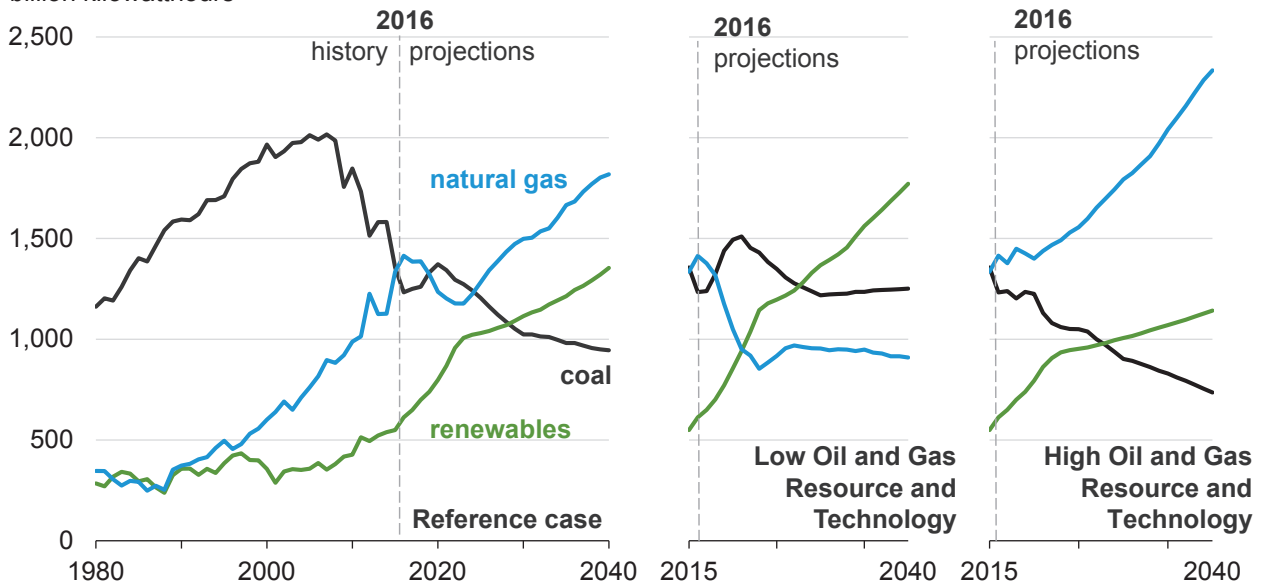


## —whereas coal-fired unit retirements in the Reference case are driven by low natural gas prices and the Clean Power Plan

- In the Reference case, nearly 70 gigawatts (GW) of new wind and solar photovoltaic (PV) capacity is added over 2017–21, encouraged by declining capital costs and the availability of tax credits.
- Most of the wind capacity used to comply with the Clean Power Plan (CPP) is built prior to the scheduled expiration of the production tax credit for wind plants coming online by the end of 2023, although wind is still likely to be competitive without the tax credits.
- Continued retirements of older, less efficient fossil fuel units under the CPP support a consistent market for new generating capacity throughout the projection period.
- After 2030, new generation capacity additions are split primarily between solar and natural gas, with solar capacity representing more than 50% of new capacity additions in the Reference case between 2030 and 2040.

Natural gas resource availability affects prices that plays a critical role in determining the mix of coal, natural gas, and renewable generation—

**Electricity generation from selected fuels**  
billion kilowatthours



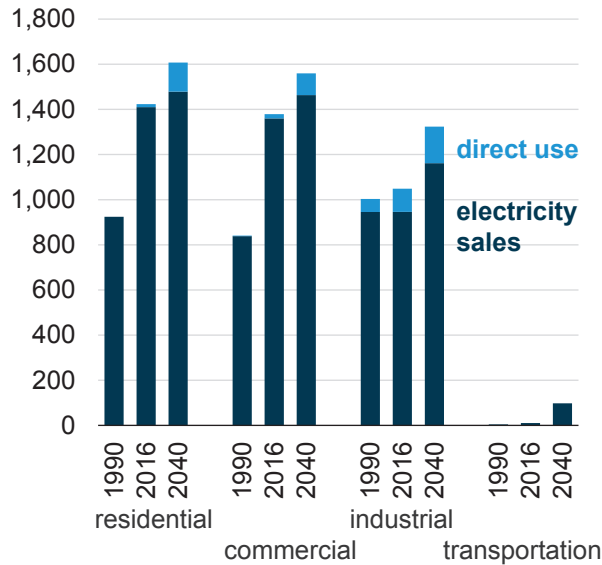
—as seen in the resource and technology cases

- Lower natural gas prices, which occur in the High Oil and Gas Resource and Technology case, lead to natural gas-fired electricity generation displacing coal-fired generation. In this case, and relative to the Reference case, natural gas maintains its market-share lead over coal through 2040, and it displaces some renewables market share relative to the Reference case.
- Higher natural gas prices, which occur in the Low Oil and Gas Resource and Technology case, favor growth of renewables. Relative to the Reference case, coal-fired generation regains market share from natural gas in the near term, but because of carbon emission limits imposed by the Clean Power Plan, renewables ultimately gain a larger market share.

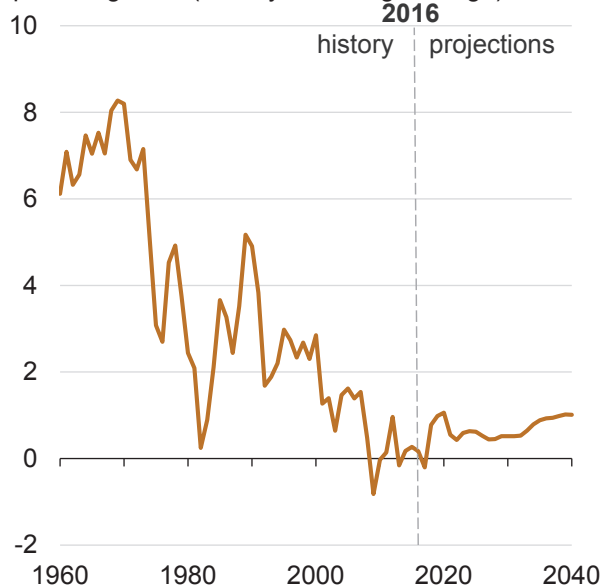


## Electricity use continues to increase—

**Electricity use by end-use demand sector**  
billion kilowatthours



**Electricity use growth rate**  
percent growth (three-year rolling average)

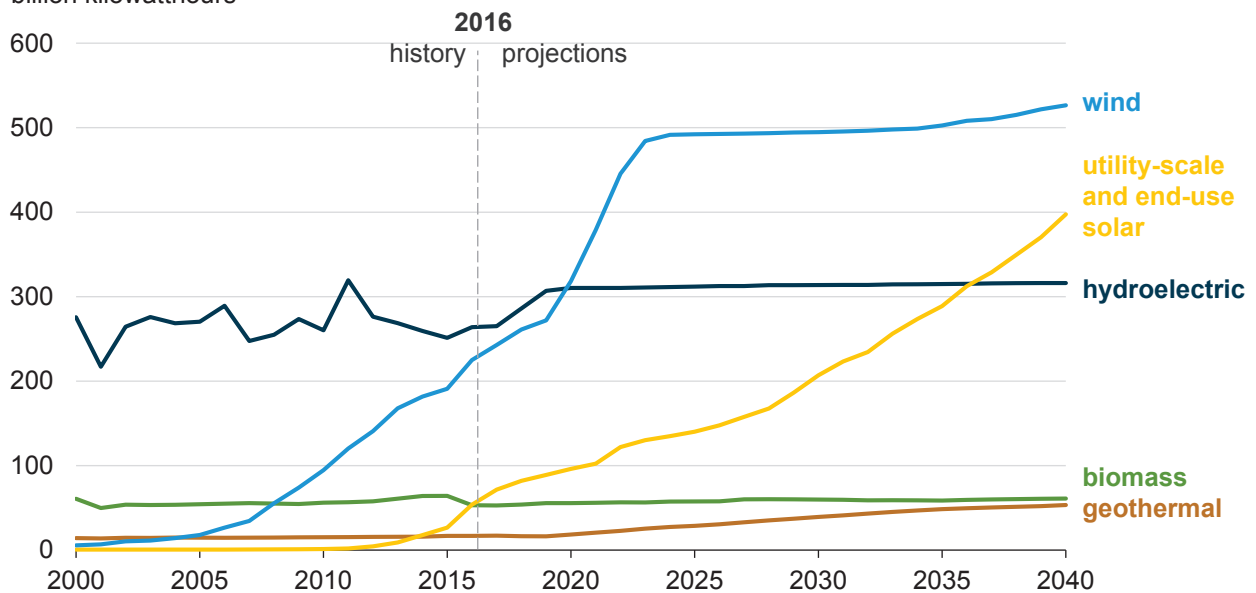


## —but the rate of growth remains lower than historic averages in the Reference case

- In recent history, the growth in electricity demand has slowed as older equipment was replaced with newer, more efficient stock, as efficiency standards were implemented and technology change occurred, particularly in lighting and other appliances. The demographic and economic factors driving this trend included slowing population growth and a shifting economy toward less energy-intensive industries.
- While growth in the economy and electricity demand remain linked, historically the linkage has continued to shift toward much slower electricity demand growth relative to economic growth.
- Growth in electricity demand, while relatively low historically, begins to rise slowly across the projection period as demand for electric services is only partially offset by regulatory compliance and efficiency gains in electricity-using equipment.
- Growth in direct use generation above growth in sales is primarily the result of the adoption of rooftop photovoltaic (PV) and natural gas-fired combined heat and power (CHP).

## Wind and solar generation become the predominant sources of renewable generation in the Reference case—

**Renewable electricity generation (Reference case)**  
billion kilowatthours



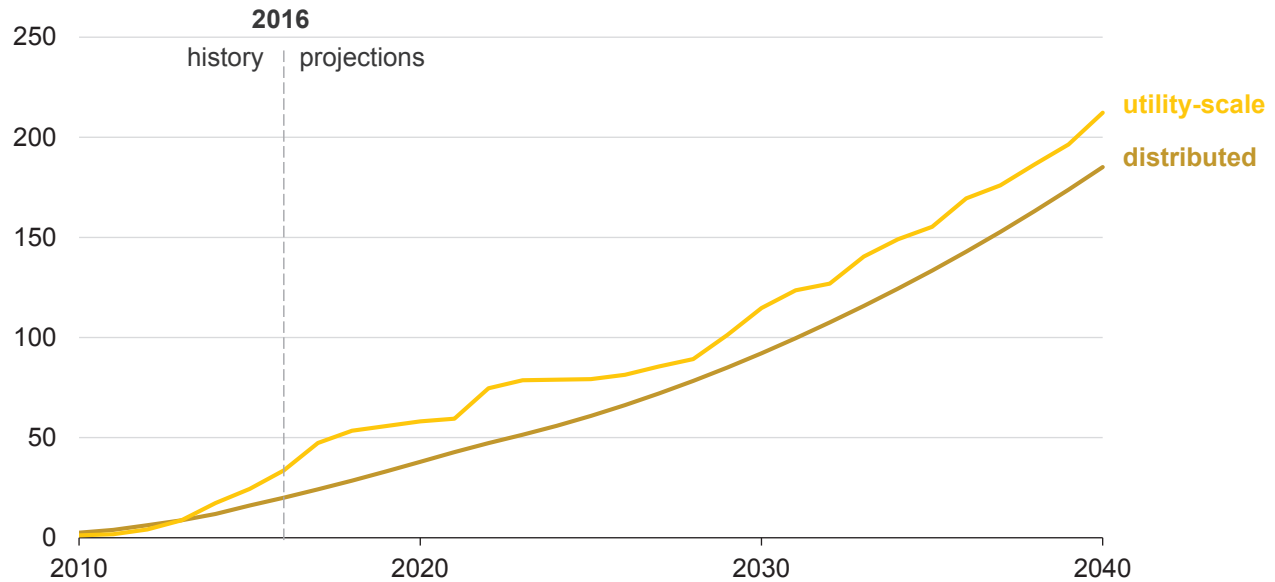
## —with each surpassing hydroelectric generation

- The Clean Power Plan (CPP) and state-defined Renewable Portfolio Standards (RPS) increase demand for wind and solar electricity generation throughout the projection period.
- The scheduled expiration of production tax credits encourages an increase in wind capacity additions ahead of CPP implementation. While many wind projects would be economic without the tax credits, most of the profitable wind capacity will be added to take advantage of the tax credits prior to their expiration.
- Substantial cost reductions, performance improvements, and a permanent 10% investment tax credit support solar generation growth throughout the projection period.
- Some geothermal resources are also competitive sources of new generation, but these lowest-cost resources are geographically limited and are only expected to be exploited slowly.

## Most electric generation from solar resources comes from utility-scale installations—

### Solar electricity generation (Reference case)

billion kilowatthours



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79

## —but generation from distributed photovoltaics is a significant contributor

- Although utility-scale photovoltaic (PV) generation typically costs less than distributed PV, in some circumstances distributed PV remains economically attractive. Distributed PV competes against higher retail electricity prices, which do not necessarily reflect time-of-day or seasonal variation in the cost of electricity.
- With a continued (but reduced) tax credit, declining costs, and on-peak generation profile, both utility and distributed solar builds occur throughout the projection period.
- AEO2017 projections include higher time-of-day and seasonal resolution of both utility-scale and distributed solar output as compared to AEO2016, as well as higher geographic resolution (at the ZIP code level) of distributed solar. The net result of these model changes is to reduce projected utility-scale solar generation and increase distributed solar generation, although not to the same degree.

U.S. Energy Information Administration

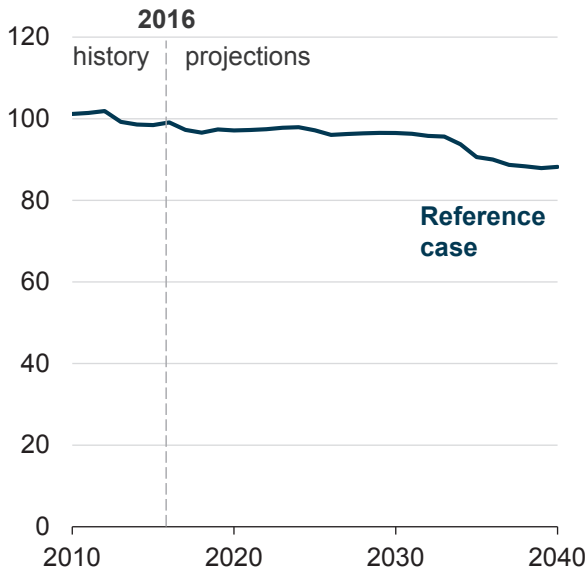
#AEO2017

www.eia.gov/aeo

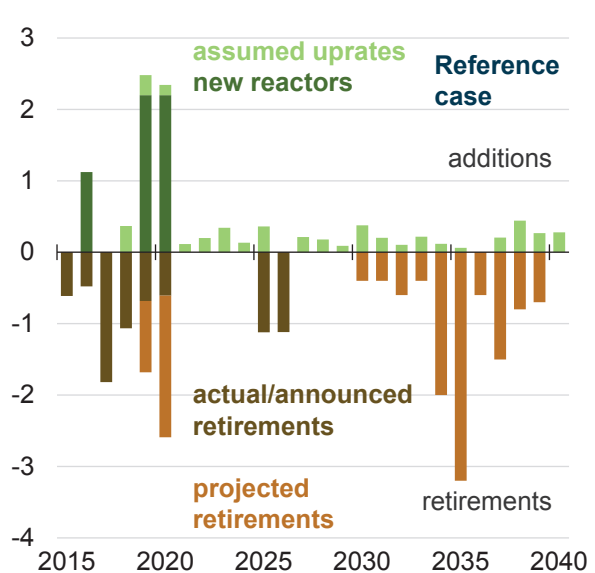
80

## Assumptions about license renewals in AEO2017 increase nuclear retirements—

**Nuclear electricity generating capacity**  
gigawatts



**Year-over-year nuclear capacity changes**  
gigawatts

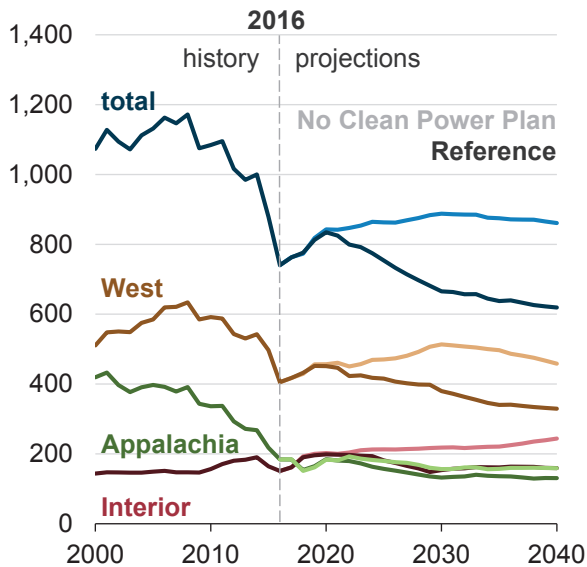


## —leading to net nuclear capacity decreases

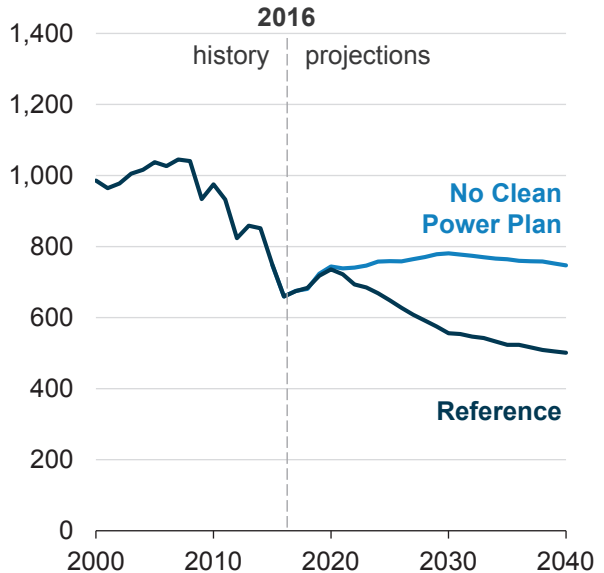
- No new, unannounced nuclear capacity is added in the Reference case over the projection period because of the combination of low natural gas prices, higher renewables penetration, low electricity load growth, and relatively high capital costs.
- New capacity additions are limited to reactors under construction from 2017 onward and to projected uprates at existing reactors. From 2018 through 2040, 4.7 gigawatts (GW) of additional capacity at existing units is projected to come online, based on an assessment of the remaining uprate potential.
- A significant reduction in nuclear capacity occurs because of 6.4 GW of total announced retirements; 3.0 GW of projected retirements in 2019–20 to address near-term, market uncertainty; and approximately 10.6 GW of long-term retirements through 2040 to address the uncertainty of reactors achieving a subsequent license renewal. As many nuclear plants reach the 60-year subsequent license renewal decision after 2040, retirements continue, with another 11.7 GW of nuclear capacity projected to retire by 2050.
- All nuclear plant retirements other than those already announced were modeled as capacity reductions for the regional nuclear fleets (i.e., as generic derates), rather than as retirements of specific plants.

## Coal production decreases—

**Coal production**  
million short tons



**Coal consumption in electric power sector**  
million short tons



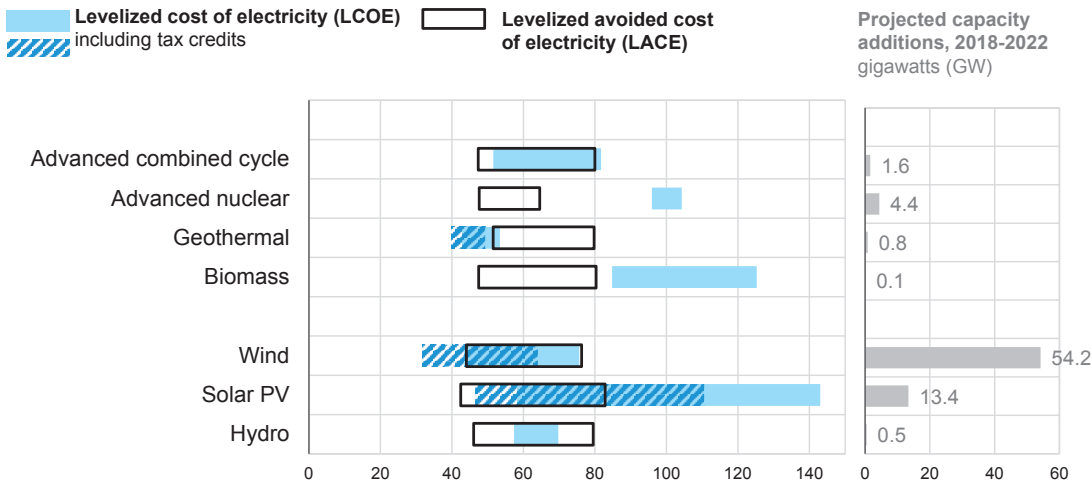
## —primarily in the Western region

- The impacts of the Clean Power Plan (CPP) are not shared equally across the major coal supply regions because of differences in coal quality, regional natural gas and coal prices, and how the electricity markets served by each region are affected with respect to coal retirements and renewables penetration.
- Coal production increases through 2020 to more than 800 million short tons in the Reference case as a projected rise in natural gas prices improves the competitiveness of existing coal generating units.
- After 2020, coal production in the Reference case declines, reaching nearly 620 million short tons per year in 2040, which is lower than the over 850 million short tons per year projected to be produced in 2040 in the No CPP case.
- The Interior region market share grows from 20% of U.S. coal production in 2016 to 26% by 2040, with Appalachia and Western production losing market share in both the Reference and No CPP cases.
- Coal production declines gradually after 2030 in the Reference case as retiring nuclear capacity is replaced, in part, by natural gas-fired electricity generation, requiring a reduction in existing carbon-emitting generation to maintain the CPP emission cap.

## Including available federal tax credits, wind and solar units will be among the most competitive sources of new generation in 2022—

### Levelized cost projections by technology, 2022

2016 dollars per megawatthour



**Source:** U.S. Energy Information Administration, *Levelized Cost and Levelized Avoided Cost of New Generation Resources in the Annual Energy Outlook 2017*

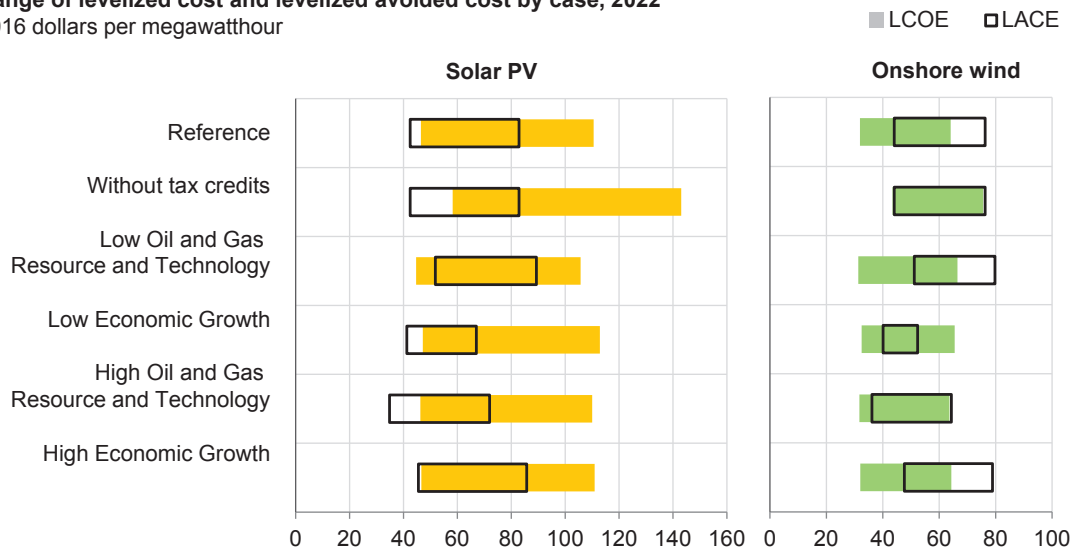
**Note:** Capacity additions include planned and unplanned additions.

## —when levelized costs of electricity and levelized avoided costs of electricity are considered

- Comparisons of levelized cost of electricity (LCOE) across technologies can be misleading as different technologies serve different market segments.
- Levelized avoided cost of electricity (LACE) can be used to compare the cost (LCOE) of an electricity generation resource against the value (LACE) of the electricity generation and capacity that it displaces.
- Wind plants entering service in 2022 that started construction in 2018 will receive an inflation-adjusted \$14/MWh federal production tax credit; solar plants entering service in 2022 will receive a 26% investment tax credit, assuming a two-year construction lead time.
- See more information in [EIA's LACE/LCOE report](#) on EIA's website.

The value of energy (LACE) for wind and solar is more sensitive to differences in policy and market assumptions than the cost (LCOE)—

Range of levelized cost and levelized avoided cost by case, 2022  
2016 dollars per megawatthour



—particularly assumptions that affect natural gas price projections

- The availability of tax credits affects the effective cost of generation from solar and wind, but other policies may affect value.
- High or low natural gas prices, as respectively reflected in the Low and High Oil and Gas Resource and Technology cases, affect the cost of generation that wind or solar displaces, and thus play a big role in determining the value of these resources to the electric grid.
- Faster demand growth under high macroeconomic growth conditions increases the value of new generation resources. Slower macroeconomic growth, leads to relatively flat demand growth and less demand for new generation.



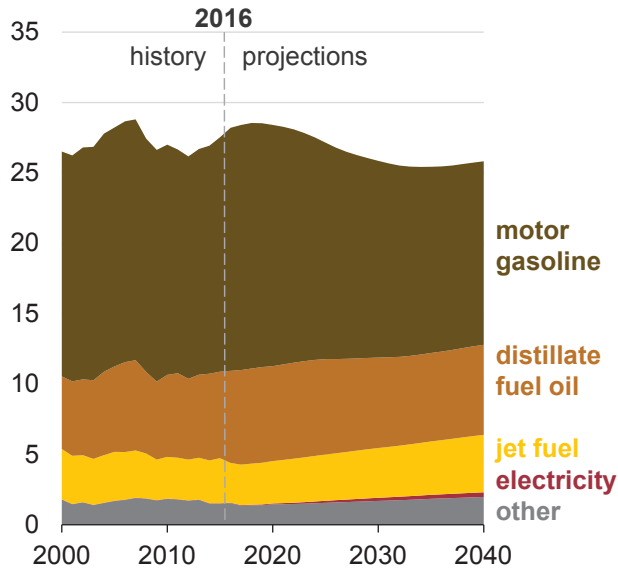
# Transportation

Transportation energy consumption peaks in 2018 in the Reference case because rising fuel efficiency outweighs increases in total travel and freight movements throughout the projection period.

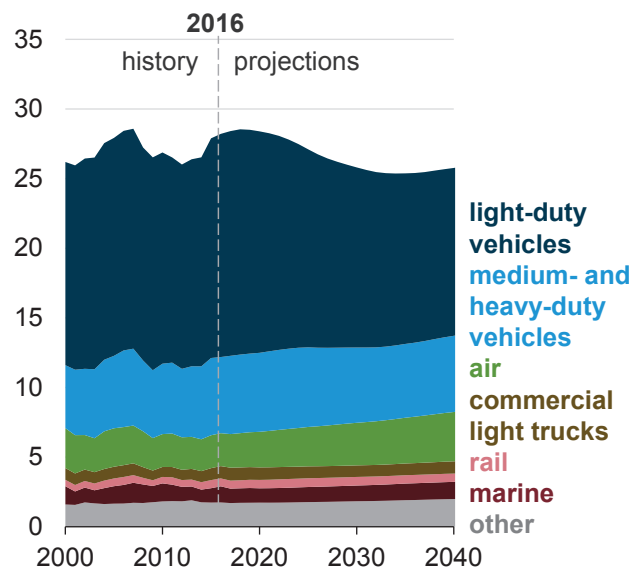


## Transportation energy use declines between 2018 and 2034 in the Reference case—

**Transportation sector consumption**  
quadrillion British thermal units



**Transportation sector consumption**  
quadrillion British thermal units

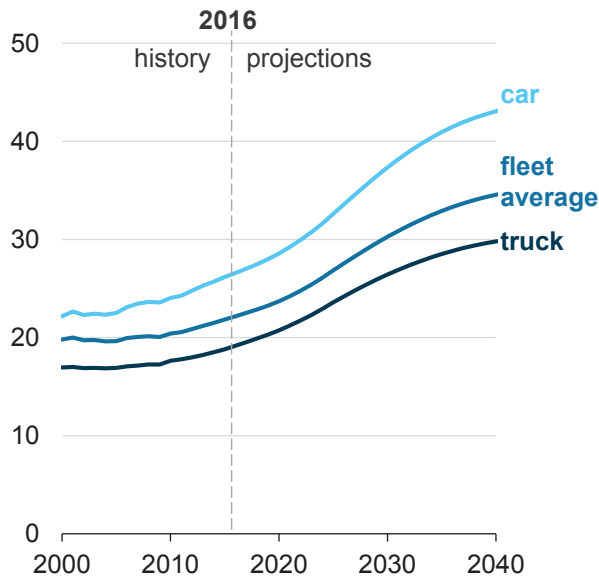


## —driven by improvements in fuel economy

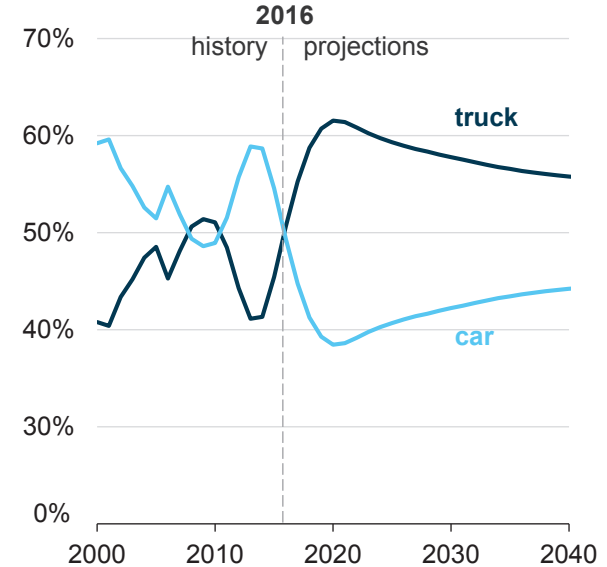
- Total transportation-related energy consumption peaks in 2018 in the Reference case and then declines through 2034 even as total travel and freight movement increases.
- Similarly, despite increases in light-duty travel, light-duty vehicle energy use also peaks in 2018 and then declines through 2040 as a result of higher fuel efficiency.
- Because the increase in freight travel demand is offset by rising fuel economy standards, heavy-duty vehicle energy consumption is approximately the same in 2040 as it was in 2016.
- Demand for air transport rises over the projection period, leading to an increase in energy used by air travel despite efficiency improvements.

## Average light-duty fuel economy improves in the Reference case—

**Light-duty stock fleet fuel economy**  
miles per gallon



**Light-duty vehicle sales shares**  
percent

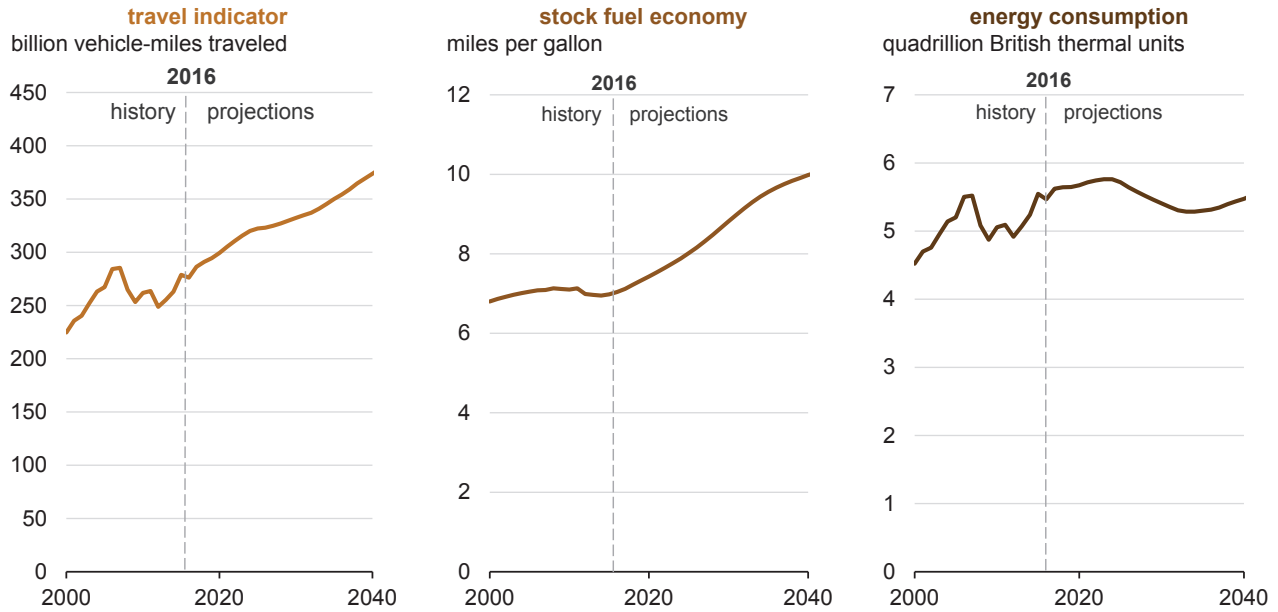


## —even as the share of light-duty trucks increases

- Light-duty stock fuel economy is projected to rise from 22.2 miles per gallon (mpg) in 2016 to 34.6 mpg in 2040 in the Reference case. Current regulations require annual increases in fuel economy and reductions in greenhouse gas emissions through model year 2025, leading to a significant decrease in gasoline consumption.
- The sales share of light-duty trucks, which have lower fuel economy compared with passenger vehicles, limits the increase of the average fuel economy of the light-duty fleet.
- The shift toward light-duty trucks is driven by lower fuel costs and a changing preference for pickup trucks and sport utility vehicles rather than cars.
- Light-duty truck sales decrease after 2018 with the rise in popularity of front-wheel drive crossover vehicles that are classified as passenger cars.

# With the second phase of fuel efficiency regulations, medium- and heavy-duty vehicle energy consumption declines over 2023–33—

## Medium- and heavy-duty vehicle metrics



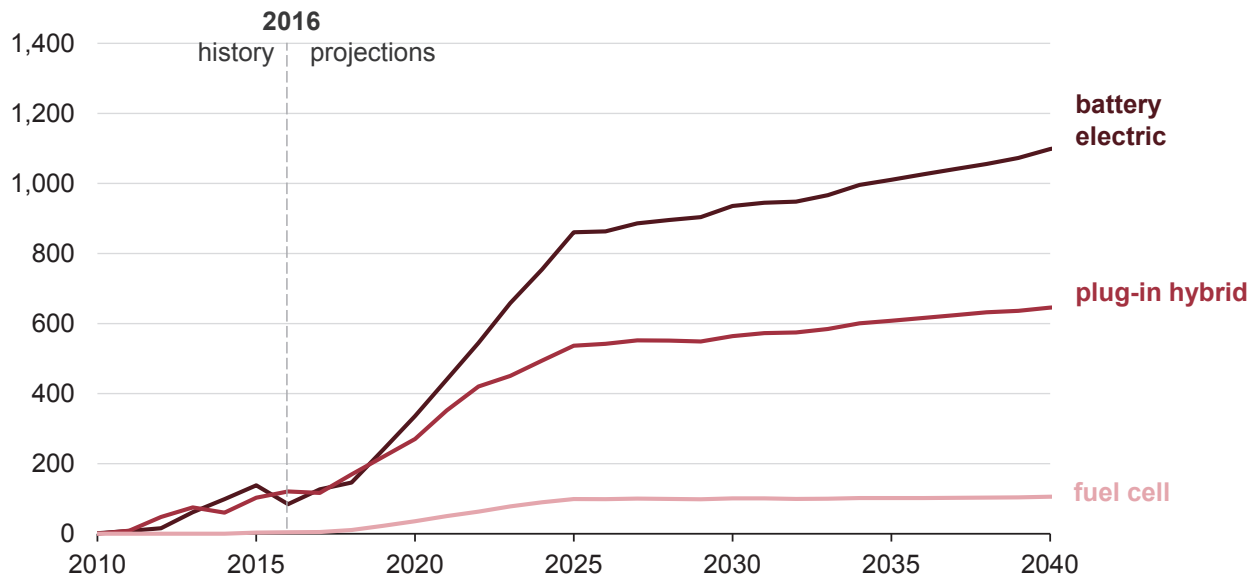
## —despite continued increase in miles traveled

- The second phase of the fuel efficiency and greenhouse gas regulations for medium- and heavy-duty vehicles takes full effect in 2027.
- Fuel economy of new medium- and heavy-duty vehicles increases by 38% from 2016–32 before leveling off, but stock fuel economy continues to increase through 2040 as less fuel efficient vehicles retire.
- Energy consumption from medium- and heavy-duty vehicles decreases from 2023 through 2033 before increasing in the Reference case, where fuel economy standards for trucks do not increase beyond 2027.
- Diesel remains the dominant fuel for trucks despite increasing use of alternative fuels.

## Sales of battery electric, plug-in electric hybrid, and fuel cell vehicles increase in the Reference case—

### New light-duty vehicle sales

thousands of vehicles



## —because of lower projected battery costs and existing state policies

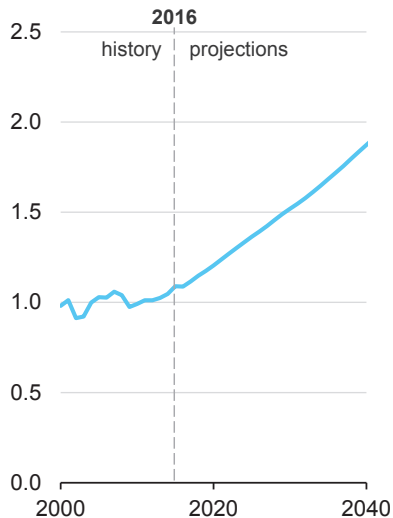
- Battery electric vehicles (BEV) sales increase from less than 1% to 6% of total light-duty vehicles sold in the United States over 2016–40, and plug-in hybrid electric vehicle (PHEV) sales increase from less than 1% to 4% over the same period. Hydrogen fuel cell vehicle (FCV) sales grow to approximately 0.6% of sales by 2040.
- In 2025, projected sales of light-duty battery electric, plug-in hybrid electric, and hydrogen fuel cell vehicles reach 1.5 million, about 9% of projected total sales of light-duty vehicles.
- Regional programs such as California's Zero-Emission Vehicle regulation, which has been adopted by nine additional states, and California's SB-32, which requires a reduction in greenhouse gas emissions, spur alternative vehicle sales, especially electric and fuel cell vehicles.
- Updated data that indicate lower battery costs have increased EIA's outlook for BEV and PHEV sales.

## Even with improving commercial aircraft efficiency—

### Air transportation metrics

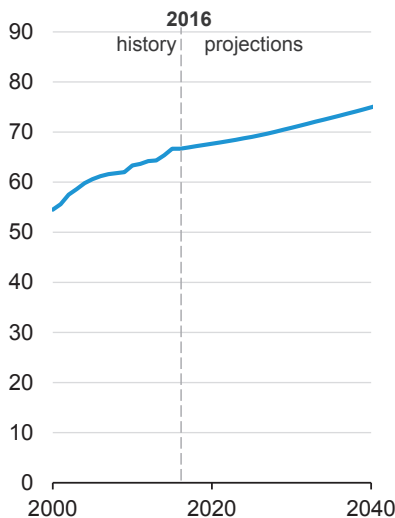
#### travel indicator

trillion seat-miles available



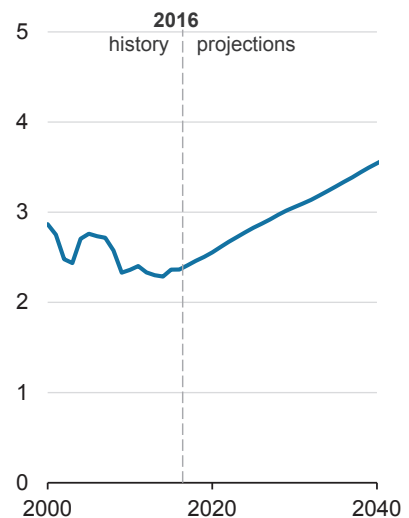
#### stock fuel economy

seat-miles per gallon



#### jet fuel consumption

quadrillion British thermal units



## —jet fuel use rises in the Reference case with increased travel

- Jet fuel consumption increases more than 40% between 2016 and 2040 in the Reference case, as demand for air travel more than offsets projected efficiency gains in aircraft.
- With slow fleet turnover, aircraft stock efficiencies rise more than 12% between 2016 and 2040, as measured by seat-miles per gallon.
- U.S. load factors (fraction of filled seats and cargo space) for domestic and U.S. international routes, which increased significantly over 1995–2010, are projected to remain relatively flat over 2016–40.
- Even with the rise in aircraft efficiency, U.S. seat-miles more than double and freight revenue ton-miles nearly double through 2040, yielding a net increase in jet fuel consumption in the transportation sector.

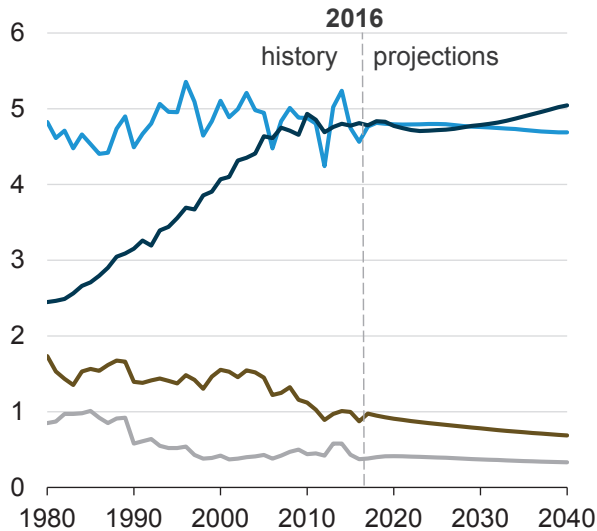


# Buildings

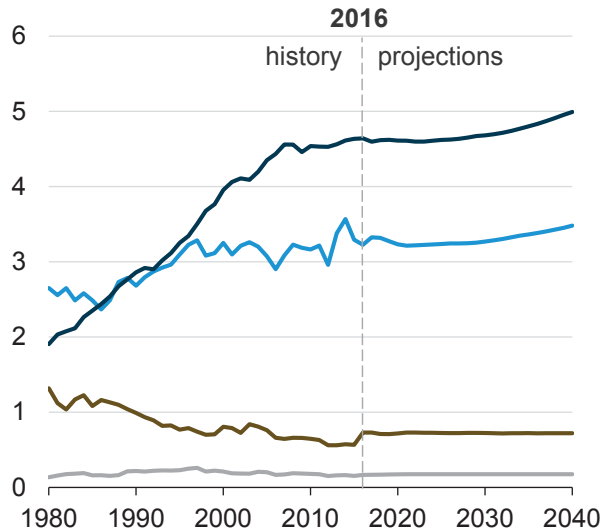
Despite growth in the number of households and the amount of commercial floorspace, improved equipment and efficiency standards contribute to residential and commercial consumption remaining relatively flat or declining slightly from 2016 to 2040 in the Reference case.

## Residential and commercial fuel consumption are relatively stable in the Reference case—

**Residential sector delivered energy consumption**  
quadrillion British thermal units



**Commercial sector delivered energy consumption**  
quadrillion British thermal units



electricity    natural gas    petroleum and other liquids    other

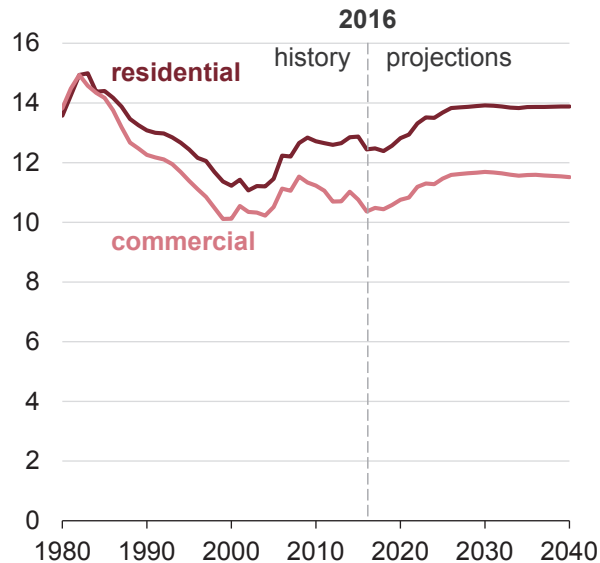
## —as energy efficiency and other factors offset growth in end-use energy service demand

- Laws and regulations to introduce and update appliance standards and building codes have continued to increase energy efficiency in the residential and commercial sectors.
- Electricity demand in both sectors has been relatively flat in recent years, and it continues to be flat in the near term. Eventually, the increased adoption and saturation of new uses not currently covered by appliance standards increases consumption.
- Continued population shifts toward warmer parts of the country tend to lower heating demand and increase cooling demand. More energy is used for heating, so the result is a decrease in net delivered energy.
- Consumption of natural gas, used primarily for space heating, water heating, and cooking, has historically grown slower than electricity, and this trend generally continues through the projection.
- Use of petroleum-based fuels such as propane and heating oil continues to decline in the residential sector and remains relatively flat in the commercial sector.

## Gradual increases in electricity and natural gas prices—

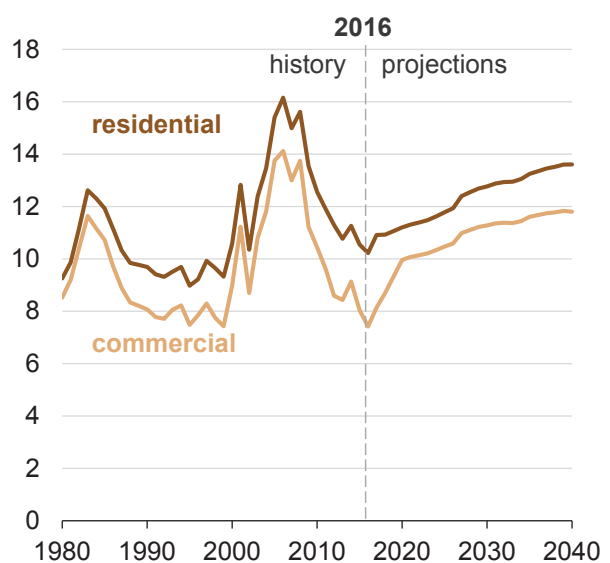
### Electricity prices

2016 cents per kilowatthour



### Natural gas prices

2016 dollars per thousand cubic feet



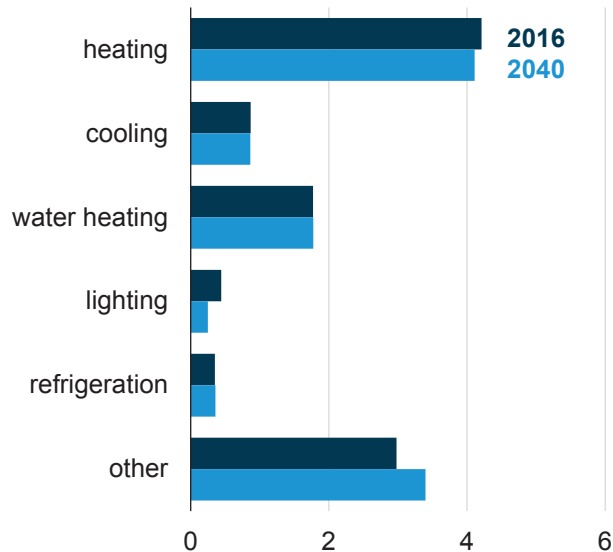
## —affect residential and commercial energy consumption

- Following modest price increases from 2016 to 2030 in both residential and commercial sectors, electricity prices stabilize after 2030.
- As electricity prices flatten from 2030 to 2040, along with factors such as geographic population shifts and floorspace growth, electricity consumption rises at an increased rate in both sectors.
- Residential natural gas consumption is relatively stable, despite steadily increasing residential natural gas prices.
- Commercial natural gas prices increase in the near term, while commercial natural gas consumption remains flat; in the longer term, as price increases slow after 2030, commercial natural gas consumption begins to increase.

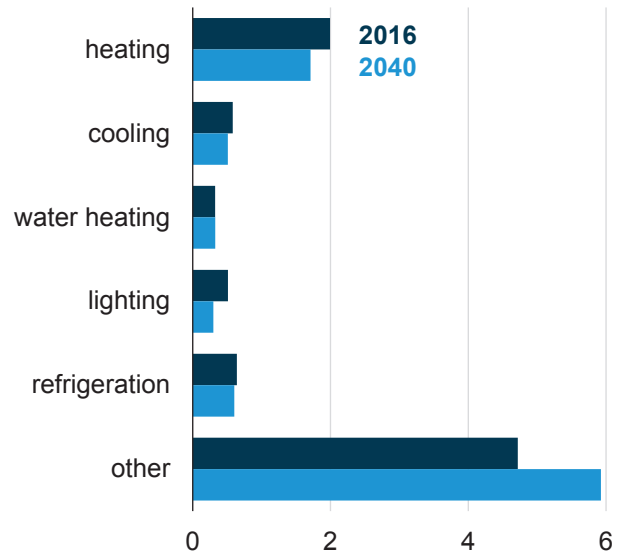


## Energy consumption decreases for most major end uses in the residential and commercial sectors—

**Residential sector delivered energy consumption**  
quadrillion British thermal units



**Commercial sector delivered energy consumption**  
quadrillion British thermal units

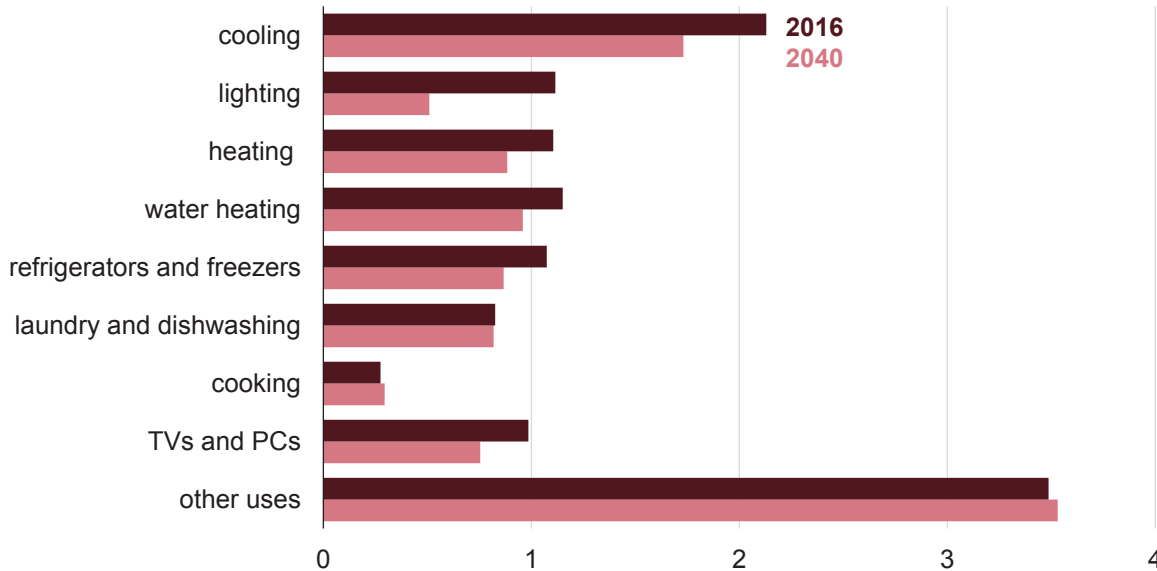


## —with improved equipment efficiency and standards in the Reference case

- Energy consumption for lighting declines in the residential and commercial sectors as light-emitting diodes and compact fluorescent lamps continue to replace incandescent lamps and other bulb types.
- Energy consumption most residential and commercial applications either remains flat or declines slightly from 2016 to 2040 in the Reference case, despite growth in the number of households and the amount of commercial floorspace.
- Utility rebates contribute to a decrease in energy consumption. These rebates are expected to increase with the implementation of the Clean Power Plan (CPP) because energy efficiency programs are one of the available compliance strategies, and they are expected to grow more than they would in the absence of the CPP.
- In the residential sector, most of the growth in the *Other* category comes from increasing market penetration of smaller electric devices, most of which are not covered by efficiency standards.
- In the commercial sector, increased energy consumption for *Other* primarily reflects an increase in non-building uses such as telephone and technology networks.

## Per-household electricity use continues to decline in the Reference case—

**Residential electricity use per household**  
thousand kilowatthours per household

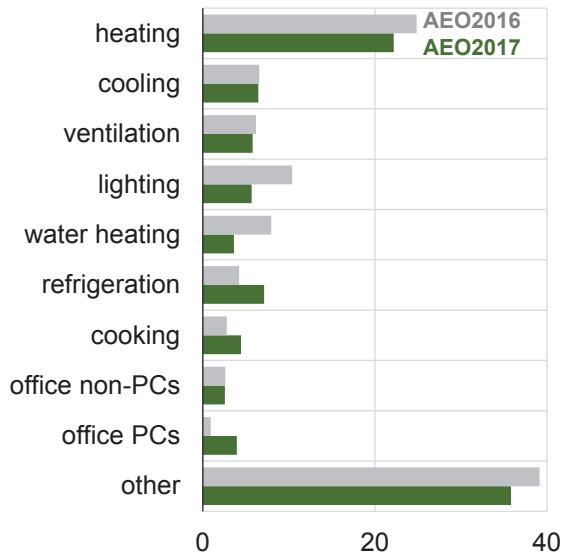


## —led by efficiency improvements in lighting, cooling, and heating

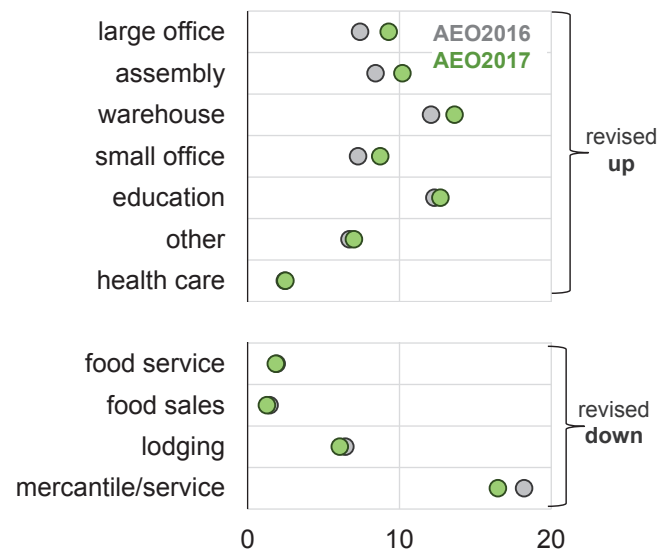
- Electricity use per household continues to decrease in the Reference case, as household growth exceeds growth in residential electricity use.
- By 2040, the average household uses less than half as much electricity for lighting as they did in 2016, as customers replace incandescent bulbs with more energy efficient light-emitting diodes (LEDs) and compact fluorescent lamps (CFLs).
- Space cooling consumption for the average household declines by nearly 20%, as energy efficiency improvements more than offset the increased demand for space cooling.
- Per household electricity use by miscellaneous loads, a category that encompasses a wide range of equipment such as small electronic devices, home security systems, and pool pumps, increases slightly as efficiency improvements only partially offset the increased adoption and market penetration of new devices.
- Residential on-site electricity generation, mostly from photovoltaic solar panels, lowers total purchased delivered electricity from the electric grid.

## AEO2017 includes new data from EIA's Commercial Buildings Energy Consumption Survey—

**Commercial energy intensities, 2016**  
thousand British thermal units per square foot



**Commercial floorspace by type, 2016**  
million square feet



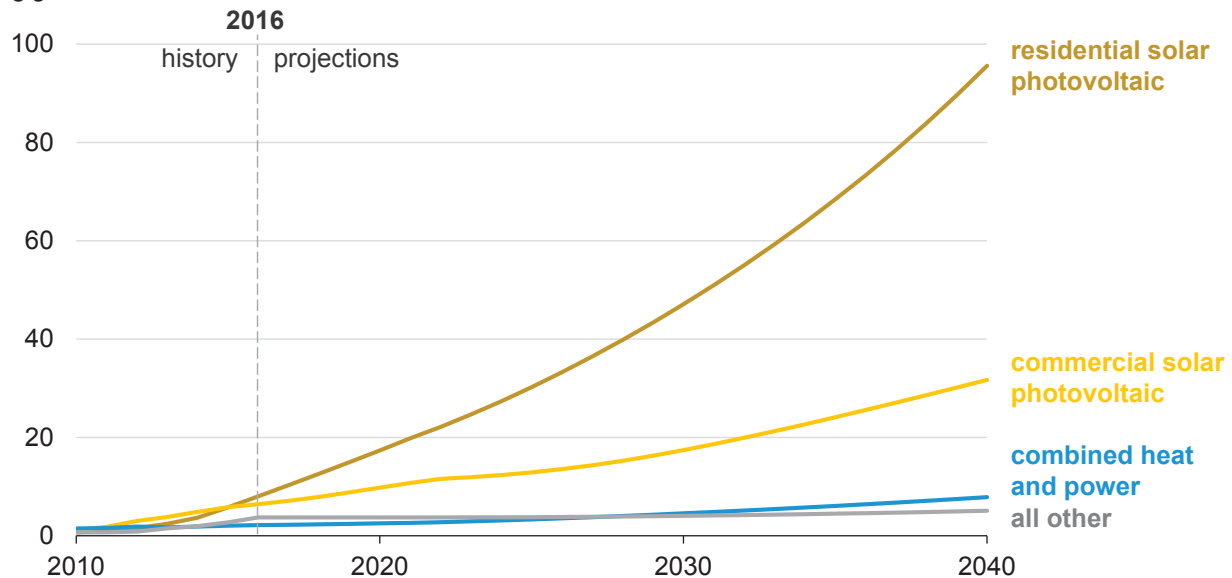
## —leading to revisions in commercial building mix and energy consumption

- AEO2017 is based on the latest Commercial Buildings Energy Consumption Survey (CBECS), which was released during 2015 and 2016 and is the first update to be included in the AEO since AEO2007. The sample of buildings surveyed was drawn from the set of commercial buildings as of 2012.
- The latest CBECS provides a better understanding of the makeup of the commercial sector as well as the energy consumption associated with different end uses.
- Overall commercial floorspace is larger than previous estimates, especially for large offices and assembly buildings.
- Some end uses, particularly lighting and water heating, have changed significantly since the previous CBECS, which was based on the set of commercial buildings as of 2003 and did not consider as many building types as the latest CBECS.
- Categorization of some end uses in commercial buildings has changed. For instance, the category of office personal computers (PCs) now includes data center servers and all video screens; this equipment was previously categorized as *other end-uses*.

## On-site electricity generation in residential and commercial buildings increases in the Reference case—

### Buildings sector on-site electric generating capacity

gigawatts



## —reflecting declining technology costs and the continued availability of incentives for solar technologies to all sectors through 2021

- Solar photovoltaic (PV) systems account for most of the growth in buildings-sector on-site (or distributed) electricity generation in the AEO2017.
- Solar PV adoption grows from a 2010 base of less than 2 gigawatts (GW) in the residential and commercial sectors to more than 125 GW of capacity in 2040 in the Reference case.
- Other technologies such as small wind and combined heat and power, mostly in the commercial sector, grow more slowly and reach about 13 GW of capacity by 2040.
- Federal investment tax credits for solar technologies currently cover 30% of installed cost through 2019, dropping to 26% in 2020 and to 22% in 2021. In 2022, residential tax credits expire, and commercial credits are reduced to 10%.
- The differences from AEO2016 come from expected technology cost declines and changes in the way that EIA projects buildings will employ solar PV over time (adoption modeling). Additionally, EIA's new residential PV adoption projection uses econometric modeling of ZIP code-level solar resources, electricity rates, and financial metrics.



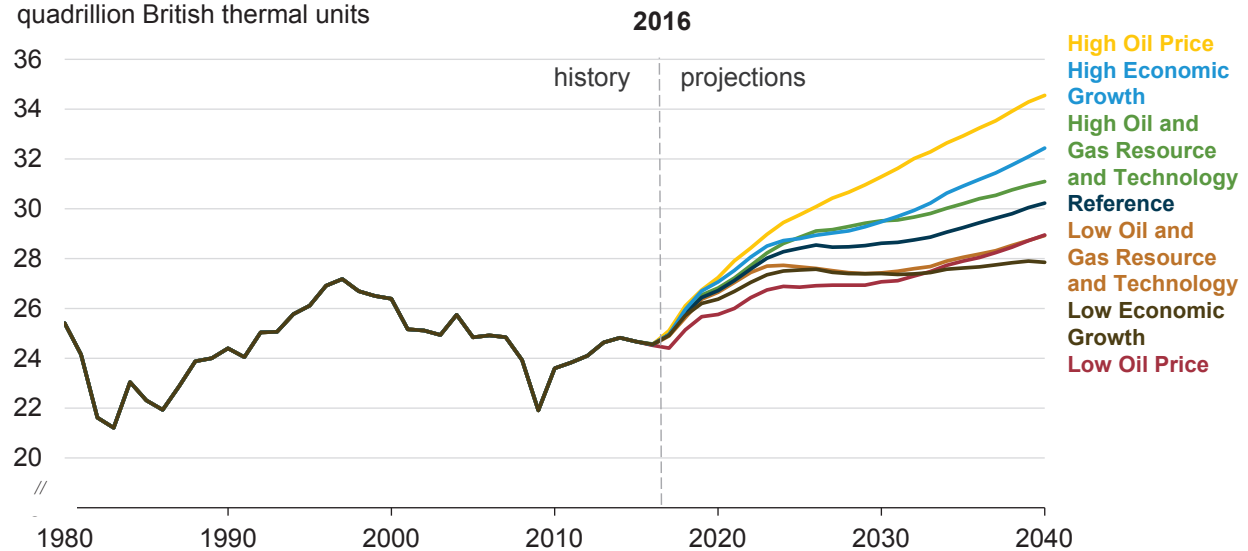
# Industrial

With economic growth and relatively low energy prices, energy consumption in EIA's three industrial sub-sectors (energy-intensive manufacturing, non-energy-intensive manufacturing, and nonmanufacturing) increases during the projection period across all cases. Energy intensity declines across all cases as a result of technological improvements.

## Industrial delivered energy consumption grows in all cases—

### Industrial energy consumption

quadrillion British thermal units

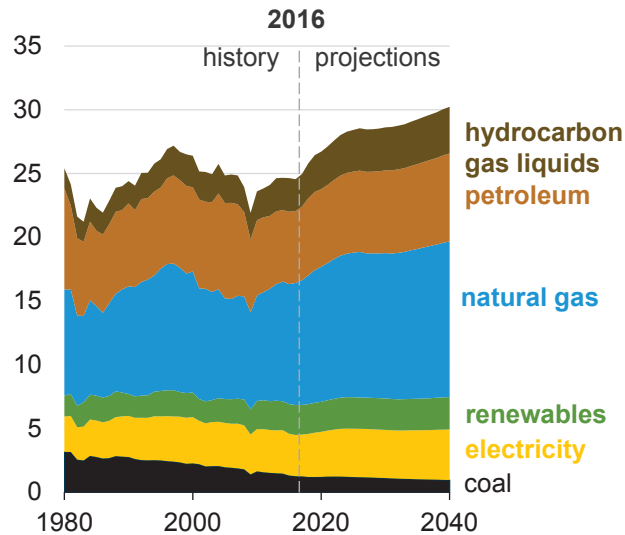


## —but is highest in the High Oil Price case and the High Economic Growth cases over most of the projection

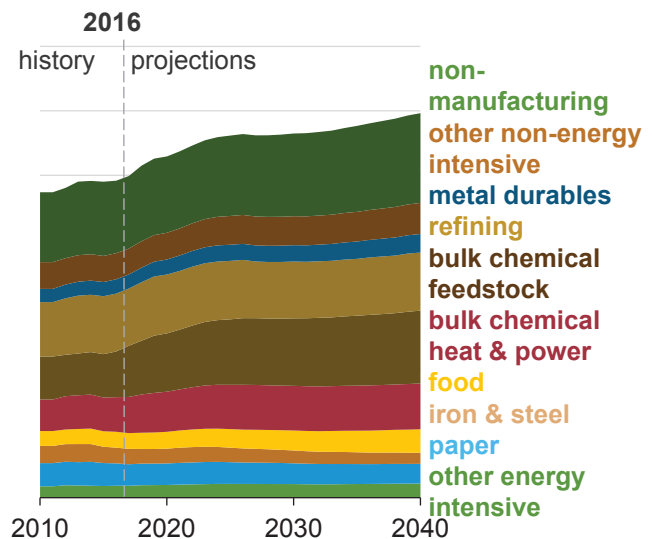
- Reference case industrial energy consumption is projected to grow more than 25%, from 26 to 32 quadrillion British thermal units between 2016 and 2040.
- Industrial energy consumption is greatest in the High Oil Price case. Although industrial energy use grows in all cases, more energy is used to produce steel, fabricated metal products, and machinery in the High Oil Price case than the Reference case because of greater demand for these products.
- Combined heat and power (CHP) generation in the High Oil Price case is about 26%, or about 53 billion kilowatthours, above the Reference case by 2040 largely because of higher CHP generation for coal-to-liquids and gas-to-liquids. Coal-to-liquids and gas-to-liquids are economical in the High Oil Price case in the mid-2020s and after.

## Industrial sector energy consumption grows faster than in other demand sectors in the Reference case—

**Industrial energy consumption**  
quadrillion British thermal units



**Industrial energy consumption**  
quadrillion British thermal units



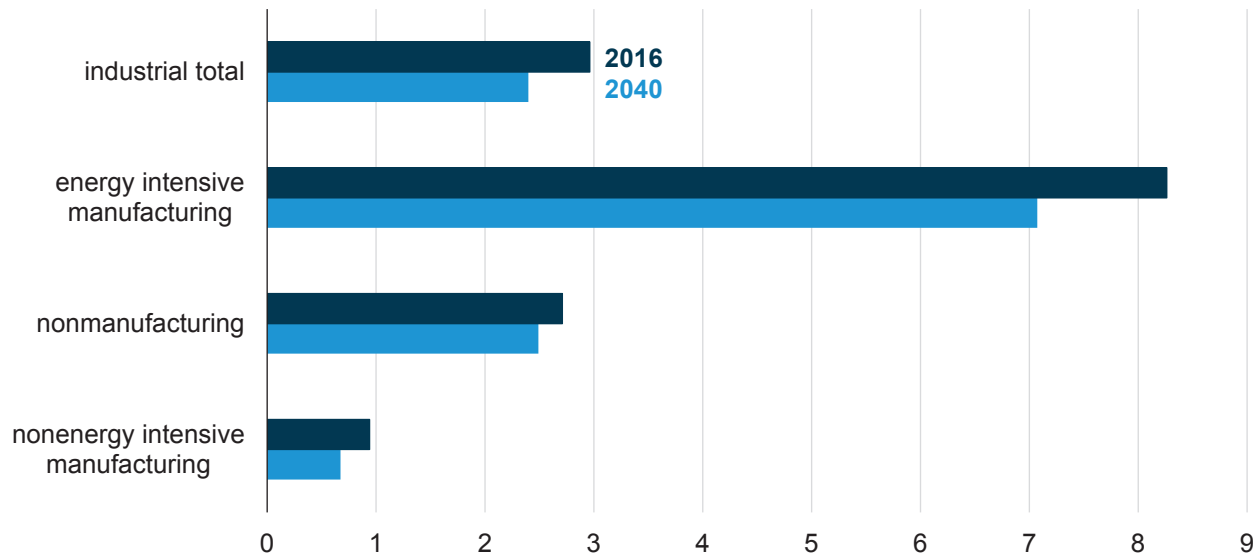
## —led by increases in petroleum and natural gas consumption

- Driven by economic growth and supported by relatively low energy prices, industrial energy consumption in EIA's three main industrial sub-sectors (nonmanufacturing, energy-intensive manufacturing, and non-energy-intensive manufacturing) increases during the projection period across all cases.
- Natural gas (used for heat and power in many industries) and petroleum (a feedstock for bulk chemicals) make up the majority of delivered industrial energy consumption, followed by purchased electricity, renewables, and coal.
- Total industrial energy consumption growth averages nearly 1% per year from 2016–40 in the Reference case, the highest growth rate of any demand sector, as economic growth exceeds efficiency gains.
- Industrial coal usage declines by 24% over the projection period as its use in combined heat and power (CHP) is largely replaced by lower-cost natural gas.
- Hydrocarbon gas liquids (HGL) such as ethane, propane, and butane are largely produced by processing liquids from wet natural gas wells. HGL, which are widely used as feedstock in chemical processes, are a major source of growth in overall industrial use of petroleum.



## Industrial energy intensity declines across all subsectors—

**Industrial energy intensity (Reference case)**  
trillion British thermal units per billion dollars of shipments



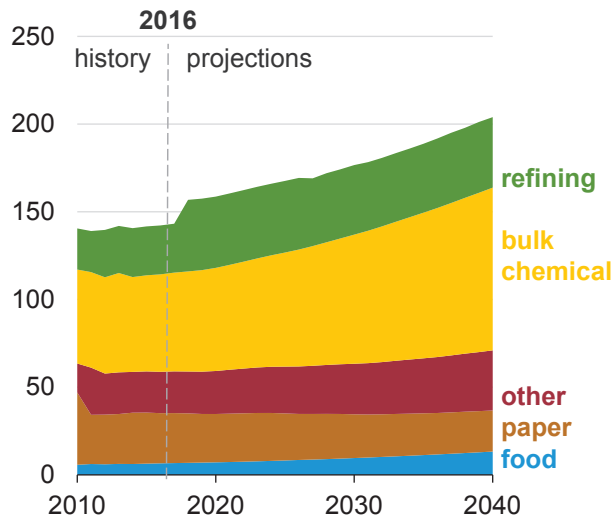
## —moderating energy consumption increases

- Overall industrial energy intensity, measured as energy consumption per industrial shipment, declines by approximately 0.9% per year from 2016 to 2040 in the Reference case, consistent with historic trends.
- Manufacturing energy intensity declines as a result of continued efficiency gains in industrial equipment as well as a shift in the share of shipments from energy-intensive manufacturing industries to other industries.
- Energy-intensive industries, which include food, paper, bulk chemical, glass, cement, iron and steel, and aluminum products, dominate overall industrial energy use consumption, accounting for less than 25% of industrial shipments but more than 60% of industrial energy use.

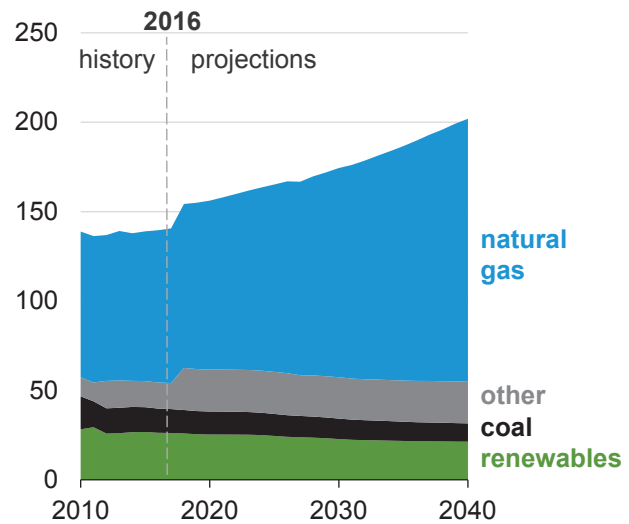


## Industrial combined heat and power use grows in the Reference case—

**Combined heat and power output**  
billion kilowatthours



**Combined heat and power output**  
billion kilowatthours



## —as bulk chemicals and food are the fastest growing industries through 2040

- Natural gas is the most common fuel used in combined heat and power (CHP), but renewables are used in the paper industry. Specialty fuels such as blast furnace gas and still gas are used in the iron and steel industry and the refining industry, respectively.
- Industrial CHP is most commonly found in large, steam-intensive industries, such as bulk chemicals, refining, paper, and food.
- The median size of an industrial sector CHP facility is 30 megawatts (MW), and an average size of 65 MW. CHP offsets approximately 0.5 quadrillion British thermal units (Btu) of purchased electricity in 2016 and 0.7 quadrillion Btu in 2040.



# References



## Contacts

### AEO Working Groups

<https://www.eia.gov/outlooks/aeo/workinggroup/>

### AEO Analysis and Forecasting Experts

<https://www.eia.gov/about/contact/forecasting.php#longterm>



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World oil prices	Laura Singer	202-586-4787	laura.singer@eia.gov



## For more information

U.S. Energy Information Administration homepage | [www.eia.gov](http://www.eia.gov)

Short-Term Energy Outlook | [www.eia.gov/steo](http://www.eia.gov/steo)

Annual Energy Outlook | [www.eia.gov/aeo](http://www.eia.gov/aeo)

International Energy Outlook | [www.eia.gov/ieo](http://www.eia.gov/ieo)

Monthly Energy Review | [www.eia.gov/mer](http://www.eia.gov/mer)

Today in Energy | [www.eia.gov/todayinenergy](http://www.eia.gov/todayinenergy)



# Fall 2017 Investor Meetings



## Safe Harbor statement

This presentation includes forward-looking statements within the meaning of the federal securities laws. Actual results could differ materially from such forward-looking statements. The factors that could cause actual results to differ are discussed in the Appendix herein and in Duke Energy's SEC filings, available at [www.sec.gov](http://www.sec.gov).

## Regulation G disclosure

In addition, today's discussion includes certain non-GAAP financial measures as defined under SEC Regulation G. A reconciliation of those measures to the most directly comparable GAAP measures is available in the Appendix herein and on our Investor Relations website at [www.duke-energy.com/investors/](http://www.duke-energy.com/investors/).



**DUK**  
**LISTED**  
**NYSE**

## A SOLID LONG-TERM HOLDING



## SUPPORTED BY THE STRENGTH OF OUR BALANCE SHEET

(1) As of Oct. 31, 2017

(2) 4-6% dividend growth subject to approval by the Board of Directors

(3) Total shareholder return proposition at a constant P/E ratio

(4) Based on adjusted diluted EPS off the midpoint of the original 2017 guidance range of \$4.50-\$4.70

HEADQUARTERED IN  
CHARLOTTE, NC



A FORTUNE 125 COMPANY

**\$62 B**

MARKET CAP  
(AS OF 10/31/2017)

**\$133 B**

TOTAL ASSETS  
(AS OF 12/31/2016)

**29 K**

EMPLOYEES  
(AS OF 12/31/2016)

**49 GWs**

TOTAL GENERATING CAPACITY  
(AS OF 12/31/2016)

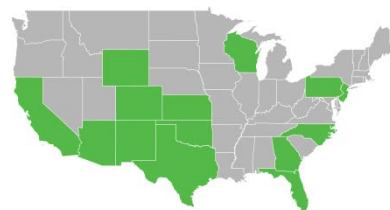
## ELECTRIC UTILITIES & INFRASTRUCTURE



## GAS UTILITIES & INFRASTRUCTURE



## COMMERCIAL RENEWABLES



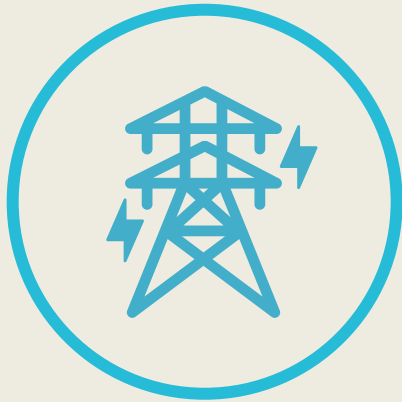
- Operating in six constructive jurisdictions, with attractive allowed ROEs, serving 7.5 million retail customers
- Below average customer rates<sup>(1)</sup>
- Balanced generation portfolio
- Industry-leading safety performance, as recognized by EEI
- Five state LDCs serving 1.6 million customers
- Strong earnings trajectory driven by customer growth, system integrity improvements, and continued expansion of natural gas infrastructure
- Significant investments in midstream natural gas pipelines and storage facilities
- Invested more than \$5 billion over the past 10 years
- Approximately 3 GWs of wind and solar on-line
- Long-term Power Purchase Agreements with creditworthy counterparties

(1) Source: EEI Typical Bills and Average Rates Report, Winter 2017





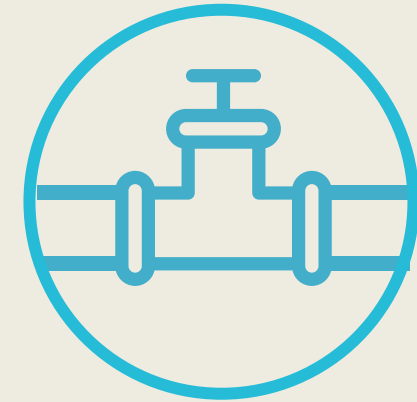
TRANSFORM THE  
CUSTOMER EXPERIENCE



MODERNIZE THE  
ENERGY GRID



GENERATE  
CLEANER ENERGY

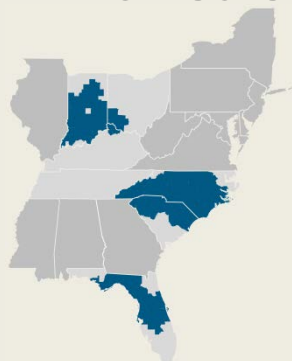


EXPAND NATURAL GAS  
INFRASTRUCTURE

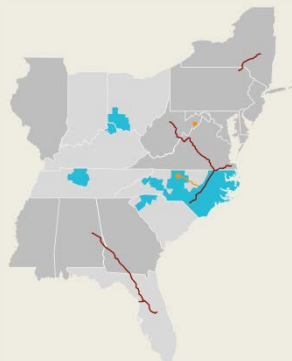


ENGAGE  
STAKEHOLDERS

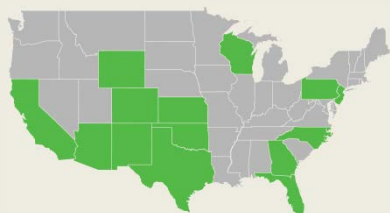
## ELECTRIC UTILITIES & INFRASTRUCTURE



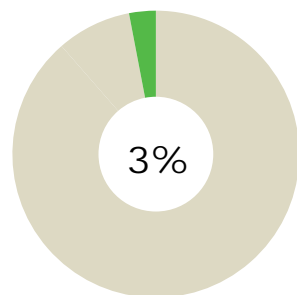
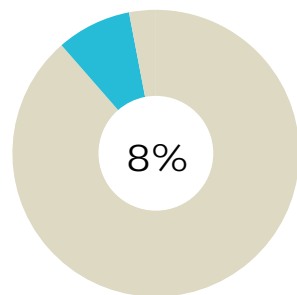
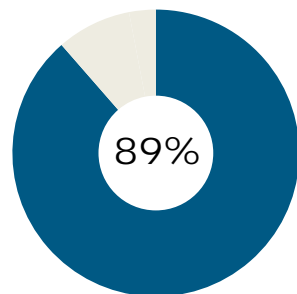
## GAS UTILITIES & INFRASTRUCTURE



## COMMERCIAL RENEWABLES



## 2017 ADJUSTED EPS CONTRIBUTION<sup>(1)</sup>



## 2017-2021 GROWTH CAPITAL

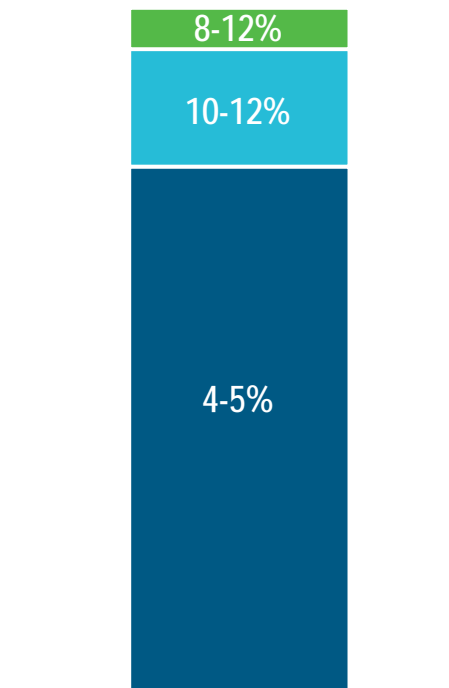
\$30 B

\$6 B

\$1 B

## 2017 – 2021 ADJUSTED EPS CAGR<sup>(1)</sup>

Consolidated  
4-6%



Electric Utilities & Infrastructure

Gas Utilities & Infrastructure

Commercial Renewables

(1) Based upon the midpoint of the 2017 adjusted diluted EPS guidance range of \$4.50-\$4.70 per share most recently affirmed in the Third Quarter 2017 Earnings Review and Business Update on Nov. 3, 2017; consolidated growth rate includes the impact of Other



ENGAGE  
STAKEHOLDERS

DUKE ENERGY  
FLORIDA  
SETTLEMENT  
APPROVED  
OCT. 25, 2017

RATE CLARITY  
THROUGH 2021

WITH AGREED UPON  
RATE INCREASES AND  
SOLAR GENERATION BASE  
RATE ADJUSTMENT

## MAJOR PROVISIONS OF THE SETTLEMENT

### Base Rate Adjustments

- Base rate increases of \$67 million per year 2019-2021, primarily to recover \$1 billion investments in grid modernization
- Solar Generation Base Rate Adjustment: DEF has opportunity to recover 700 MW of solar 2019-2021, with base rate adjustment at in-service at 10.5% ROE
- Earned ROE band of 9.5% to 11.5%

### Levy Nuclear Project

- DEF to cancel Levy Nuclear Project and not seek recovery of remaining costs
  - \$135 million impairment recorded in 3Q 2017<sup>(1)</sup>



## COMMISSION APPROVAL

- Signatories to the agreement include all key intervenors
- Florida Public Service Commission unanimously approved the agreement on Oct. 25, 2017

(1) Treated as a "special item" and excluded from adjusted diluted earnings per share



ENGAGE  
STAKEHOLDERS



GENERATE  
CLEANER ENERGY

~\$850 MILLION

CUSTOMER COST  
SAVINGS  
OVER THE NEXT 10 YEARS

## H.B. 589 – COMPETITIVE ENERGY SOLUTIONS FOR NC

- Pursued in parallel to Avoided Cost docket at N.C. Utilities Commission
- Reforms the Public Utility Regulatory Policy Act (PURPA) process in North Carolina, setting a clear path for more reliable and affordable renewable energy
  - **Fuel clause recovery** of standard contracts for Qualified Facilities, capped at 2.5% of annual sales
- Approximately 2,600 MW of utility-scale renewable energy projects to be procured via competitive bidding process over 45 months
  - **Rider recovery**, subject to cap of 1% of annual sales
  - Duke Energy can participate up to 30% cap; however additional facilities acquired from third parties are not subject to cap





## ENGAGE STAKEHOLDERS

### DUKE ENERGY PROGRESS

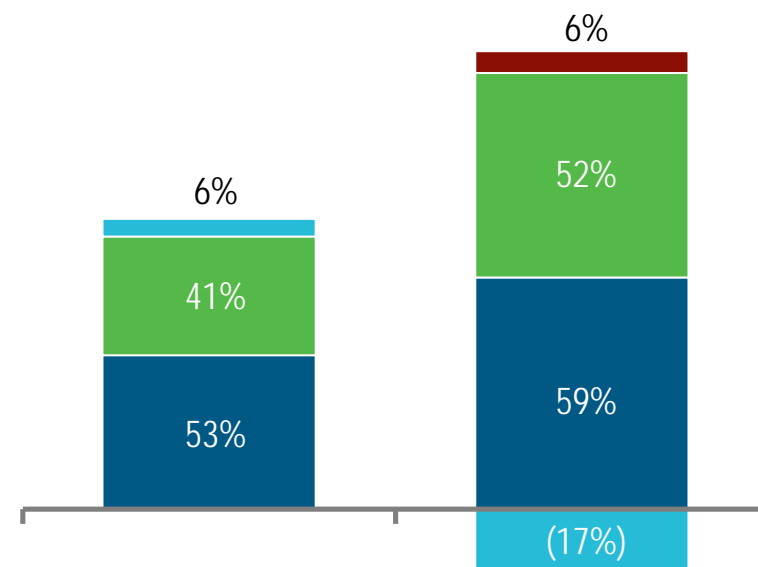
REBUTTAL TESTIMONY  
DUE NOV. 6, 2017  
HEARINGS BEGIN  
NOV. 20, 2017

### DUKE ENERGY CAROLINAS

INTERVENOR TESTIMONY  
DUE JAN. 19, 2018  
HEARINGS BEGIN  
FEB. 19, 2018

	Duke Energy Progress	Duke Energy Carolinas
Retail revenue increase requested	\$477 M (+14.9%)	\$647 M (+13.6%)
Return on equity requested		10.75%
Equity component of capital structure		53%
Proposed rate base <sup>(1)</sup>	~\$8.1 B	~\$13.8 B
Rates requested to be in effect, if approved	Feb. 1, 2018	May 1, 2018

- Significant plant additions and changes
- Coal ash basin closure costs<sup>(2)</sup>
- All other changes to rate base, operating costs, and operating revenues<sup>(3)</sup>
- Grid reliability and resiliency rider

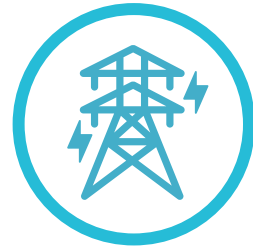


(1) As of Dec. 31, 2016 and adjusted for known and measurable changes through Aug. 2017 (DEP) and Nov. 2017 (DEC)

(2) Coal ash basin closure costs include recovery of previously incurred expenses over a five year period and request for ongoing expenses (based on actual 2016 expenses)

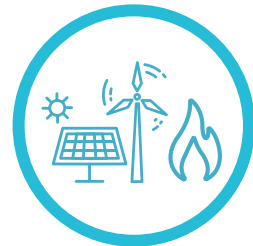
(3) Driven largely by a return of deferred tax liability due to NC state tax rate change. DEP offset by 2016 Hurricane Matthew storm cost recovery

## STATUS UPDATE



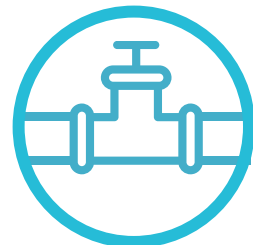
MODERNIZE THE ENERGY GRID

- Announced \$3 billion, 10-year Power/Forward Carolinas initiative in South Carolina
- New battery storage projects announced in North Carolina and Indiana



GENERATE CLEANER ENERGY

- W.S. Lee CCGT, Citrus County CCGT and Western Carolinas Modernization Project on track
- Dual-fuel project at Belews Creek coal-fired facility will introduce natural gas firing; Piedmont to build necessary infrastructure



EXPAND NATURAL GAS INFRASTRUCTURE

- ACP received FERC certificate – expect to begin construction by end of year (late 2019 in-service)
  - Closed construction financing facility in October
- Sabal Trail construction complete – Supplemental EIS issued by FERC, rehearing request filed, pipeline remains in-service
- Constitution – Petition for Declaratory Order filed at FERC



ENGAGE STAKEHOLDERS



TRANSFORM THE CUSTOMER EXPERIENCE

**70 - 75%**

EXPECTED  
PAYOUT RATIO  
THROUGH 2021<sup>(1)</sup>

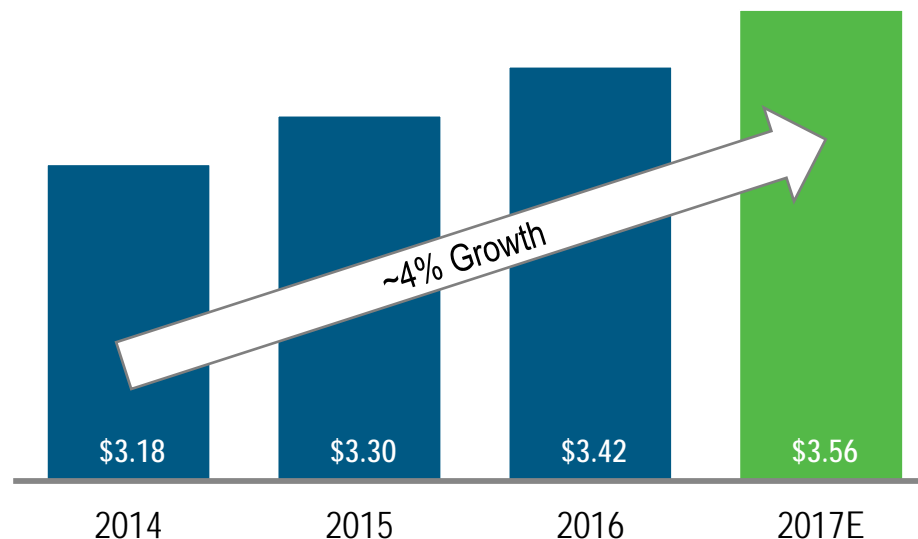
**4 - 6%**

ANNUAL DIVIDEND  
GROWTH

**~75%**

OF TSR ACHIEVED  
THROUGH  
DIVIDEND REINVESTMENT  
OVER LAST 20 YEARS

## DUK ANNUALIZED DIVIDEND PER SHARE<sup>(2)</sup>



(1) Based on adjusted diluted EPS; as originally discussed on the Fourth Quarter 2016 Earnings Review and Business Update on Feb. 16, 2017

(2) Reflects annualized Q3 dividend per share for each year



Large-scale U.S. electric and gas utility creating a cleaner energy future



Constructive regulatory jurisdictions in desirable communities

INVESTING IN INFRASTRUCTURE OUR CUSTOMERS VALUE.  
DELIVERING SUSTAINABLE GROWTH.



Proven track record of delivering our commitments



Solid long-term investment, with attractive risk-adjusted total shareholder return



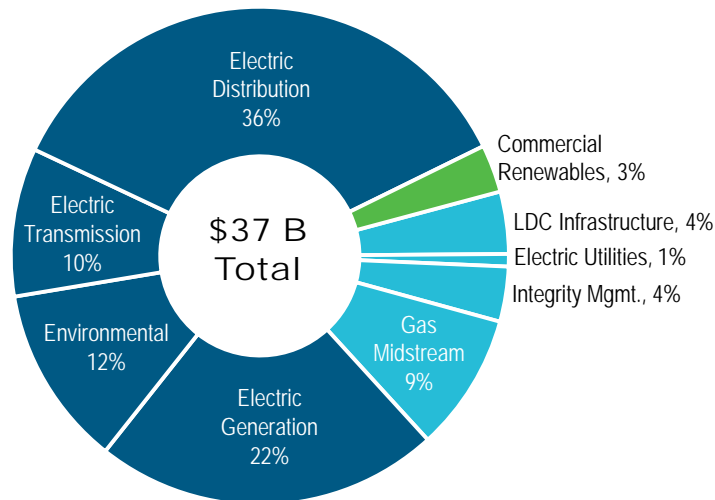
Item	Slide(s)
Supplemental Information	15-26
2017 Guidance Support	27-39
Financing Assumptions	40-47
Regulatory Overview	48-52
Electric Utilities & Infrastructure Supplement	53-56
Gas Utilities & Infrastructure Supplement	57-59
Commercial Renewables Supplement	60-62
Investor Relations Contact Information	63

## Supplemental Information

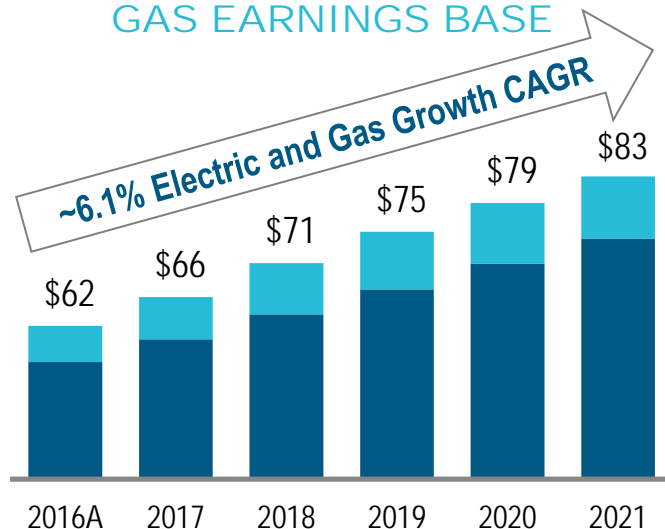
**4 - 6%**  
 GROWTH IN EPS<sup>(1)</sup>  
 THROUGH 2021  
 OFF 2017 GUIDANCE  
 MIDPOINT OF \$4.60

**\$37 B**  
 GROWTH CAPITAL PLAN  
 OVER 5 YEARS DRIVES  
 ROBUST EARNINGS  
 GROWTH<sup>(2)</sup>

2017 - 2021  
 BALANCED GROWTH  
 CAPITAL PLAN<sup>(2)</sup>



2017 - 2021<sup>(3)</sup>  
 REGULATED ELECTRIC AND  
 GAS EARNINGS BASE



2017 - 2021  
 ADJUSTED EPS CAGR<sup>(1)</sup>

Consolidated

4-6%

8-12%

10-12%

4-5%



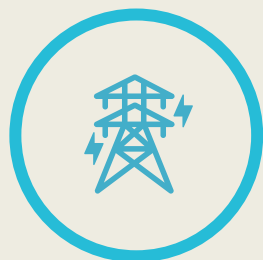
(1) Based upon the midpoint of the 2017 adjusted diluted EPS guidance range of \$4.50-\$4.70 per share most recently affirmed in the Third Quarter 2017 Earnings Review and Business Update on Nov. 3, 2017; consolidated growth rate includes the impact of Other

(2) As originally discussed on the Fourth Quarter 2016 Earnings Review and Business Update on Feb. 16, 2017

(3) Illustrative earnings base for presentation purposes only and includes retail and wholesale; amounts as of the end of each year shown; projected earnings base = prior period earnings base + capex - D&A - deferred taxes



GENERATE  
CLEANER ENERGY

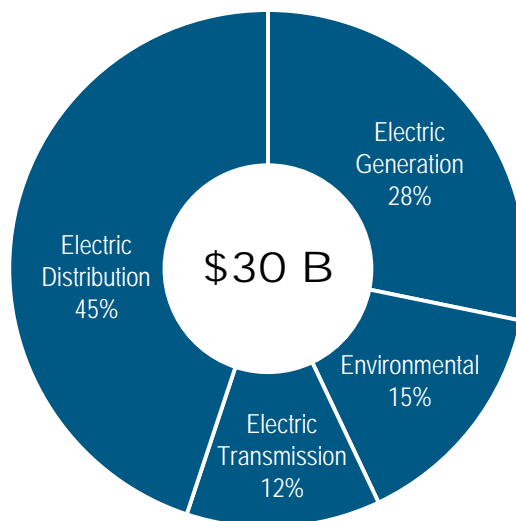


MODERNIZE THE  
ENERGY GRID

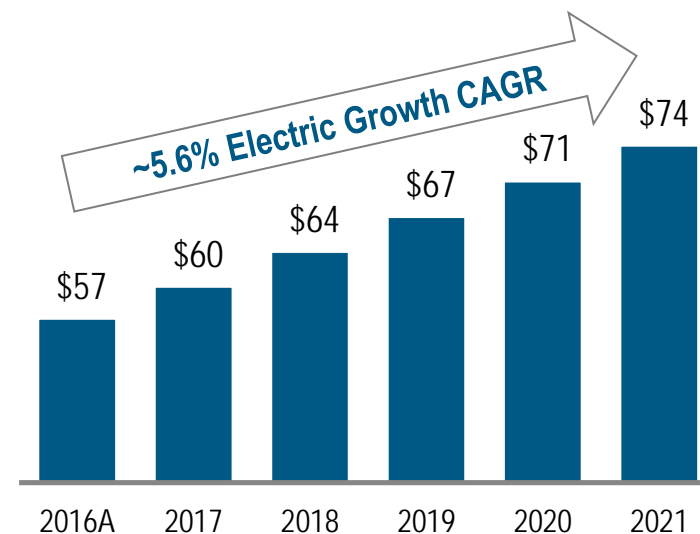
## \$30 B

GROWTH CAPITAL PLAN  
FOR ELECTRIC UTILITIES  
AND INFRASTRUCTURE  
OVER 5 YEARS<sup>(1)</sup>

### 2017 - 2021 ELECTRIC UTILITIES & INFRASTRUCTURE GROWTH CAPITAL PLAN<sup>(1)</sup>



### 2017 - 2021 REGULATED ELECTRIC EARNINGS BASE<sup>(2)</sup>



(1) As originally discussed on the Fourth Quarter 2016 Earnings Review and Business Update on Feb. 16, 2017

(2) Illustrative earnings base for presentation purposes only and includes retail and wholesale; amounts as of the end of each year shown; projected earnings base = prior period earnings base + capex - D&A - deferred taxes



MODERNIZE THE ENERGY GRID

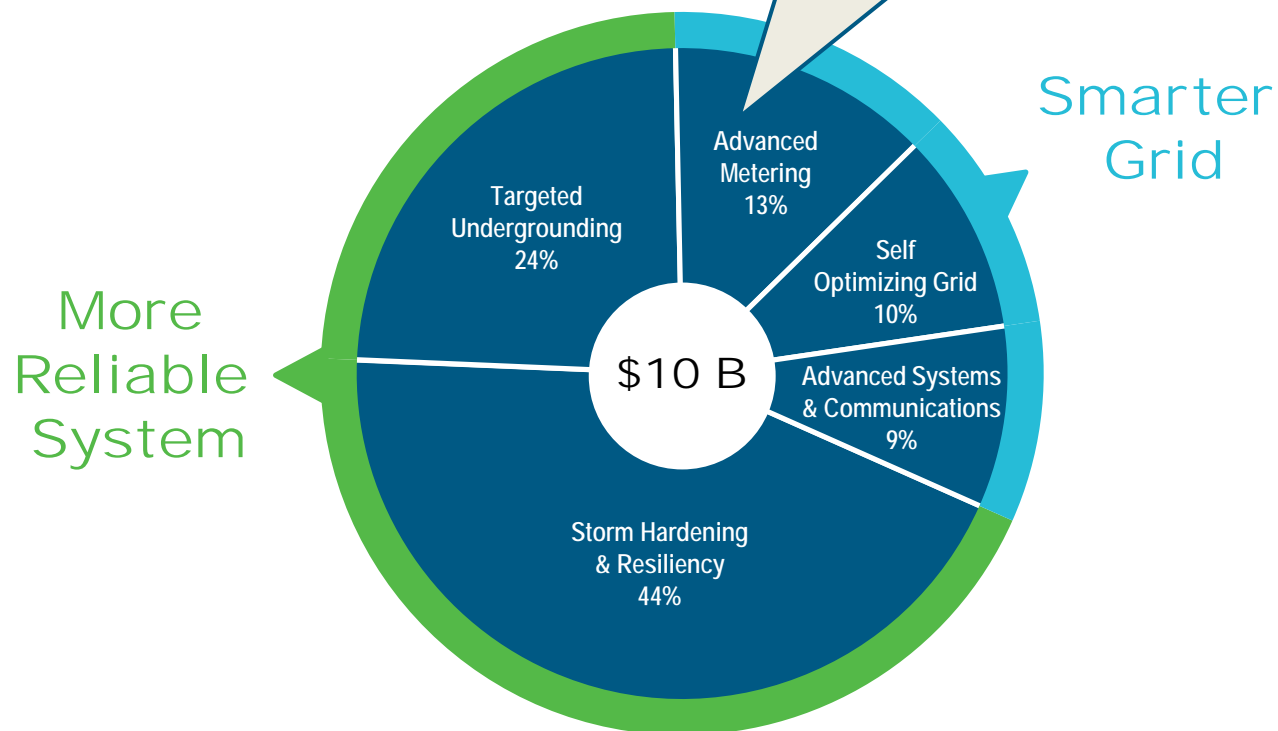
**\$10 B**

OF GRID INVESTMENTS OVER NEXT 5 YEARS<sup>(1)</sup>

**60%**

OF TOTAL TO BE INVESTED IN THE CAROLINAS

## 2017 - 2021 SPEND BY CATEGORY<sup>(1)</sup>



<sup>(1)</sup> As originally discussed on the Fourth Quarter 2016 Earnings Review and Business Update on Feb. 16, 2017



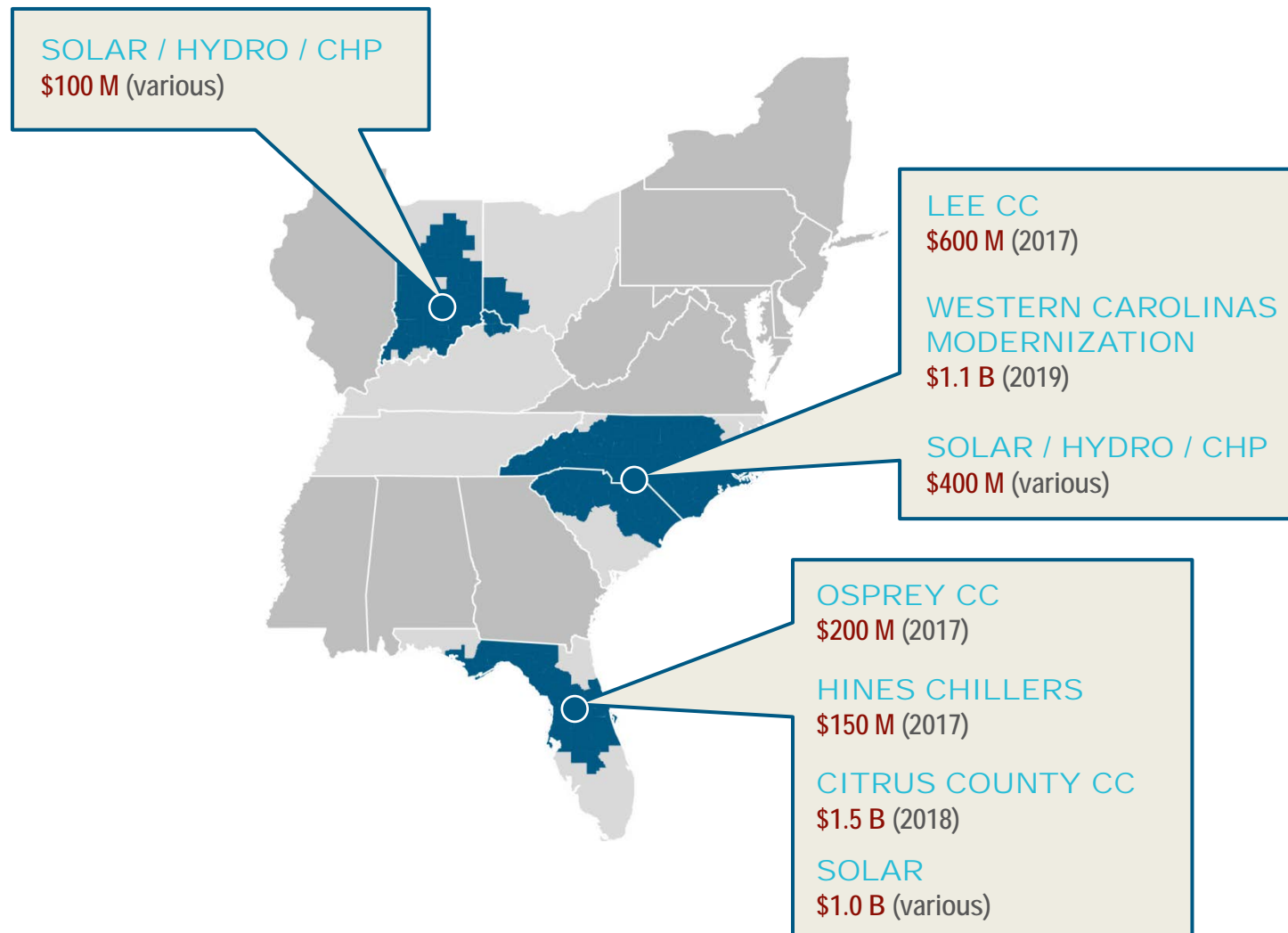
GENERATE  
CLEANER ENERGY

**\$3.3 B**

TO BE INVESTED IN  
REGULATED  
NATURAL GAS-FIRED  
GENERATION OVER 5  
YEARS<sup>(1)</sup>

**\$1.3 B**

INVESTMENTS IN REGULATED  
CARBON-FREE  
GENERATION OVER 5  
YEARS<sup>(1)</sup>



Map credit: SNL

(1) As originally discussed on the Fourth Quarter 2016 Earnings Review and Business Update on Feb. 16, 2017. Investment amount includes projects that will reach commercial operations within the 5-year period, as well as capital investments in new generation projects achieving commercial operation after the 5-year period. Project amounts above represent total project costs, including amounts spent prior to 2017.



GENERATE  
CLEANER ENERGY

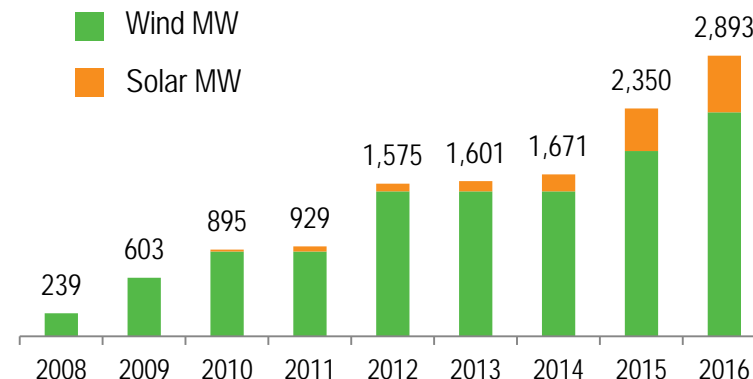
**\$1 B**

COMMERCIAL  
RENEWABLES  
INVESTMENTS OVER  
5 YEARS<sup>(3)</sup>

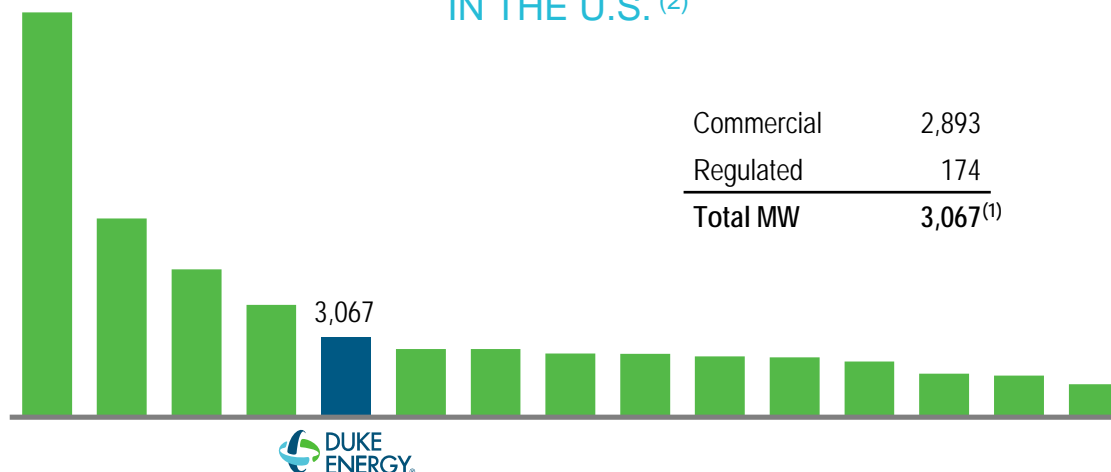
**1,000 MW**  
OF WIND PROJECTS  
PTC QUALIFIED FOR  
FUTURE INVESTMENT

## BUILDING SCALE SINCE ENTERING COMMERCIAL RENEWABLES SPACE IN 2007...

- Invested more than \$5 billion over the past 10 years
- Long-term power purchase agreements with creditworthy counterparties
- Emerging focus in our regulated electric utilities



## ...TO BECOME A TOP FIVE RENEWABLES COMPANY IN THE U.S. <sup>(2)</sup>



(1) In service as of Dec. 31, 2016

(2) Source: SNL Energy; top 15 owners by MW capacity

(3) As originally discussed on the Fourth Quarter 2016 Earnings Review and Business Update on Feb. 16, 2017



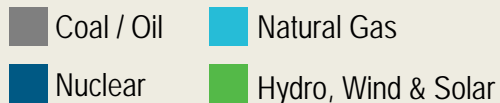
GENERATE  
CLEANER ENERGY

**\$11 B**

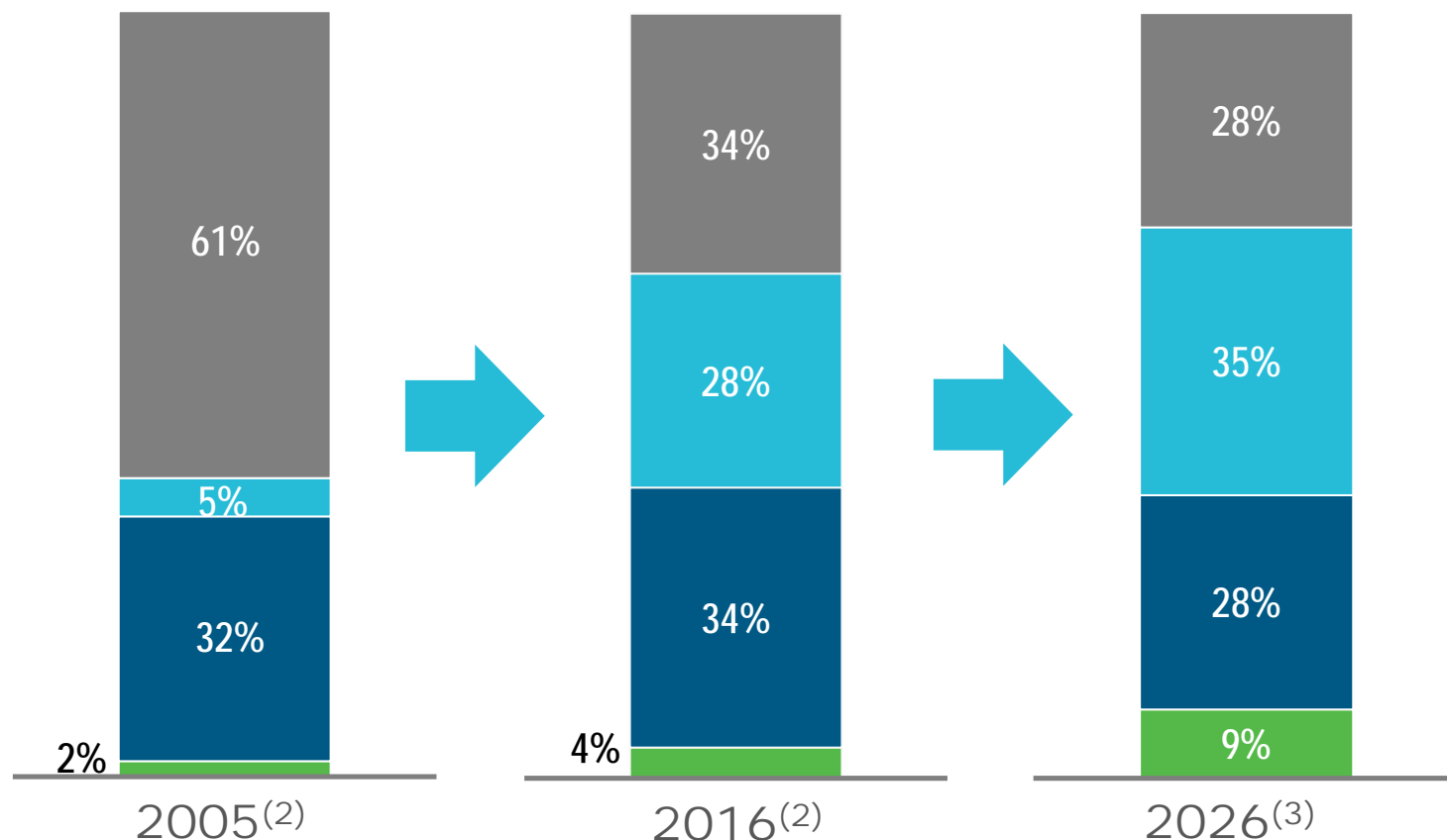
INVESTMENTS IN  
CLEANER GENERATION  
OVER 10 YEARS<sup>(1)</sup>

**35%**

CO<sub>2</sub> REDUCTION  
BY 2026<sup>(4)</sup>  
FROM 2005 LEVELS



FUEL DIVERSITY  
(MWh OUTPUT)



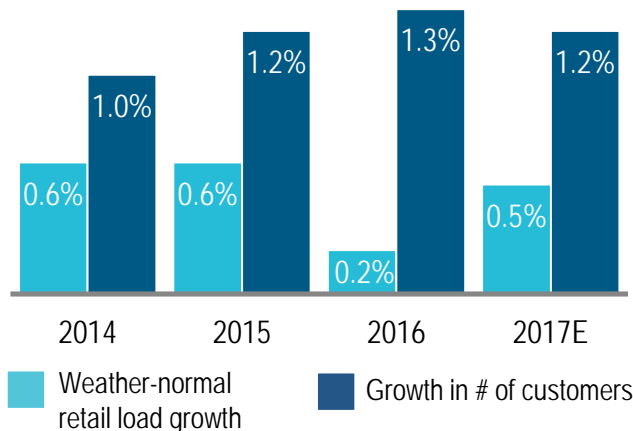
(1) Excludes any spend related to nuclear relicensing and new nuclear projects  
 (2) 2005 and 2016 data based on Duke's ownership share of U.S. generation assets as of Dec. 31, 2016  
 (3) 2026 estimate does not reflect the EPA Clean Power Plan  
 (4) 2026 carbon reduction will be influenced by customer demand, generation mix, weather, fuel availability and prices



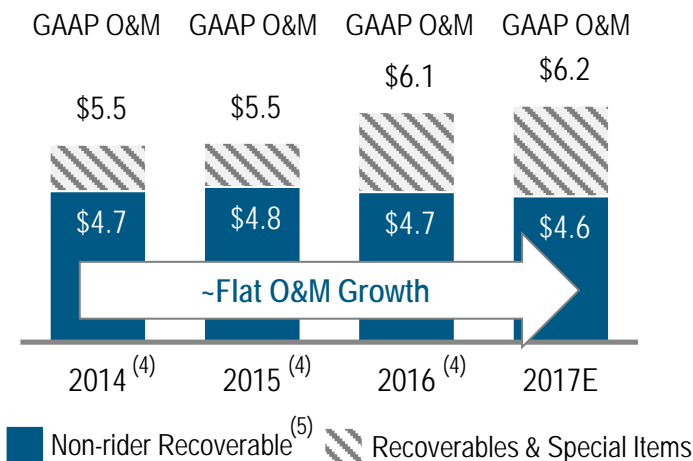
**EARNING ALLOWED ROEs**  
WITH NO SIGNIFICANT RATE CASES SINCE 2013

**REGULATORY LAG MITIGATED**  
BY CUSTOMER GROWTH, FOCUSED COST MANAGEMENT EFFORTS AND WHOLESALE EXPANSION

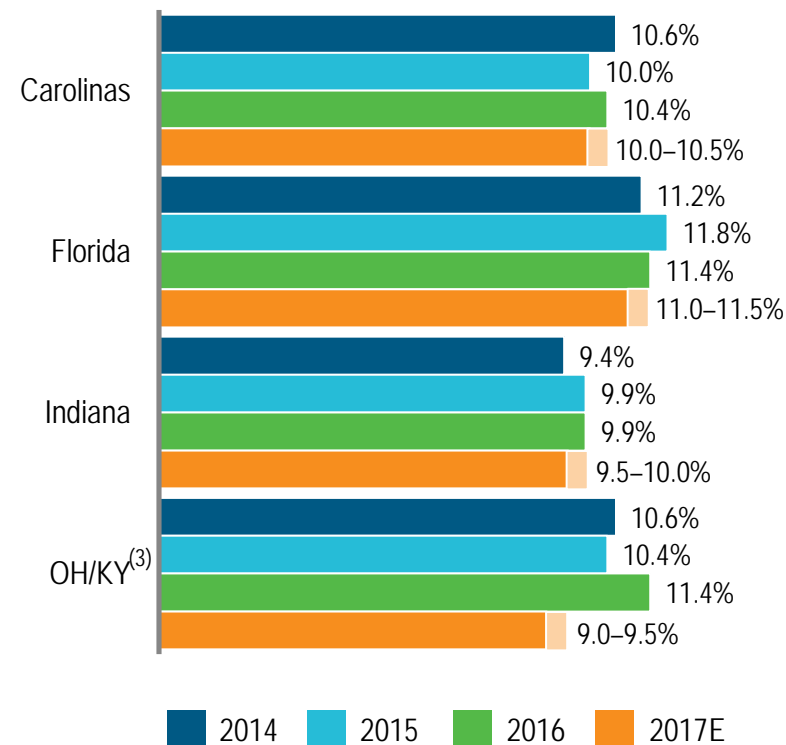
### CUSTOMER GROWTH AND VOLUME TRENDS<sup>(1)</sup>



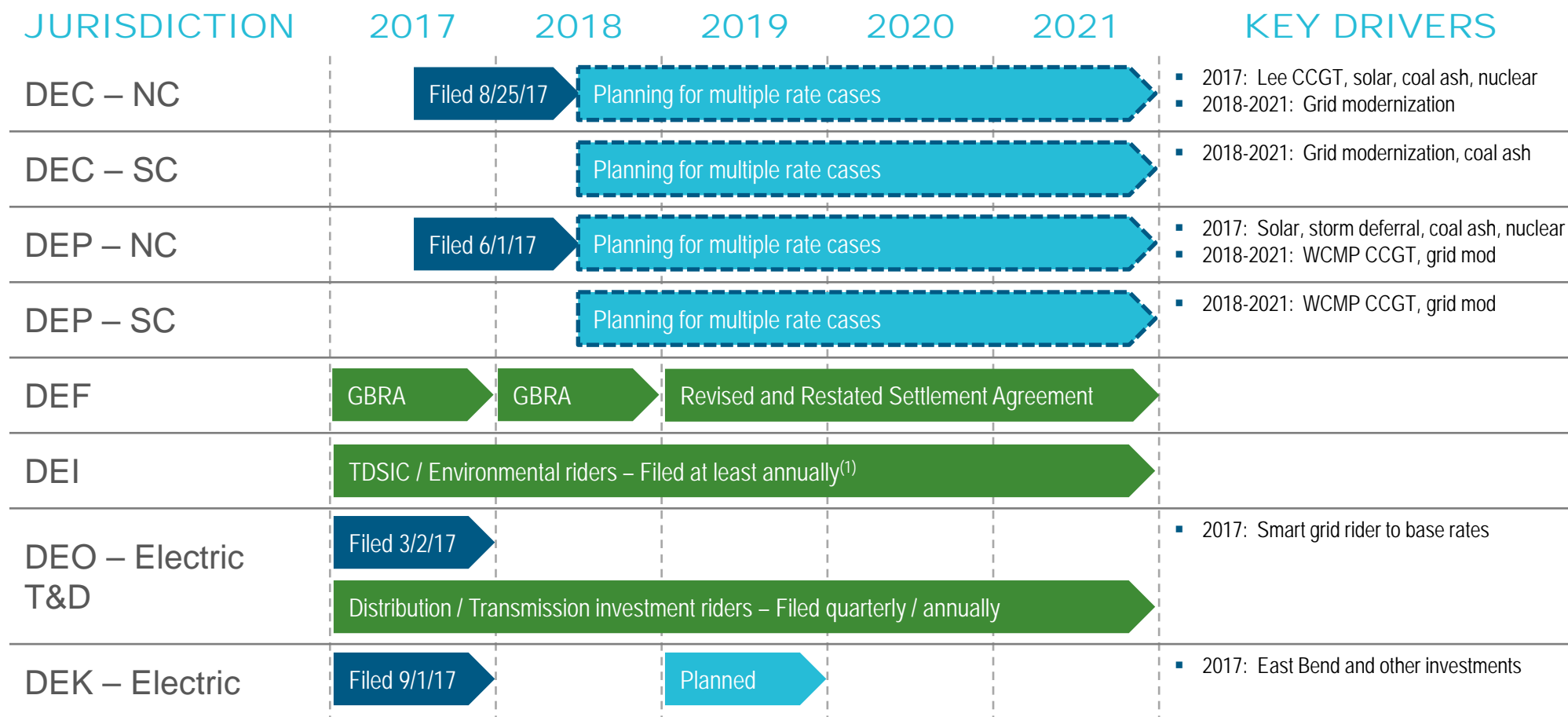
### O&M COST MANAGEMENT<sup>(1)</sup> (\$ IN BILLIONS)



### ADJUSTED BOOK ROEs<sup>(1,2)</sup>

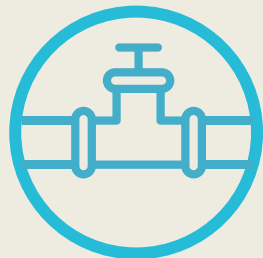


(1) 2017 assumptions as originally discussed on the Fourth Quarter 2016 Earnings Review and Business Update on Feb. 16, 2017  
 (2) Adjusted book ROEs exclude special items and are based on average book equity less Goodwill. Adjusted ROEs also include wholesale and are not adjusted for the impacts of weather. Regulatory ROEs will differ from Adjusted Book ROEs  
 (3) Combined electric and gas utilities  
 (4) Excludes Midwest Generation Business O&M (sold in April 2015), Latin American Generation Business (sold in December 2016)  
 (5) Excludes Piedmont Natural Gas, added beginning October 2016, to show trend



We will monitor our regulated ROEs and file rate cases as frequently as necessary and pursue alternative recovery mechanisms

(1) We are evaluating a range of scenarios prior to a required rate case by the end of 2022 (TDSIC conclusion) which could include cost management, capital optimization, or a general rate case filing



EXPAND NATURAL GAS  
INFRASTRUCTURE

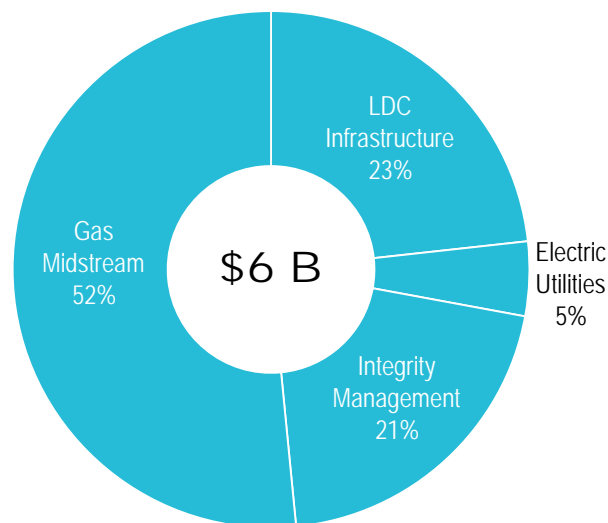
**\$6 B**

GROWTH CAPITAL PLAN  
FOR GAS UTILITIES AND  
INFRASTRUCTURE  
OVER 5 YEARS<sup>(1)</sup>

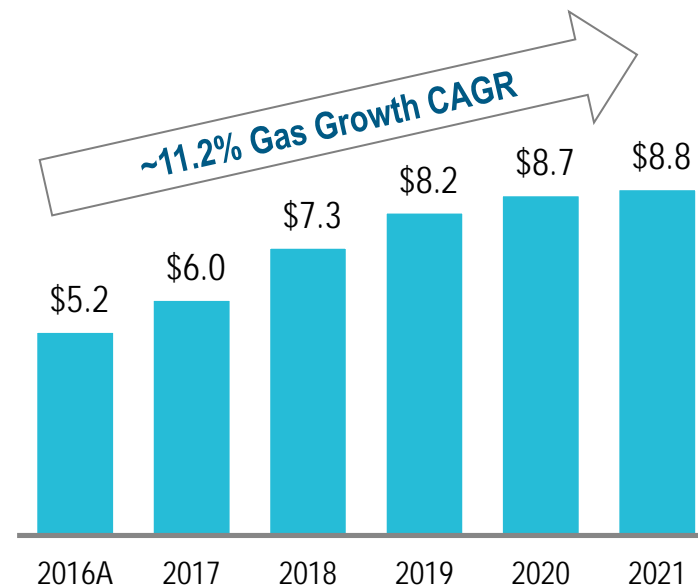
**50/50**

GROWTH CAPITAL PLAN  
DIVIDED BETWEEN THE  
LDC AND MIDSTREAM  
PIPELINES

2017 - 2021  
GROWTH CAPITAL PLAN<sup>(1)</sup>

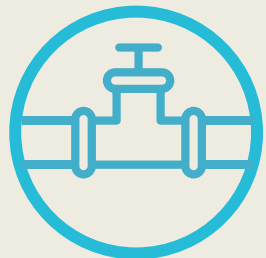


2017 - 2021  
REGULATED GAS  
EARNINGS BASE<sup>(2)</sup>



(1) As originally discussed on the Fourth Quarter 2016 Earnings Review and Business Update on Feb. 16, 2017

(2) Illustrative earnings base for presentation purposes only and includes retail and wholesale; amounts as of the end of each year shown; projected earnings base = prior period earnings base + capex - D&A - deferred taxes



EXPAND NATURAL GAS INFRASTRUCTURE

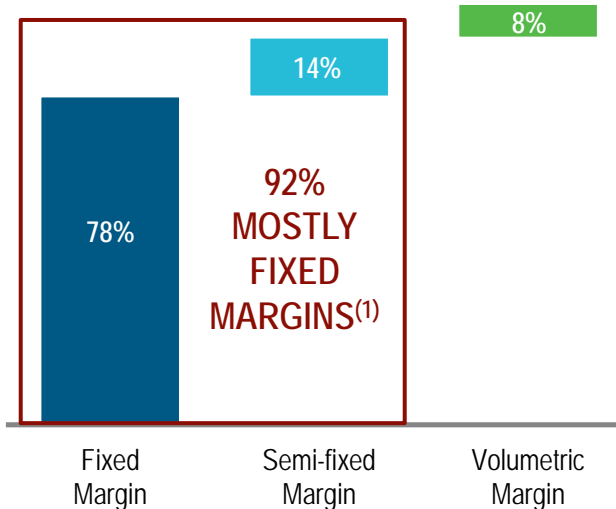
#2

DUKE'S USE OF NATURAL GAS ACROSS ITS LDC AND ELECTRIC BUSINESSES RANKS SECOND IN THE U.S.

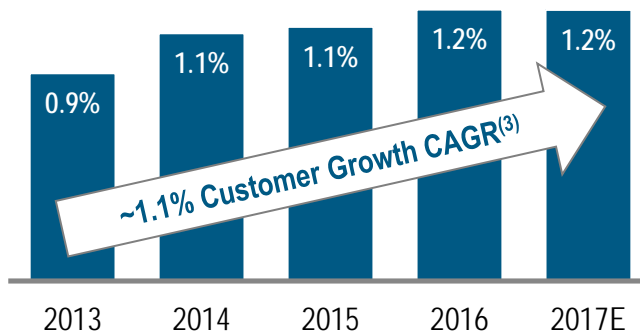
15%

GAS SEGMENT EARNINGS IN 10 YEARS FROM 8% IN 2017<sup>(2)</sup>

LOW VOLUMETRIC EXPOSURE DUE TO MOSTLY FIXED MARGINS...



...WITH EARNINGS DRIVEN BY INVESTMENT AND STRONG CUSTOMER GROWTH



Map credit: SNL

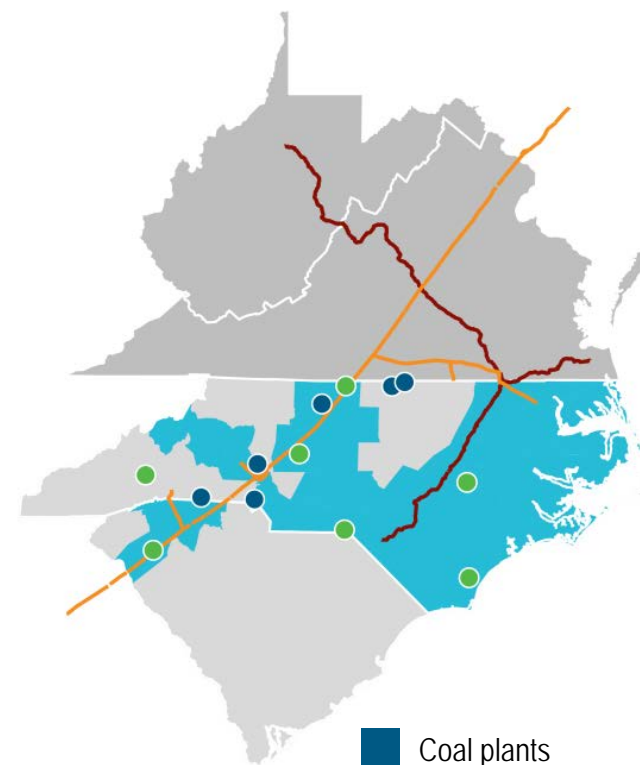
(1) As of Oct. 31, 2016

(2) Investment level will depend upon how the project and Duke investments are financed, based on adjusted diluted EPS

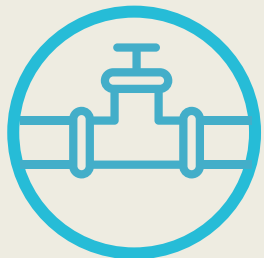
(3) Piedmont CAGR: 1.5%, Midwest LDC CAGR: 0.5%

ATLANTIC COAST PIPELINE TO BRING SIGNIFICANT GAS SUPPLY TO UNDERSERVED EASTERN CAROLINAS

- Additional power generation potential
- LDC expansion for Piedmont Natural Gas



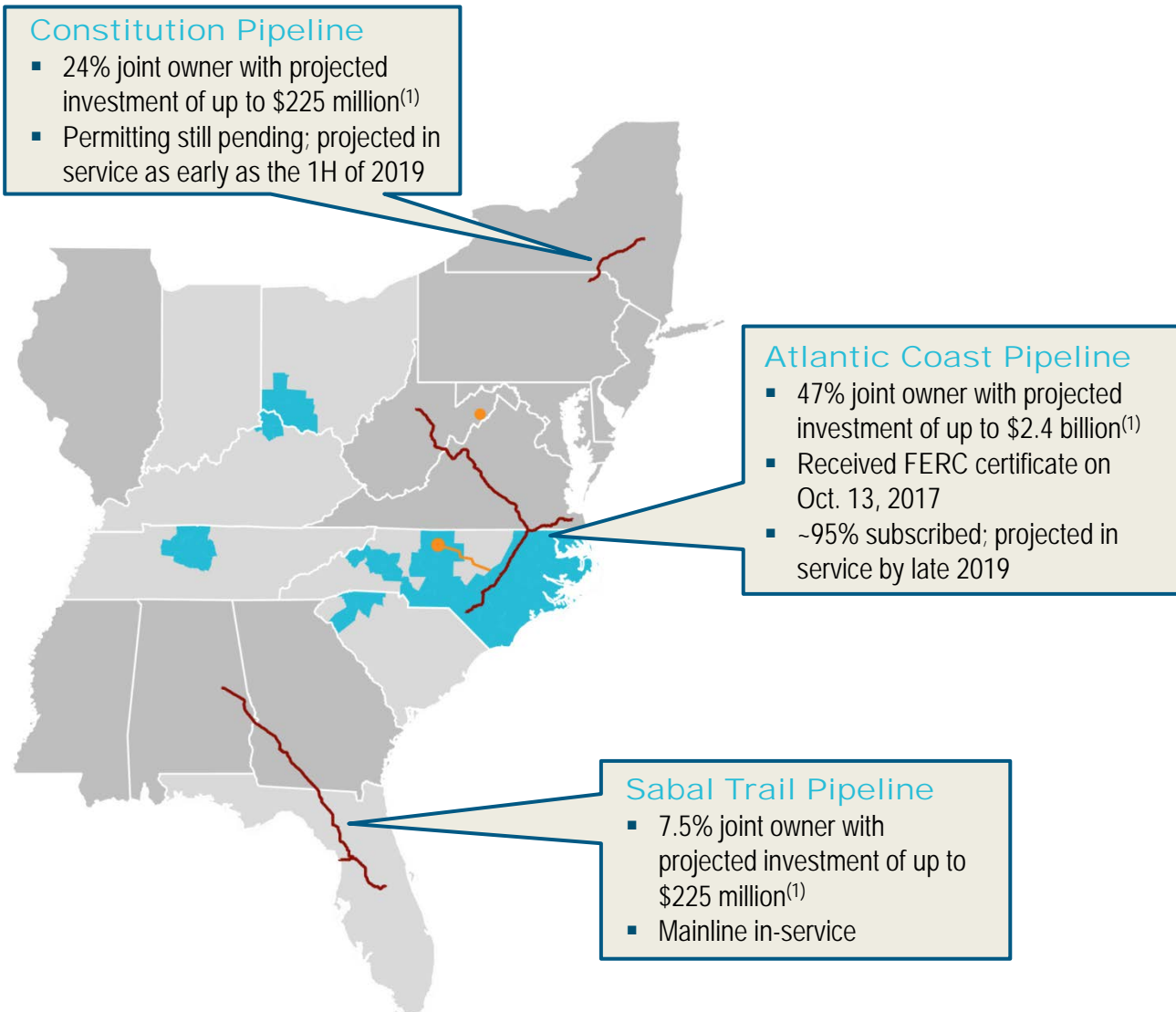
- Coal plants
- Combined cycle gas plants
- ACP
- Transco Pipeline



## EXPAND NATURAL GAS INFRASTRUCTURE

# \$3.3 B

## INVESTMENTS IN MIDSTREAM PIPELINES OVER 5 YEARS<sup>(2)</sup>

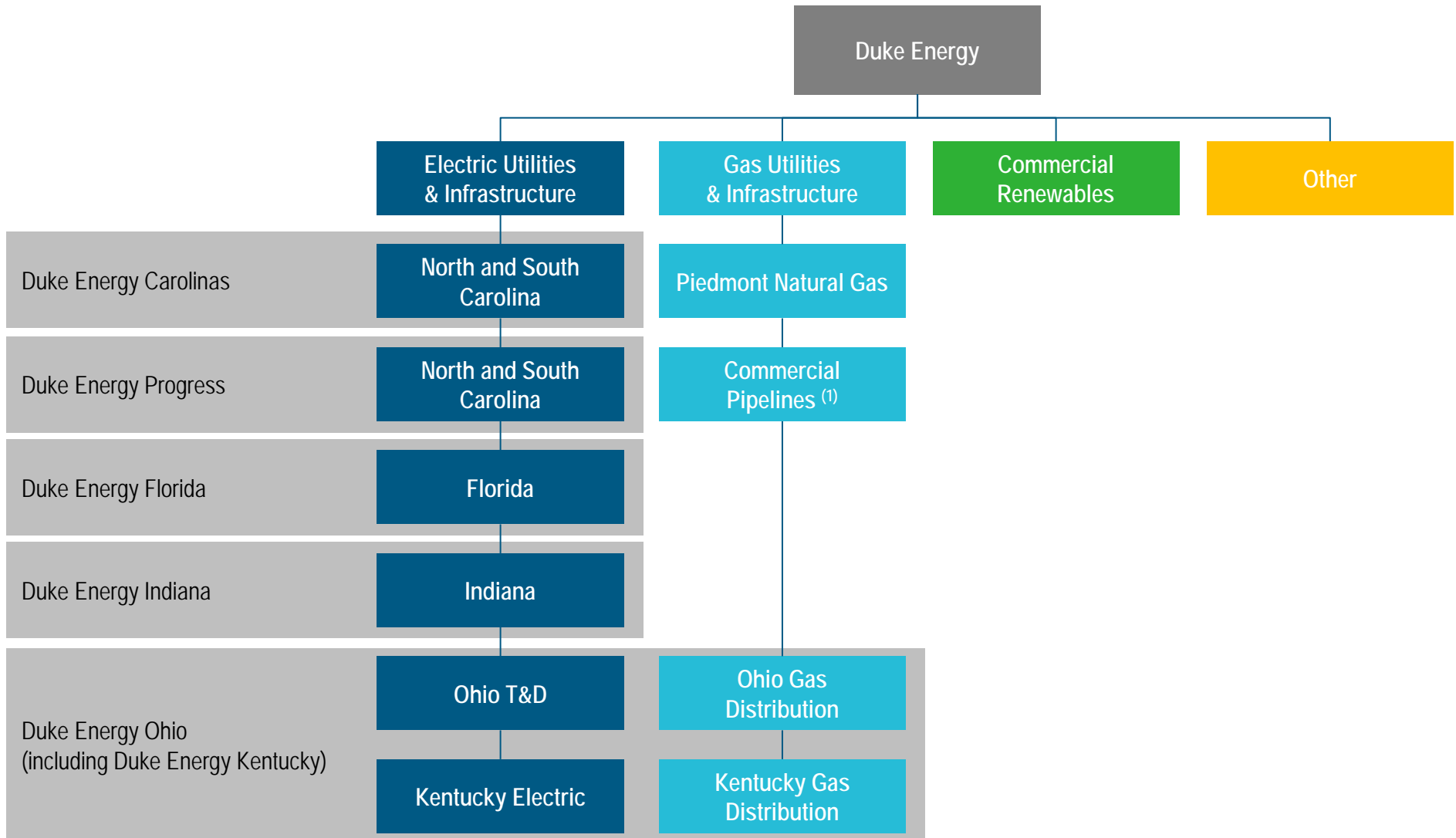


Map credit: SNL

<sup>(1)</sup> Investment level will depend upon how the project and Duke investment are financed

<sup>(2)</sup> As originally discussed on the Fourth Quarter 2016 Earnings Review and Business Update on Feb. 16, 2017

## 2017 guidance support



(1) On Apr. 1, 2017, Piedmont transferred its ownership interests in ACP and Constitution to a wholly owned subsidiary of Duke Energy

Driver		EPS Impact
Electric Utilities & Infrastructure	1% change in earned return on equity	+/- \$0.40
	\$1 billion change in rate base	+/- \$0.08
	1% change in Electric Utilities volumes	+/- \$0.10
Gas Utilities & Infrastructure	1% change in earned return on equity	+/- \$0.04
	\$200 million change in rate base	+/- \$0.01
	1% change in number of new customers	+/- \$0.01
Consolidated	1% change in interest rates <sup>(2)</sup>	+/- \$0.08
Other	\$10/barrel change in Brent crude oil prices	+/- \$0.01 - 0.02

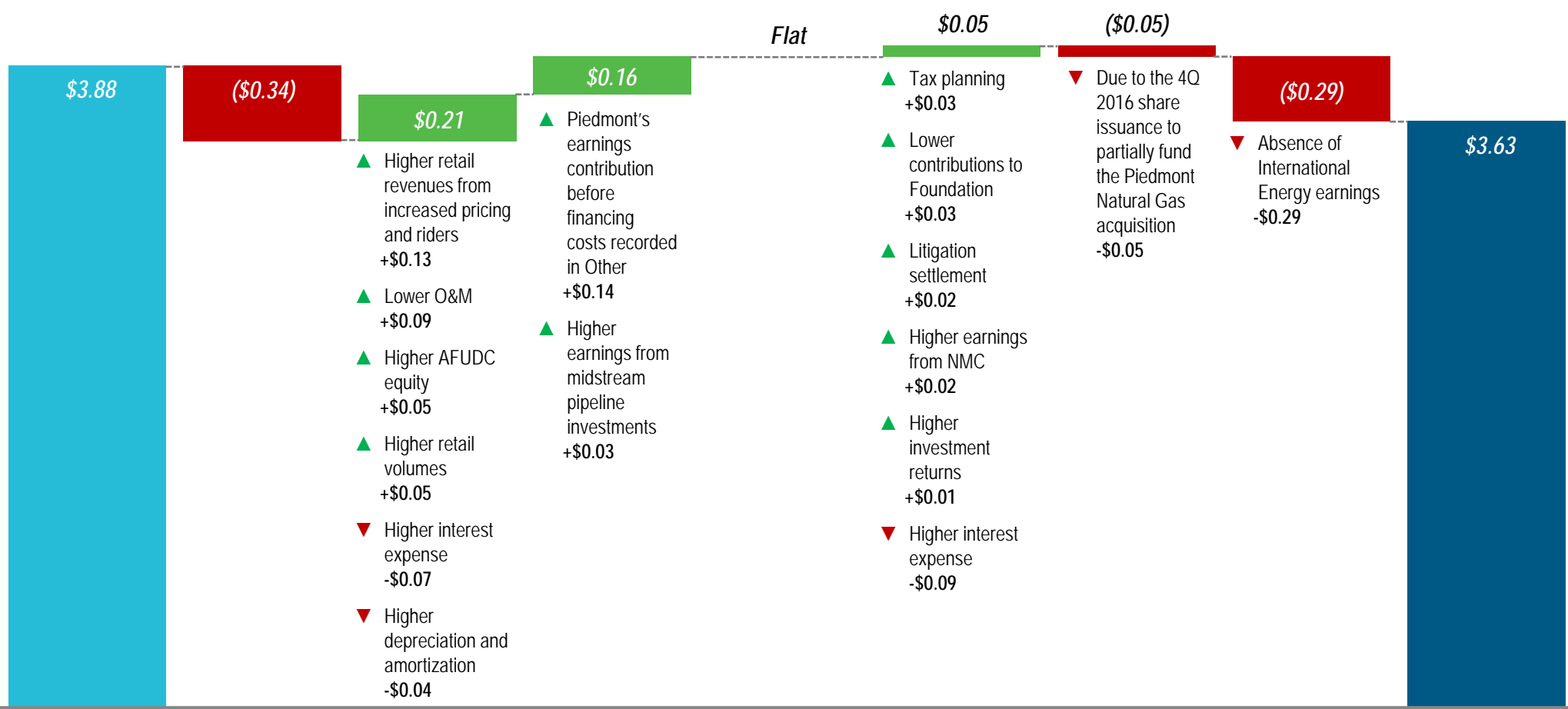
*Note: EPS amounts based on forecasted 2017 share count of ~700 million shares*

(1) 2017 assumptions as originally discussed on the Fourth Quarter 2016 Earnings Review and Business Update on Feb. 16, 2017

(2) Based on average variable-rate debt outstanding throughout the year.



# YTD 2016 – YTD 2017 adjusted diluted EPS waterfall



- ▲ Higher retail revenues from increased pricing and riders +\$0.13
- ▲ Lower O&M +\$0.09
- ▲ Higher AFUDC equity +\$0.05
- ▲ Higher retail volumes +\$0.05
- ▼ Higher interest expense -\$0.07
- ▼ Higher depreciation and amortization -\$0.04

- ▲ Piedmont's earnings contribution before financing costs recorded in Other +\$0.14
- ▲ Higher earnings from midstream pipeline investments +\$0.03

- ▲ Tax planning +\$0.03
- ▲ Lower contributions to Foundation +\$0.03
- ▲ Litigation settlement +\$0.02
- ▲ Higher earnings from NMC +\$0.02
- ▲ Higher investment returns +\$0.01
- ▼ Higher interest expense -\$0.09

- ▼ Due to the 4Q 2016 share issuance to partially fund the Piedmont Natural Gas acquisition -\$0.05

- ▼ Absence of International Energy earnings -\$0.29

YTD 2016 Adjusted EPS

YTD 2017 Adjusted EPS

(1) Due to the Piedmont acquisition and the sale of International Energy in the fourth quarter of 2016, Duke Energy's segment structure has been realigned. The Other segment now includes the results of National Methanol Company (NMC), which were previously included in the International Energy segment

# Key 2017 adjusted earnings guidance assumptions

(\$ in millions)	Original 2017 assumptions <sup>(1)</sup>	2017 YTD (thru 9/30/2017)
<b>Adjusted segment income/(expense) <sup>(2)</sup>:</b>		
Electric Utilities & Infrastructure	\$3,109	\$2,468
Gas Utilities & Infrastructure	\$282	\$179
Commercial Renewables	\$99	\$58
Other <sup>(3)</sup>	(\$268)	(\$162)
Duke Energy Consolidated	\$3,222	\$2,543
<b>Additional consolidated information:</b>		
Interest expense	\$1,974	\$1,475
Adjusted effective tax rate	32-33%	31%
Debt AFUDC and capitalized interest	\$124	\$97
AFUDC equity	\$278	\$175
Capital expenditures <sup>(4)(5)</sup>	\$9,425	\$6,588
Weighted-average shares outstanding	~700 million	~700 million

(1) As disclosed on Feb. 16, 2017

(2) Adjusted net income for 2017 assumption is based upon the midpoint of original adjusted diluted EPS guidance range of \$4.50 to \$4.70

(3) In October 2017, Duke Energy's economic ownership in NMC decreased from 25 percent to 17.5 percent

(4) Includes debt AFUDC and capitalized interest. Original 2017 assumption includes ~\$650 million of 2017 projected coal ash closure spend

(5) Includes coal ash closure spend of \$377 million in 2017 YTD that was included in operating cash flows

# Electric utilities quarterly weather impacts



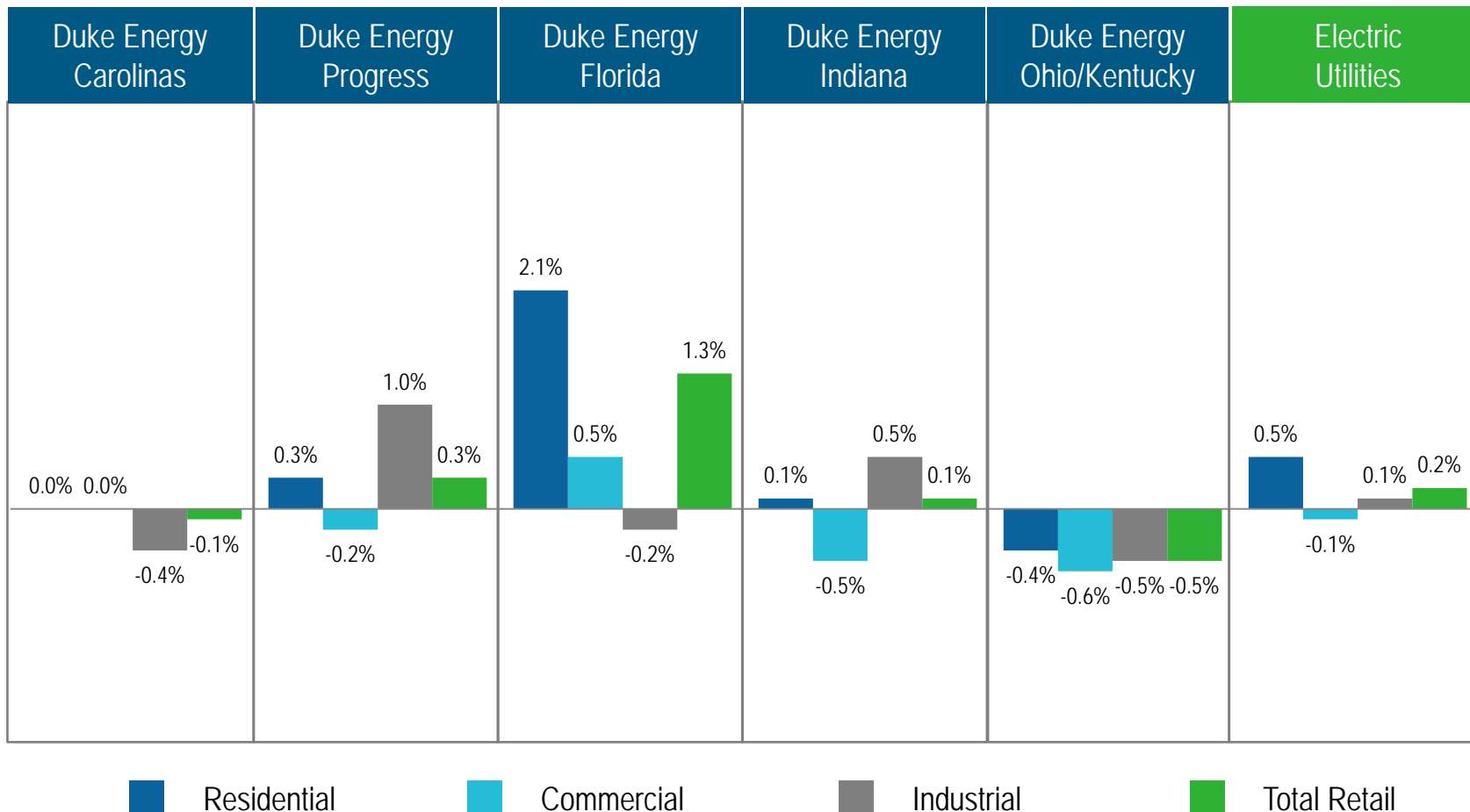
Weather segment income to normal:	2017			2016		
	Pretax impact	Weighted avg. diluted shares	EPS impact – favorable / (unfavorable)	Pretax impact	Weighted avg. shares	EPS impact – favorable / (unfavorable)
First Quarter	(\$175)	700	(\$0.15)	(\$10)	689	(\$0.01)
Second Quarter	(\$5)	700	(\$0.01)	\$40	690	\$0.04
Third Quarter	\$20 <sup>(1)</sup>	700	\$0.02	\$190	691	\$0.17
Fourth Quarter				(\$70)	699	(\$0.06)
Year-to-Date <sup>(2)</sup>	(\$160)	700	(\$0.14)	\$150	691	\$0.14

3Q 2016	Duke Energy Carolinas		Duke Energy Progress		Duke Energy Florida		Duke Energy Indiana		Duke Energy Ohio/KY	
Heating degree days / Variance from normal	--	(100.0%)	--	(100.0%)	--	--	21	(69.1%)	24	(60.0%)
Cooling degree days / Variance from normal	1,301	33.6%	1,343	28.5%	1,598	8.0%	932	26.5%	973	29.9%
3Q 2017	Duke Energy Carolinas		Duke Energy Progress		Duke Energy Florida		Duke Energy Indiana		Duke Energy Ohio/KY	
Heating degree days / Variance from normal	11	(29.9%)	2	(80.1%)	--	--	39	(41.4%)	46	(19.4%)
Cooling degree days / Variance from normal	1,012	2.9%	1,124	6.7%	1,552	4.8%	733	(1.0%)	700	(6.6%)

(1) Includes an unfavorable ~\$20 million or \$0.02/share impact from Hurricane Irma.

(2) Year-to-date amounts may not foot due to differences in weighted average shares outstanding and/or rounding

*Rolling Twelve Months, as of Sept. 30, 2017*



**ADJUSTING FOR LEAP YEAR RETAIL SALES INCREASED BY 0.5%**

## Electric Utilities Earnings Base

(\$ in billions)	2016A	2017E	2018E	2019E	2020E	2021E
Duke Energy Carolinas	\$20.8	\$21.8	\$23.0	\$24.2	\$25.6	\$27.1
Duke Energy Progress	14.5	15.3	16.7	17.9	19.0	19.9
Duke Energy Florida	11.4	12.4	12.9	13.6	14.3	15.4
Duke Indiana	7.5	7.6	7.8	8.0	8.1	8.1
Duke Ohio – Electric	2.0	2.2	2.4	2.6	2.8	3.0
Duke Kentucky – Electric	0.6	0.7	0.8	0.8	0.9	0.9
<b>Electric Utilities Total<sup>(2)</sup></b>	<b>\$56.7</b>	<b>\$60.0</b>	<b>\$63.5</b>	<b>\$67.1</b>	<b>\$70.7</b>	<b>\$74.4</b>

## Gas Utilities Earnings Base

(\$ in billions)	2016A	2017E	2018E	2019E	2020E	2021E
Piedmont	\$3.2	\$3.5	\$3.7	\$3.8	\$4.0	\$4.1
Duke Energy Ohio – Gas	1.2	1.2	1.3	1.3	1.3	1.3
Duke Energy Kentucky - Gas	0.3	0.3	0.3	0.3	0.3	0.3
Natural Gas Transmission	0.6	1.0	2.0	2.7	3.0	3.1
<b>Gas Utilities Total<sup>(2)</sup></b>	<b>\$5.2</b>	<b>\$6.0</b>	<b>\$7.3</b>	<b>\$8.2</b>	<b>\$8.7</b>	<b>\$8.8</b>

(1) As originally discussed on the Fourth Quarter 2016 Earnings Review and Business Update on Feb. 16, 2017; illustrative earnings base for presentation purposes only and includes retail and wholesale; Amounts as of the end of each year shown; Projected earnings base = prior period earnings base + capex – D&A – deferred taxes

(2) Totals may not foot due to rounding

# Capital expenditures profile<sup>(1)</sup>



(\$ in millions)

Electric Utilities & Infrastructure	2016A	2017E	2018E	2019E	2020E	2021E	2017 - 2021
Electric Generation <sup>(2)</sup>	\$ 1,766	\$ 1,725	\$ 1,550	\$ 1,700	\$ 1,600	\$ 1,750	\$ 8,325
Electric Transmission	641	725	725	700	750	675	3,575
Electric Distribution	1,106	1,750	2,825	2,950	2,875	2,850	13,250
Environmental <sup>(3)</sup>	904	1,300	1,150	700	550	650	4,350
<b>Electric Utilities &amp; Infrastructure Growth Capital</b>	<b>\$ 4,417</b>	<b>\$ 5,500</b>	<b>\$ 6,250</b>	<b>\$ 6,050</b>	<b>\$ 5,775</b>	<b>\$ 5,925</b>	<b>\$ 29,500</b>
Maintenance	2,775	2,125	1,800	1,950	1,975	1,875	9,725
<b>Total Electric Utilities &amp; Infrastructure Capital</b>	<b>\$ 7,192</b>	<b>\$ 7,625</b>	<b>\$ 8,050</b>	<b>\$ 8,000</b>	<b>\$ 7,750</b>	<b>\$ 7,800</b>	<b>\$ 39,225</b>
Commercial Renewables	\$ 857	\$ 175	\$ 275	\$ 375	\$ 325	\$ -	\$ 1,150
<b>Total Commercial Renewables Capital</b>	<b>\$ 857</b>	<b>\$ 175</b>	<b>\$ 275</b>	<b>\$ 375</b>	<b>\$ 325</b>	<b>\$ -</b>	<b>\$ 1,150</b>
Midstream Pipelines <sup>(4)</sup>	261	475	1,125	1,200	400	125	3,325
LDC - Non-Rider	129	325	550	425	300	200	1,800
LDC - Rider	75	325	300	225	300	175	1,325
<b>Gas Utilities &amp; Infrastructure Growth Capital</b>	<b>\$ 465</b>	<b>\$ 1,125</b>	<b>\$ 1,975</b>	<b>\$ 1,850</b>	<b>\$ 1,000</b>	<b>\$ 500</b>	<b>\$ 6,450</b>
Maintenance	75	175	200	175	150	175	875
<b>Total Gas Utilities &amp; Infrastructure Capital</b>	<b>\$ 540</b>	<b>\$ 1,300</b>	<b>\$ 2,175</b>	<b>\$ 2,025</b>	<b>\$ 1,150</b>	<b>\$ 675</b>	<b>\$ 7,325</b>
Other <sup>(5)</sup>	168	325	275	325	250	275	1,450
<b>Total Duke Energy</b>	<b>\$ 8,757</b>	<b>\$ 9,425</b>	<b>\$ 10,775</b>	<b>\$ 10,725</b>	<b>\$ 9,475</b>	<b>\$ 8,750</b>	<b>\$ 49,150</b>

(1) As originally discussed on the Fourth Quarter 2016 Earnings Review and Business Update on Feb. 16, 2017; amounts include AFUDC debt or capitalized interest

(2) Amount includes nuclear fuel of \$2B from 2017-2021

(3) 2016 actual amounts include ~\$550 million in coal ash closure spending that was included in operating cash flows

(4) Investment level will depend upon how the project and Duke investment are financed

(5) Primarily IT and real estate related costs

# Capital expenditures by utility<sup>(1)</sup>

(\$ in millions)

Duke Energy Carolinas	2016A	2017E	2018E	2019E	2020E	2021E	2017 - 2021
Electric Generation	\$663	\$500	\$450	\$675	\$675	\$825	\$3,125
Electric Transmission	214	75	75	75	50	50	\$325
Electric Distribution	392	700	1,250	1,225	1,150	1,225	\$5,550
Environmental <sup>(2)</sup>	374	600	550	225	125	175	\$1,675
<b>Duke Energy Carolinas Growth Capital</b>	<b>\$ 1,643</b>	<b>\$ 1,875</b>	<b>\$ 2,325</b>	<b>\$ 2,200</b>	<b>\$ 2,000</b>	<b>\$ 2,275</b>	<b>\$ 10,675</b>
Maintenance	861	850	650	675	725	675	3,575
<b>Total Duke Energy Carolinas Capital</b>	<b>\$ 2,504</b>	<b>\$ 2,725</b>	<b>\$ 2,975</b>	<b>\$ 2,875</b>	<b>\$ 2,725</b>	<b>\$ 2,950</b>	<b>\$ 14,250</b>

Duke Energy Progress	2016A	2017E	2018E	2019E	2020E	2021E	2017 - 2021
Electric Generation	\$389	\$575	\$700	\$625	\$550	\$400	\$2,850
Electric Transmission	42	25	75	75	75	100	\$350
Electric Distribution	253	350	825	825	775	725	\$3,500
Environmental <sup>(3)</sup>	261	400	375	300	275	325	\$1,675
<b>Duke Energy Progress Growth Capital</b>	<b>\$ 945</b>	<b>\$ 1,350</b>	<b>\$ 1,975</b>	<b>\$ 1,825</b>	<b>\$ 1,675</b>	<b>\$ 1,550</b>	<b>\$ 8,375</b>
Maintenance	1,002	600	500	600	600	600	2,900
<b>Total Duke Energy Progress Capital</b>	<b>\$ 1,947</b>	<b>\$ 1,950</b>	<b>\$ 2,475</b>	<b>\$ 2,425</b>	<b>\$ 2,275</b>	<b>\$ 2,150</b>	<b>\$ 11,275</b>

(1) As originally discussed on the Fourth Quarter 2016 Earnings Review and Business Update on Feb. 16, 2017; amounts include AFUDC debt

(2) 2016 actual amounts include \$287 million in coal ash closure spending that was included in operating cash flows

(3) 2016 actual amounts include \$213 million in coal ash closure spending that was included in operating cash flows

# Capital expenditures by utility (continued)<sup>(1)</sup>



(\$ in millions)

Duke Energy Florida	2016A	2017E	2018E	2019E	2020E	2021E	2017 - 2021
Electric Generation	\$660	\$550	\$250	\$300	\$250	\$475	\$1,825
Electric Transmission	183	250	225	275	300	200	\$1,250
Electric Distribution	166	250	275	400	450	475	\$1,850
Environmental	3	25	25	25	-	-	\$75
<b>Duke Energy Florida Growth Capital</b>	<b>\$ 1,012</b>	<b>\$ 1,075</b>	<b>\$ 775</b>	<b>\$ 1,000</b>	<b>\$ 1,000</b>	<b>\$ 1,150</b>	<b>\$ 5,000</b>
Maintenance	572	350	375	425	450	450	2,050
<b>Total Duke Energy Florida Capital</b>	<b>\$ 1,584</b>	<b>\$ 1,425</b>	<b>\$ 1,150</b>	<b>\$ 1,425</b>	<b>\$ 1,450</b>	<b>\$ 1,600</b>	<b>\$ 7,050</b>

Duke Energy Indiana	2016A	2017E	2018E	2019E	2020E	2021E	2017 - 2021
Electric Generation	\$55	\$75	\$125	\$125	\$75	\$50	\$450
Electric Transmission	94	150	150	150	175	175	\$800
Electric Distribution	126	225	250	250	225	200	\$1,150
Environmental <sup>(2)</sup>	238	250	125	125	125	125	\$750
<b>Duke Energy Indiana Growth Capital</b>	<b>\$ 513</b>	<b>\$ 700</b>	<b>\$ 650</b>	<b>\$ 650</b>	<b>\$ 600</b>	<b>\$ 550</b>	<b>\$ 3,150</b>
Maintenance	283	150	125	200	150	125	750
<b>Total Duke Energy Indiana Capital</b>	<b>\$ 796</b>	<b>\$ 850</b>	<b>\$ 775</b>	<b>\$ 850</b>	<b>\$ 750</b>	<b>\$ 675</b>	<b>\$ 3,900</b>

(1) As originally discussed on the Fourth Quarter 2016 Earnings Review and Business Update on Feb. 16, 2017; amounts include AFUDC debt

(2) 2016 actual amounts include \$45 million in coal ash closure spending that was included in operating cash flows



# Capital expenditures by utility (continued)<sup>(1)</sup>



(\$ in millions)

Duke Energy OH/KY Electric	2016A	2017E	2018E	2019E	2020E	2021E	2017 - 2021
Electric Generation	\$0	\$25	\$25	\$25	\$0	\$0	\$75
Electric Transmission	75	125	150	100	125	100	600
Electric Distribution	168	225	225	250	250	250	1,200
Environmental <sup>(2)</sup>	29	50	75	50	-	-	175
<b>Duke Energy OH/KY Growth Capital</b>	<b>\$272</b>	<b>\$425</b>	<b>\$475</b>	<b>\$425</b>	<b>\$375</b>	<b>\$350</b>	<b>\$2,050</b>
Maintenance	58	100	125	75	100	50	450
<b>Total Duke Energy OH/KY Electric Capital</b>	<b>\$330</b>	<b>\$525</b>	<b>\$600</b>	<b>\$500</b>	<b>\$475</b>	<b>\$400</b>	<b>\$2,500</b>

Duke Energy OH/KY Gas	2016A	2017E	2018E	2019E	2020E	2021E	2017 - 2021
LDC - Non-Rider	\$86	\$75	\$100	\$50	\$50	\$50	\$325
LDC - Rider	15	-	-	-	-	-	-
<b>Duke Energy OH/KY Gas Growth Capital</b>	<b>\$101</b>	<b>\$75</b>	<b>\$100</b>	<b>\$50</b>	<b>\$50</b>	<b>\$50</b>	<b>325</b>
Maintenance	83	75	75	75	75	75	375
<b>Total Duke Energy OH/KY Gas Capital</b>	<b>\$184</b>	<b>\$150</b>	<b>\$175</b>	<b>\$125</b>	<b>\$125</b>	<b>\$125</b>	<b>\$700</b>

Piedmont	2016A	2017E	2018E	2019E	2020E	2021E	2017 - 2021
LDC - Non-Rider	\$36	\$250	\$450	\$375	\$250	\$150	\$1,475
LDC - Rider	60	325	300	225	300	175	1,325
<b>Piedmont Growth Capital</b>	<b>\$96</b>	<b>\$575</b>	<b>\$750</b>	<b>\$600</b>	<b>\$550</b>	<b>\$325</b>	<b>2,800</b>
Maintenance	19	100	125	100	75	100	500
<b>Total Piedmont Capital</b>	<b>\$115</b>	<b>\$675</b>	<b>\$875</b>	<b>\$700</b>	<b>\$625</b>	<b>\$425</b>	<b>\$3,300</b>

(1) As originally discussed on the Fourth Quarter 2016 Earnings Review and Business Update on Feb. 16, 2017; amounts include AFUDC debt

(2) 2016 actual amounts include \$5 million in coal ash closure spending that was included in operating cash flows

# Environmental compliance expenditures by category<sup>(1)</sup>

(\$ in millions)

Category	2017 – 2021
Air (MATS)	\$110
Water (316b)	\$320
Waste (conversions) <sup>(2)</sup>	\$770
Waste (closure)	\$3,150
<b>Total</b>	<b>\$4,350</b>

Coal Ash Closure Costs	Total Project Costs	Spend To Date <sup>(3)</sup>	2017 – 2021 Plan
Duke Energy Carolinas	\$2,620	\$460	\$1,140
Duke Energy Progress	\$2,550	\$310	\$1,420
Duke Energy Indiana	\$960	\$60	\$510
Duke Energy Florida	\$40	-	\$40
Duke Energy Kentucky	\$50	\$10	\$40
<b>Total</b>	<b>\$6,220</b>	<b>\$840</b>	<b>\$3,150</b>

Expenditures for waste conversion to dry ash handling by jurisdiction:

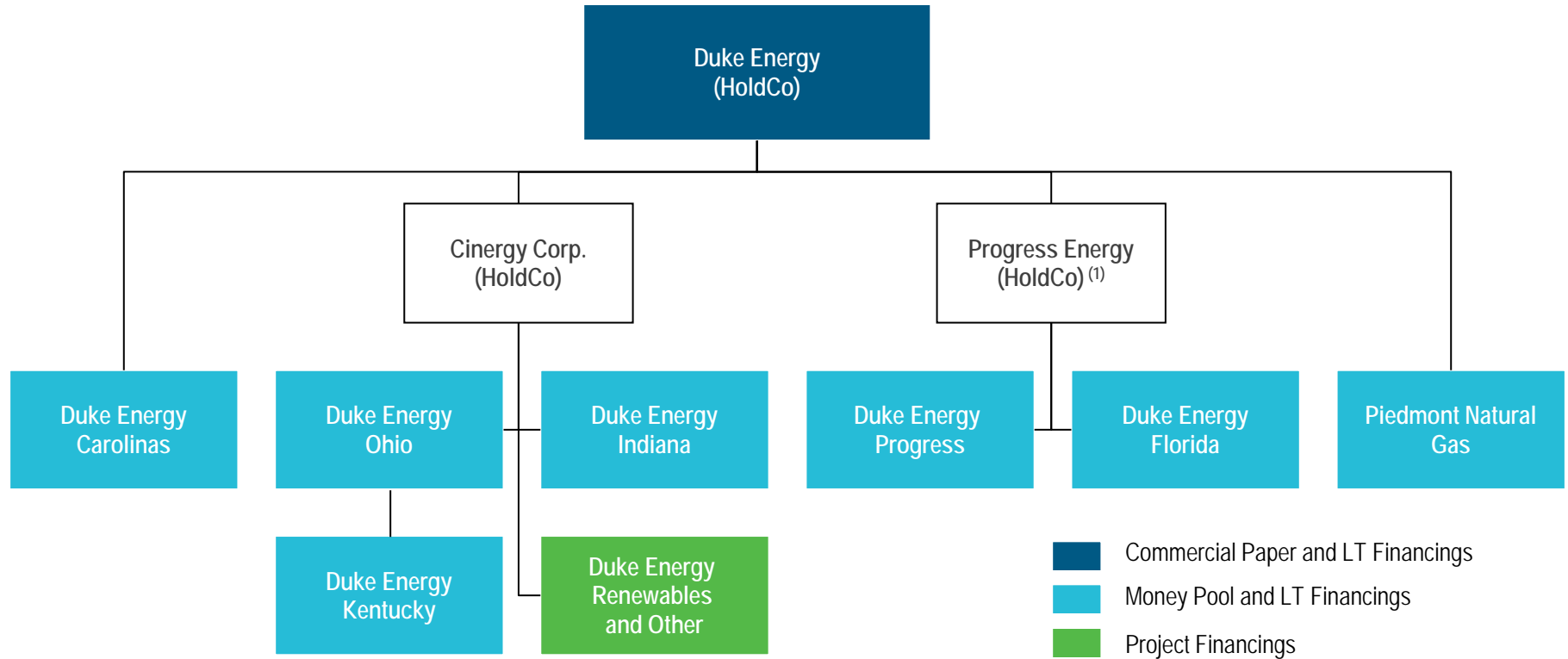
- Carolinas: ~\$525 million
- Midwest: ~\$245 million

(1) As originally discussed on the Fourth Quarter 2016 Earnings Review and Business Update on Feb. 16, 2017

(2) Includes estimated wastewater treatment compliance expenditures associated with Steam Effluent Limitation Guidelines (ELG)

(3) As of Dec. 31, 2016

## Financing assumptions



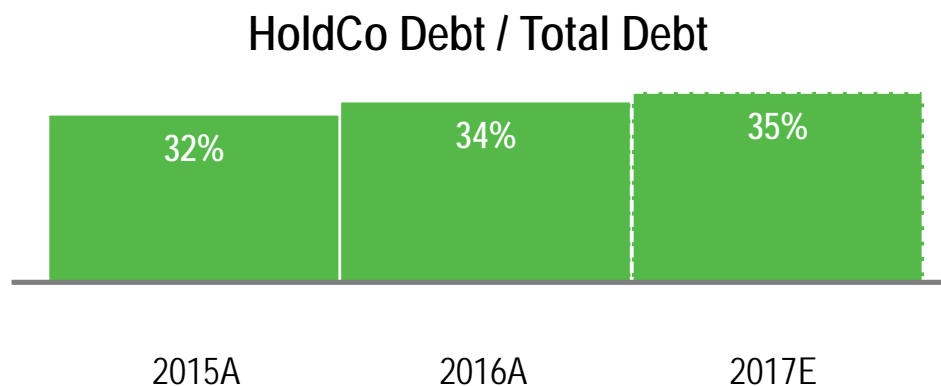
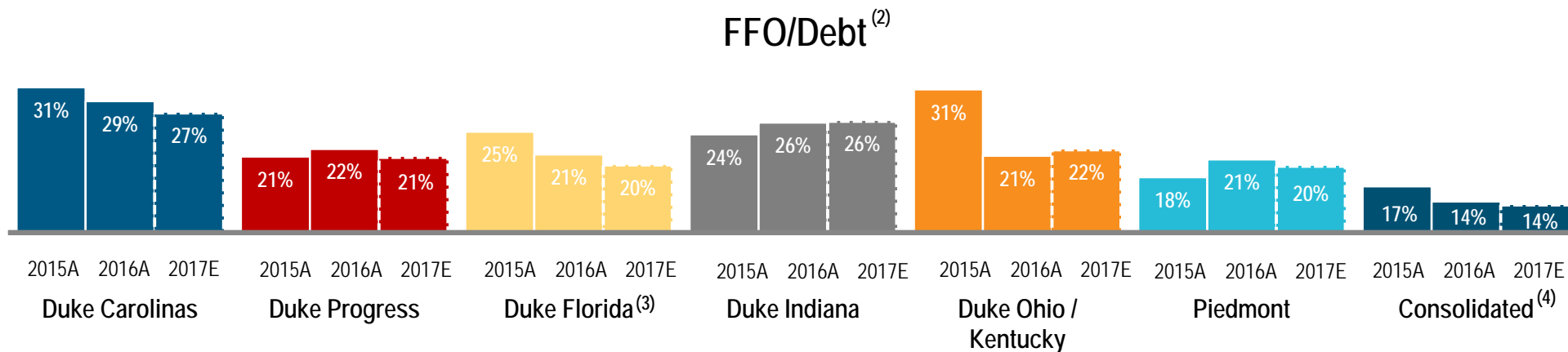
(1) Progress Energy HoldCo has long-term debt outstanding, but no future issuance is planned at this financing entity

## Holding Companies

	Fitch	Moody's	S&P
<b>DUKE ENERGY</b>	Negative	Stable	Stable
Senior Unsecured Debt	BBB+	Baa1	BBB+
Commercial Paper	F-2	P-2	A-2
<b>PROGRESS ENERGY</b>		Stable	Stable
Senior Unsecured Debt		Baa2	BBB+

## Operating Companies

	Moody's	S&P
<b>DUKE ENERGY CAROLINAS</b>	Stable	Stable
Senior Secured Debt	Aa2	A
Senior Unsecured Debt	A1	A-
<b>DUKE ENERGY PROGRESS</b>	Stable	Stable
Senior Secured Debt	Aa3	A
<b>DUKE ENERGY FLORIDA</b>	Stable	Stable
Senior Secured Debt	A1	A
Senior Unsecured Debt	A3	A-
<b>DUKE ENERGY INDIANA</b>	Stable	Stable
Senior Secured Debt	Aa3	A
Senior Unsecured Debt	A2	A-
<b>DUKE ENERGY OHIO</b>	Positive	Stable
Senior Secured Debt	A2	A
Senior Unsecured Debt	Baa1	A-
<b>DUKE ENERGY KENTUCKY</b>	Stable	Stable
Senior Unsecured Debt	Baa1	A-
<b>PIEDMONT NATURAL GAS</b>	Stable	Stable
Senior Unsecured Debt	A2	A-
Commercial Paper	P-1	A-2



(1) Amounts are not to scale and do not include all adjustments that may be made by the rating agencies; 2017E figures are original assumptions as disclosed on Feb. 16, 2017

(2) FFO excludes asset retirement obligation costs (after tax amount calculated using a 38% tax rate as a simplifying assumption)

(3) Assumes CR-3 securitization treated as off credit

(4) Consolidated metrics exclude increases to debt associated with purchase accounting

## KEY MESSAGES

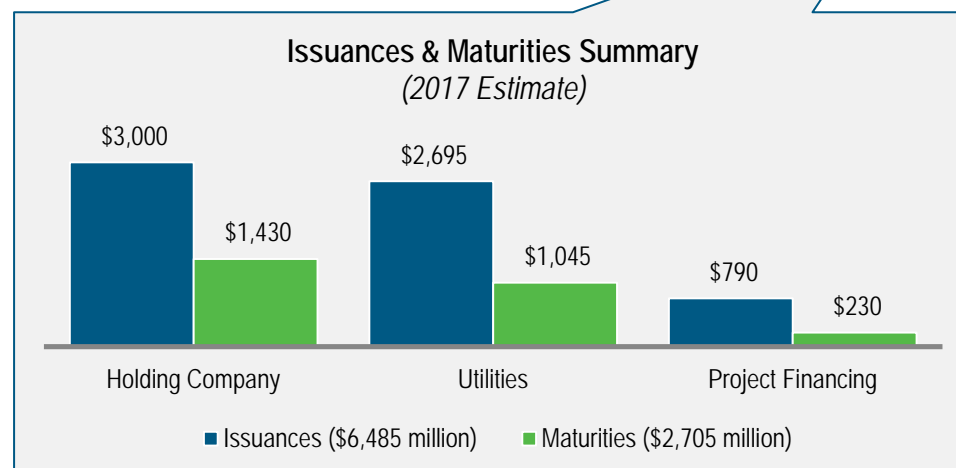
- Committed to maintaining strong credit quality, including investment-grade ratings
  - In January S&P affirmed DUK ratings and revised outlook from negative to stable
- Base plan assumes \$350 million of DRIP equity issuances per year 2018 – 2021
- Credit metrics strengthen over the planning horizon

## PRIMARY CREDIT METRICS

Metric	Target	2017E	2021E
FFO / Debt	> 16%	~14%	~17%
Holdco Debt Percentage	Low 30%'s	~35%	~34%

## FORECASTED 2017 SUMMARY CASH FLOWS <sup>(1)</sup>

Adjusted net income (based on midpoint of 2017 guidance range)	\$ 3,225
Depreciation & amortization	4,100
Deferred and accrued taxes	1,450
Other sources / (uses), net <sup>(2)</sup>	(940)
<b>Primary sources</b>	<b>7,835</b>
Capital expenditures	(9,425)
Dividends (subject to Board of Directors discretion)	(2,450)
<b>Primary uses</b>	<b>(11,875)</b>
Uses in excess of sources	(4,040)
Net Change in debt	3,780
<b>Net Change in Cash</b>	<b>(260)</b>

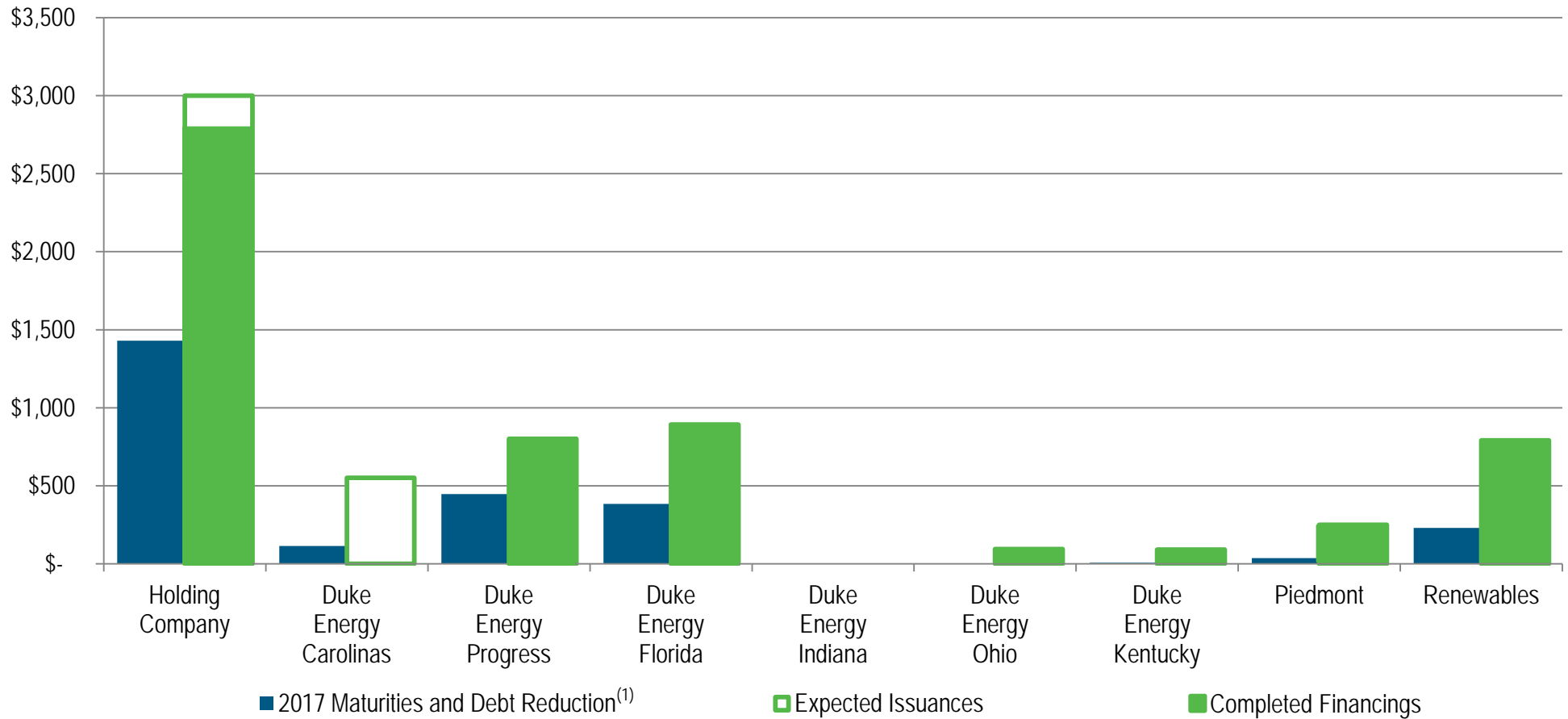


(1) As originally discussed on the Fourth Quarter 2016 Earnings Review and Business Update on Feb. 16, 2017; financing plan is subject to change, based on circumstances encountered throughout the year

(2) Includes changes in working capital, AFUDC equity, and pension contributions

# 2017 financing plan (as of September 30, 2017)

(\$ in millions)



(1) Debt maturities and debt reduction reflect estimated net changes in commercial paper and notes payable



# Access to capital – 2017 long-term debt financing activity

Amount (\$ in millions)	Entity	Date Issued	Credit Ratings (M/S&P, unless otherwise noted)	Term	Type	Rate
\$650	DE Florida	January 2017	A1/A	10 Year	First Mortgage Bond	Fixed – 3.200%
\$250	DE Florida	January 2017	A1/A	3 Year	First Mortgage Bond	Fixed – 1.850%
\$100	DE Ohio	March 2017	A2/A	29.2 Year <sup>(1)</sup>	First Mortgage Bond	Fixed – 3.70%
\$587	Texoma Wind	February 2017	BBB- <sup>(2)</sup>	17.4 Year <sup>(3)</sup>	Secured	Fixed – 4.12%
\$420	Holdco <sup>(4)</sup>	April 2017	N/A	8 Year	Senior Notes	Fixed – 3.364%
\$330	Holdco <sup>(4)</sup>	June 2017	Baa1/BBB+	3 Year	Senior Notes	Fixed – 2.100%
\$270 <sup>(5)</sup>	Holdco	June 2017	N/A	3 Year	Revolving Credit Facility	Floating
\$125 <sup>(6)</sup>	Piedmont	June 2017	N/A	1.5 Year	Term Loan	Floating
\$233	High Noon Solar	August 2017	BBB- <sup>(2)</sup>	19.4 Year <sup>(3)</sup>	Secured	Fixed – 4.11%
\$500	Holdco	August 2017	Baa1/BBB+	5 Year	Senior Notes	Fixed – 2.400%
\$750	Holdco	August 2017	Baa1/BBB+	10 Year	Senior Notes	Fixed – 3.150%
\$500	Holdco	August 2017	Baa1/BBB+	30 Year	Senior Notes	Fixed – 3.950%
\$300	DE Progress	September 2017	Aa3/A	3 Year	First Mortgage Bond	Floating
\$500	DE Progress	September 2017	Aa3/A	30 Year	First Mortgage Bond	Fixed – 3.600%
\$30	DE Kentucky	September 2017	N/A	12 Year	Debentures	Fixed – 3.35%
\$30	DE Kentucky	September 2017	N/A	30 Year	Debentures	Fixed – 4.11%
\$30	DE Kentucky	September 2017	N/A	40 Year	Debentures	Fixed – 4.26%
\$125 <sup>(7)</sup>	Piedmont	September 2017	N/A	1.5 Year	Term Loan	Floating

(1) Re-opener of \$250 million 3.70% first mortgage bonds originally issued in June 2016 and due 2046

(2) As rated by Kroll Bond Rating Agency, Inc.

(3) Notes are amortizing, represents final year of maturity

(4) Issuance privately placed

(5) Amount drawn on a \$1 billion revolving credit facility

(6) First draw on \$250 million term loan

(7) Second draw on \$250 million term loan

# Liquidity summary (as of September 30, 2017)



(\$ in millions)

	Duke Energy	Duke Energy Carolinas	Duke Energy Progress	Duke Energy Florida	Duke Energy Indiana	Duke Energy Ohio	Duke Energy Kentucky	Piedmont Natural Gas	Total
Master Credit Facility <sup>(1)</sup>	\$ 2,850	\$ 1,350	\$ 1,250	\$ 1,000	\$ 600	\$ 300	\$ 150	\$ 500	\$ 8,000
Less: Notes payable and commercial paper <sup>(2)</sup>	(404)	(636)	(150)	-	(150)	-	(25)	(204)	(1,569)
Coal Ash Set-Aside	-	(250)	(250)	-	-	-	-	-	(500)
Outstanding letters of credit (LOCs)	(51)	(4)	(2)	(1)	-	-	-	(2)	(60)
Tax-exempt bonds	-	-	-	-	(81)	-	-	-	(81)
Available capacity	\$ 2,395	\$ 460	\$ 848	\$ 999	\$ 369	\$ 300	\$ 125	\$ 294	\$ 5,790
Other Credit Facilities <sup>(3)</sup>	\$ 1,000							\$ 250	\$ 1,250
Less: Borrowings Under Credit Facilities	(270)							(250)	(520)
Available capacity	\$ 730	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 730
Cash & short-term investments <sup>(4)</sup>									198
<b>Total available liquidity</b>									<b>\$ 6,718</b>

(1) Master Credit Facility supports tax-exempt put bonds, LOCs and the Duke Energy commercial paper program of \$4.85 billion

(2) Includes permanent layer of commercial paper of \$625 million, which is classified as long-term debt

(3) Duke Energy's 3-year funded revolver of \$1 billion and Piedmont's 18-month term loan of \$250 million

(4) Represents cash available to meet funding needs

## Regulatory overview

	Pre-Filing Notice	Filed Rate Case	Intervenor Testimony	Duke Rebuttal Testimony	Evidentiary Hearings Begin	Notes
DEP NC	May 2, 2017	June 1, 2017	Oct. 20, 2017	Nov. 6, 2017	Nov. 20, 2017	<ul style="list-style-type: none"> <li>• Docket: E-2 Sub 1142</li> <li>• Base rate case</li> <li>• Rates effective Feb. 1, 2018, if approved</li> </ul>
DEC NC	July 25, 2017	Aug. 25, 2017	Jan. 19, 2018	Feb. 2, 2018	Feb. 19, 2018	<ul style="list-style-type: none"> <li>• Docket: E-7 Sub 1146</li> <li>• Base rate Case</li> <li>• Rates effective May 1, 2018, if approved</li> </ul>
DEO	Jan. 31, 2017	March 2, 2017	Sept. 26, 2017	Oct. 26, 2017	Dec. 11, 2017	<ul style="list-style-type: none"> <li>• Docket: Case No. 17-32-EL-AIR</li> <li>• Distribution rate case</li> <li>• The filing will consolidate recovery from certain existing capital riders into base rates</li> </ul>
DEK	Aug. 2, 2017	Sept. 15, 2017	Dec. 29, 2017	Feb. 14, 2018	TBD	<ul style="list-style-type: none"> <li>• Docket: Case No. 2017-00321</li> <li>• Base rate Case</li> <li>• Rates effective April 2018, if approved</li> </ul>

# Current electric rate information by jurisdiction

	North Carolina	South Carolina	Florida	Indiana	Ohio (Electric)	Kentucky (Electric)
Retail Rate Base	\$15.7 B <sup>(1)</sup> (DEC) \$8.0 B <sup>(1)</sup> (DEP)		\$10.0 B <sup>(2)</sup>	\$7.1 B <sup>(3)</sup>	\$1.1 B	\$600 M <sup>(4)</sup>
Wholesale Rate Base	\$1.5 B (DEC) 3Q 2016 \$2.9 B (DEP) 3Q 2016		\$1.1 B <sup>(2)</sup>	\$600 M	\$0.4 M (trans. only)	\$0
Allowed ROE	10.20% (DEC & DEP)	10.20% (DEC) 10.10% (DEP)	10.50% <sup>(5)</sup>	10.50%	9.84% - Dist 11.38% - Trans	N/A per settlement
Allowed Equity	53.0% (DEC & DEP)	53.0% (DEC & DEP)	47.34% <sup>(6)</sup>	44.44% <sup>(7)</sup>	53.3%	51.0%
Effective Date of Most Recent Rates	9/24/13 (DEC) 6/1/13 (DEP)	9/17/13 (DEC) 1/1/2017 (DEP)	1/1/13	5/24/04	Distr: 5/5/13 Trans 6/1/16 ESP: 6/1/15	1/1/07
Fuel Clause Updated	Annually (DEC and DEP)	Annually (DEC and DEP)	Annually	Quarterly	Annually for Non-Shoppers	Monthly
Environmental Clause Updated	N/A	N/A	Annually	Semi-Annually	Quarterly	N/A
Nuclear Clause/Rider Updated	N/A	Not currently active (DEC and DEP)	Annually	N/A	N/A	N/A

(1) DEC's rate base as of September 2013. DEP NC's rate base as of May 2013. DEP SC as of December 2016.

(2) Thirteen-month average as of December 2016. Retail rate base includes amounts recovered in base rates of \$9.5B and amounts recovered in trackers of \$.5B.

(3) As of Dec. 31, 2016; includes amounts being recovered in base rates of \$3.7B, amounts being recovered in environmental trackers of \$1.1B, and amounts being recovered in IGCC trackers of \$2.3B

(4) Kentucky allows recovery on total capitalization instead of rate base

(5) Represents the mid-point of an authorized range from 9.5% to 11.5%

(6) Florida's capital structure includes accumulated deferred income taxes (ADIT), customer deposits and investment tax credits (ITC) and is as of Dec. 31, 2012. Excluding these items, the capital structure approximates 53% equity

(7) Indiana's capital structure includes ADIT. When ADIT is excluded, resulting cap structure approximates 53% equity

## General Rate Case Provisions

	North Carolina	South Carolina	Florida	Indiana	Ohio (Electric)	Kentucky (Electric)
Notice of Intent Required?	Yes	Yes	Yes	Yes <sup>(1)</sup>	Yes	Yes
Notice Period	30 Days	30 Days	60 Days	Varies	30 Days	28 Days
Test Year	Historical Adjusted for Known and Measureable Changes	Historical Adjusted for Known and Measureable Changes	Projected	Optional <sup>(2)</sup>	Partially Projected	Forecast Optional
Time Limitation Between Cases	No	12 months <sup>(3)</sup>	No	15 Months	No	No
Rates Effective Subject to Refund	7 Months After Filing	6 Months After Filing <sup>(4)</sup>	8 Months After Filing	10 Months After Filing <sup>(5)</sup>	9 Months After Filing	6 Months After Filing <sup>(6)</sup>

(1) IURC recommended procedure. Not a statutory requirement

(2) Utilities may elect to a historical test period, a forward-looking test period, or a hybrid test year in the context of a general rate case

(3) Our current settlement from the 2016 rate case in DEP SC precludes implementing new rates until 2019

(4) If the South Carolina Commission fails to rule on a rate case filing within 6 months, the new rates can be implemented and are not subject to refund. There is a grace period here. The Company would have to notify the Commission that it planned to put rates in and the Commission would then have 10 additional days to issue an order

(5) The utility may implement interim rates, subject to refund, if the IURC has not rendered a decision within 10 months of filing (can be extended 60 days by IURC). The interim rates are not to exceed 50% of the original request

(6) The effective date is 7 months after filing for a forecasted test year

# Current gas rate information by jurisdiction

	North Carolina	South Carolina	Tennessee	Ohio (Gas)	Kentucky (Gas)
Rate Base (\$M)	\$1,822	\$224	\$349	\$900 <sup>(1)</sup>	\$200 <sup>(2)</sup>
Allowed ROE	10.0%	10.2%	10.2%	9.84%	10.38%
Allowed Equity	50.7%	53.0%	52.7%	53.3%	50.8%
Effective Date of Most Recent Rates	1/1/14	11/1/16 <sup>(3)</sup>	3/1/12	12/1/13	1/1/10
Significant Rider Mechanisms	Margin Decoupling Tariff Integrity Management Fuel Clause	Rate Stabilization Adj. Weather Normalization Adj. Fuel Clause	Weather Normalization Adj. Integrity Management Fuel Clause	AMRP Fuel Clause	ASRP <sup>(4)</sup> Fuel Clause

(1) Excludes all rate base related to capital recovery that is being tracked (e.g., AMRP and AU after 3/31/2012)

(2) Reflects only the investment subject to KPSC jurisdiction

(3) Rates refreshed annually under the South Carolina Rate Stabilization Act (RSA) if earned ROE is outside a band of 50 bps around the previously authorized ROE

(4) Recovers incremental costs for the Accelerated Service Line Replacement (ASRP) Program

## Electric Utilities and Infrastructure Supplement



**EIGHT UTILITIES IN HIGH-QUALITY REGIONS OF THE U.S.**

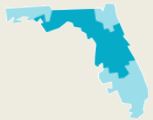
**CAROLINAS**



Duke Energy Carolinas (NC/SC)

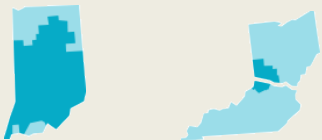
Duke Energy Progress (NC/SC)

**FLORIDA**



Duke Energy Florida

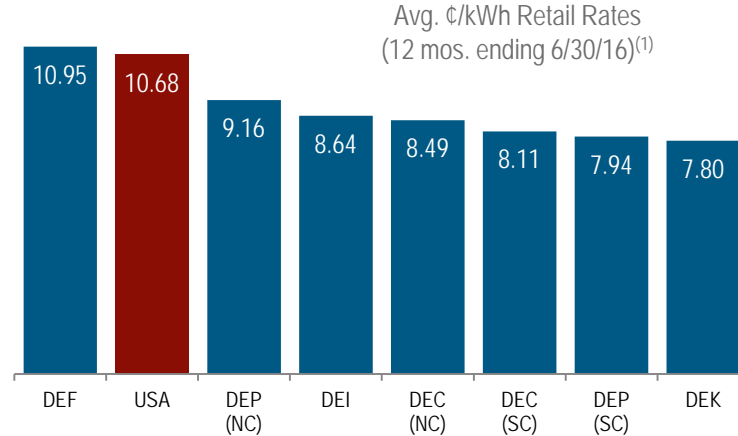
**MIDWEST**



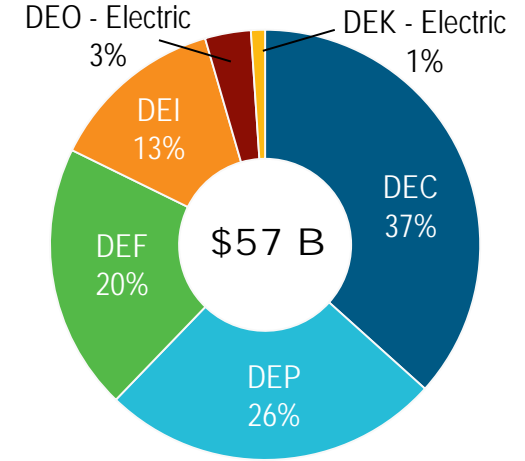
Duke Energy Indiana

Duke Energy Ohio / Kentucky

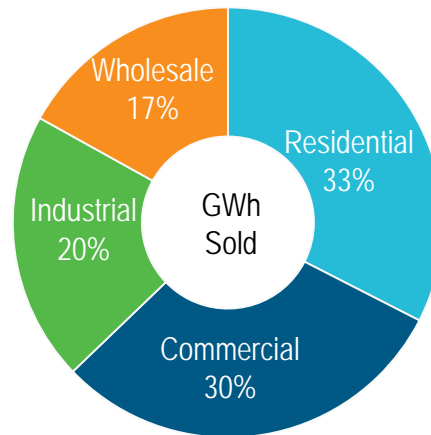
**COMPETITIVE CUSTOMER RATES**



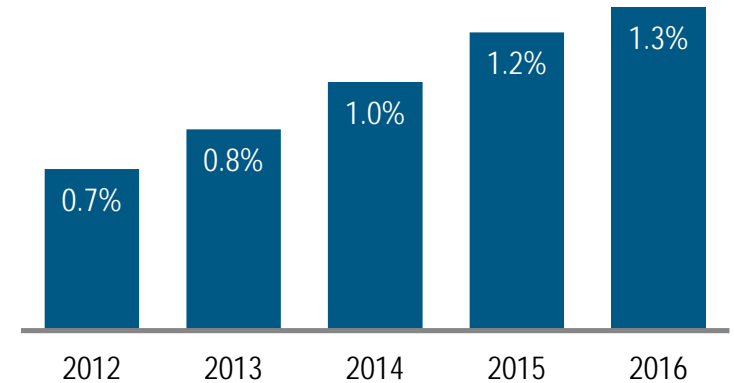
**REGULATED ELECTRIC 2016 EARNINGS BASE**



**BALANCED CUSTOMER MIX**



**STRONG CUSTOMER GROWTH**

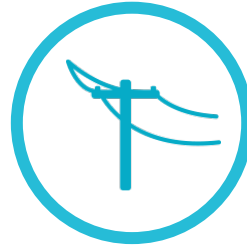


(1) Vertically integrated utilities only. Source: EEI Typical Bills and Avg. Rates Report Summer 2016

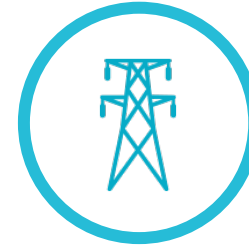


DUKE ENERGY  
FLORIDA

PROUD OF OUR  
EMPLOYEE RESPONSE  
TO ONE OF THE MOST  
DEVASTATING HURRICANES  
TO IMPACT OUR SERVICE  
TERRITORY



1,841  
Distribution poles  
replaced  
178  
Miles of wire  
replaced  
1,106  
Transformers  
replaced



141  
Transmission  
poles replaced



~1.3 million  
Customers  
affected  
>75%  
Restored in 3 days  
>99%  
Restored in 8 days



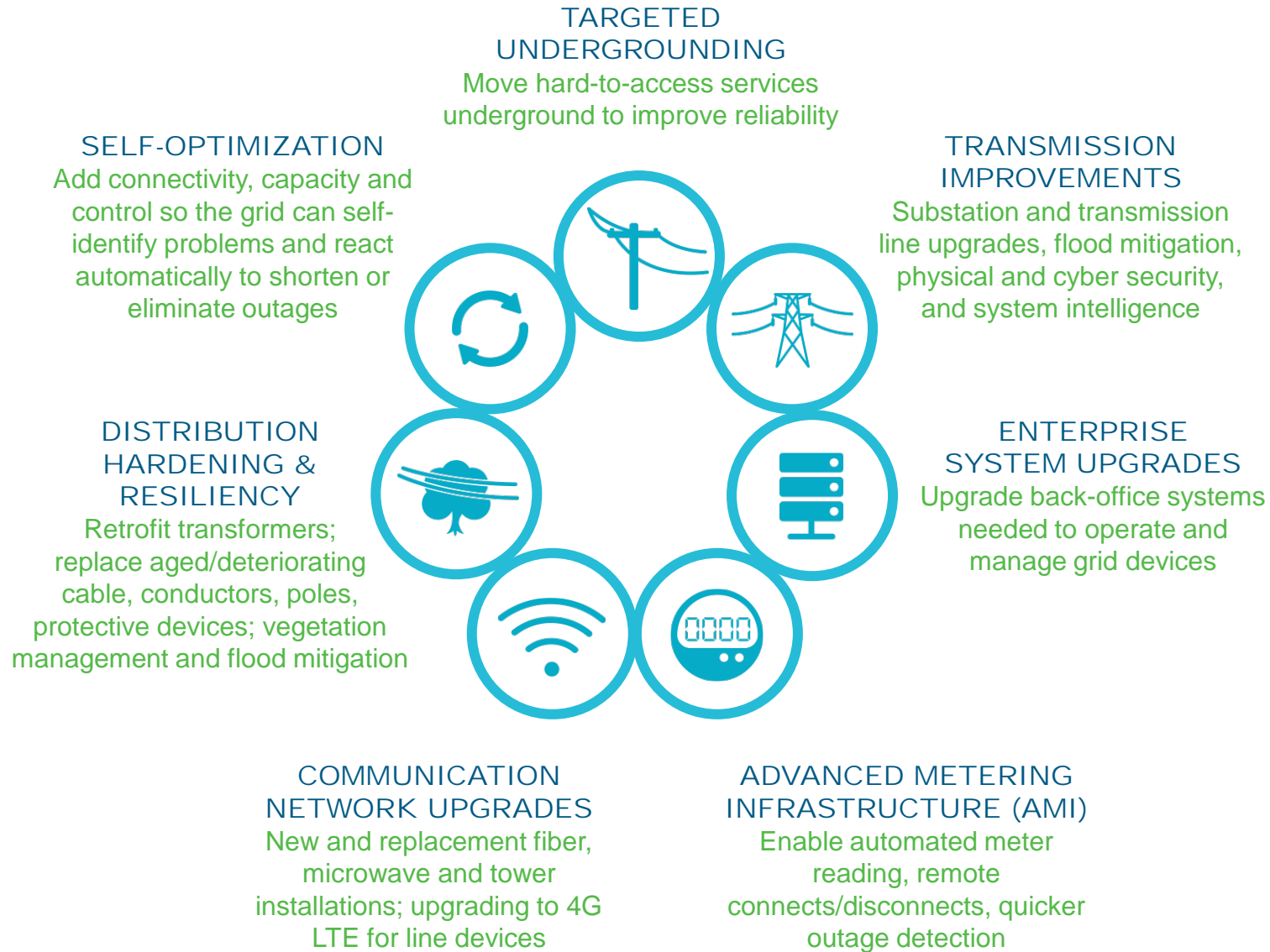
>12,000  
Line and field  
workers



2.6 million  
Calls answered



\$1 million  
Relief donations



## Gas Utilities and Infrastructure Supplement

## North Carolina Regulatory Highlights

- Allows revenue decoupling mechanisms
- Integrity Management Rider (IMR) allows for recovery of capital expenditures to comply with federal pipeline safety and integrity requirements outside of a general rate case
- Rate Case History:
  - Dec 2013: 10% ROE; 50.7% Equity Ratio; \$1.8 B Rate Base
  - Oct 2008: 10.6% ROE; 51% Equity Ratio; \$1.3 B Rate Base



## North Carolina IMR

- On September 4, 2015, Piedmont reached an IMR settlement with the NC Public Staff
- Settlement seeks to create regulatory certainty, balance interests of Piedmont shareholders and customers, and recognize ancillary operational benefits of system integrity expenditures
- Biannual rate adjustments each December 1 and June 1 based on system integrity investments closed to plant at September 30 and March 31
- Extension of the IMR tariff from Oct. 31, 2017 to Oct. 31, 2019
- Established procedural timeline for Public Staff's annual review of the IMR filings
- Fixed percentages of various classes of system integrity expenditures to be recovered through IMR with remaining to be recovered through future rate case:
  - Transmission Integrity: 85% IMR / 15% rate case
  - Distribution Integrity: 90% IMR / 10% rate case
  - Right-of-way clearing for integrity projects: 15% IMR / 85% rate case
  - Work and asset management system: 68% IMR / 32% rate case
- Tax-related adjustments
- Effective Nov. 1, 2015

## South Carolina Regulatory Highlights

- Gas utilities are permitted to adjust rates annually under the Rate Stabilization Act (RSA) if earned ROE is outside a band of  $\pm 50$  basis points around the previously authorized ROE
- Weather normalization mechanisms

## Tennessee Regulatory Highlights

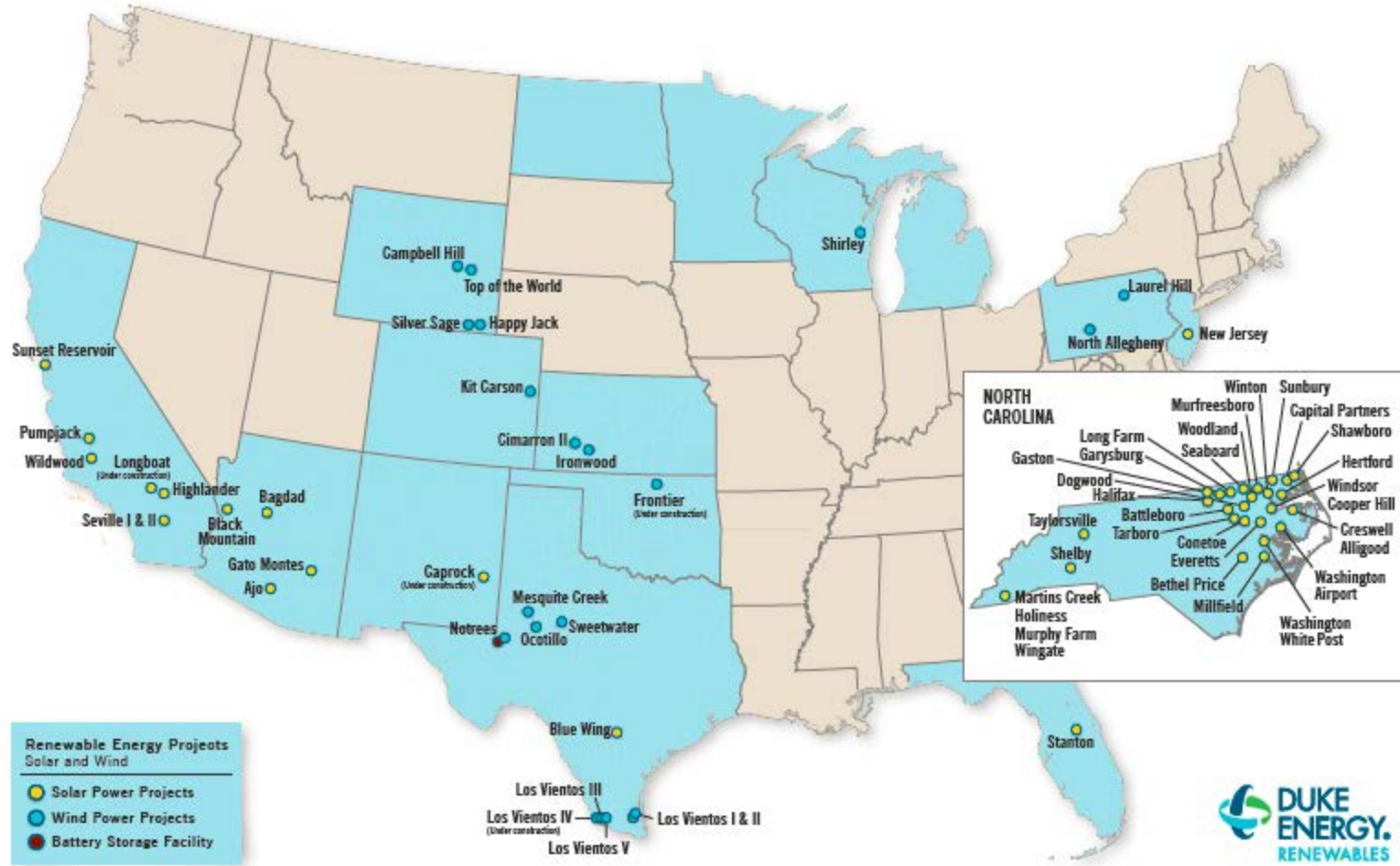
- Gas utilities can recover commodity costs through automatic adjustment clauses
- Purchased gas adjustment clauses
- Weather normalization clauses
- Incentive mechanisms related to gas procurement, capacity release, and off-system sales
- IMR allows recovery of costs associated with system integrity projects outside of base rate proceedings
- Rate Case History:
  - March 2012: 10.2% ROE; 53% Equity Ratio; \$349 M Rate Base
  - November 2003: blackbox settlement on ROE; \$260 M Rate Base

## Margin Stabilizing Mechanisms

1. Purchased Gas Adjustment	All States
2. Recovery of Negotiated Industrial Rates	All States
3. Uncollectible Recovery – Gas Costs	All States
4. Secondary Marketing Programs	All States
6. Margin Decoupling Tariff	North Carolina
7. Rate Stabilization Tariff	South Carolina
8. Weather Normalization Adjustment	South Carolina & Tennessee
9. Integrity Management Riders	North Carolina & Tennessee

## Commercial Renewables Supplement

## Duke Energy Renewables U.S. Portfolio



**Renewable Energy Projects**  
Solar and Wind

- Solar Power Projects
- Wind Power Projects
- Battery Storage Facility



(1) A full list of generation facilities can be found at [https://www.duke-energy.com//\\_media/pdfs/our-company/renewables-n-america-facilities.pdf](https://www.duke-energy.com//_media/pdfs/our-company/renewables-n-america-facilities.pdf)



## INVESTMENT TAX CREDITS

- Current ITC available is 30 percent for wind and solar projects
- The solar ITC will step down from 30% to 10%\*
- ITCs reduce the book basis of the asset, which is recognized over the life of the plant through lower depreciation expense**
- ITCs provide an initial deferred tax benefit equal to 50 percent of the total ITC – recognized in year one**

## HIGH LEVEL ITC EXAMPLE

Project Cost	\$500 million
30% ITC Cash Benefit	\$150 million
Life of Asset	20 Years
Free Basis (1/2 of ITC)	\$75 million
<b>Year One Deferred Tax Benefit (Free Basis x 35%)</b>	<b>\$26.3 million</b>
<b>Annual reduction in depreciation expense from ITC benefit over project life</b>	<b>\$7.5 million</b>

## PRODUCTION TAX CREDITS

- Primarily recognized on wind projects
- PTC benefits are recognized over the first 10 years of operation, as the facility generates energy



\* Projects that start construction by 2019 will receive the current 30% ITC, while projects that begin construction in 2020 and 2021 will receive 26% and 22%, respectively. From 2022 onwards, projects will receive a 10% ITC.



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## Safe Harbor statement

This document includes forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements are based on management's beliefs and assumptions and can often be identified by terms and phrases that include "anticipate," "believe," "intend," "estimate," "expect," "continue," "should," "could," "may," "plan," "project," "predict," "will," "potential," "forecast," "target," "guidance," "outlook" or other similar terminology. Various factors may cause actual results to be materially different than the suggested outcomes within forward-looking statements; accordingly, there is no assurance that such results will be realized. These factors include, but are not limited to: state, federal and foreign legislative and regulatory initiatives, including costs of compliance with existing and future environmental requirements, including those related to climate change, as well as rulings that affect cost and investment recovery or have an impact on rate structures or market prices; the extent and timing of costs and liabilities to comply with federal and state laws, regulations and legal requirements related to coal ash remediation, including amounts for required closure of certain ash impoundments, are uncertain and difficult to estimate; the ability to recover eligible costs, including amounts associated with coal ash impoundment retirement obligations and costs related to significant weather events, and to earn an adequate return on investment through rate case proceedings and the regulatory process; the costs of decommissioning Crystal River Unit 3 and other nuclear facilities could prove to be more extensive than amounts estimated and all costs may not be fully recoverable through the regulatory process; costs and effects of legal and administrative proceedings, settlements, investigations and claims; industrial, commercial and residential growth or decline in service territories or customer bases resulting from sustained downturns of the economy and the economic health of our service territories or variations in customer usage patterns, including energy efficiency efforts and use of alternative energy sources, such as self-generation and distributed generation technologies; federal and state regulations, laws and other efforts designed to promote and expand the use of energy efficiency measures and distributed generation technologies, such as private solar and battery storage, in Duke Energy's service territories could result in customers leaving the electric distribution system, excess generation resources as well as stranded costs; advancements in technology; additional competition in electric and natural gas markets and continued industry consolidation; the influence of weather and other natural phenomena on operations, including the economic, operational and other effects of severe storms, hurricanes, droughts, earthquakes and tornadoes, including extreme weather associated with climate change; the ability to successfully operate electric generating facilities and deliver electricity to customers including direct or indirect effects to the company resulting from an incident that affects the U.S. electric grid or generating resources; the ability to complete necessary or desirable pipeline expansion or infrastructure projects in our natural gas business; operational interruptions to our gas distribution and transmission activities; the availability of adequate interstate pipeline transportation capacity and natural gas supply; the impact on facilities and business from a terrorist attack, cybersecurity threats, data security breaches, and other catastrophic events such as fires, explosions, pandemic health events or other similar occurrences; the inherent risks associated with the operation and potential construction of nuclear facilities, including environmental, health, safety, regulatory and financial risks, including the financial stability of third party service providers; the timing and extent of changes in commodity prices and interest rates and the ability to recover such costs through the regulatory process, where appropriate, and their impact on liquidity positions and the value of underlying assets; the results of financing efforts, including the ability to obtain financing on favorable terms, which can be affected by various factors, including credit ratings, interest rate fluctuations and general economic conditions; the credit ratings may be different from what the company and its subsidiaries expect; declines in the market prices of equity and fixed income securities and resultant cash funding requirements for defined benefit pension plans, other post-retirement benefit plans, and nuclear decommissioning trust funds; construction and development risks associated with the completion of Duke Energy and its subsidiaries' capital investment projects, including risks related to financing, obtaining and complying with terms of permits, meeting construction budgets and schedules, and satisfying operating and environmental performance standards, as well as the ability to recover costs from customers in a timely manner or at all; changes in rules for regional transmission organizations, including changes in rate designs and new and evolving capacity markets, and risks related to obligations created by the default of other participants; the ability to control operation and maintenance costs; the level of creditworthiness of counterparties to transactions; employee workforce factors, including the potential inability to attract and retain key personnel; the ability of subsidiaries to pay dividends or distributions to Duke Energy Corporation holding company (the Parent); the performance of projects undertaken by our nonregulated businesses and the success of efforts to invest in and develop new opportunities; the effect of accounting pronouncements issued periodically by accounting standard-setting bodies; substantial revision to the U.S. tax code, such as changes to the corporate tax rate or a material change in the deductibility of interest; the impact of potential goodwill impairments; the ability to successfully complete future merger, acquisition or divestiture plans; the ability to successfully integrate the natural gas businesses following the acquisition of Piedmont Natural Gas Company, Inc. and realize anticipated benefits; and the ability to implement our business strategy.

Additional risks and uncertainties are identified and discussed in Duke Energy's and its subsidiaries' reports filed with the SEC and available at the SEC's website at [www.sec.gov](http://www.sec.gov). In light of these risks, uncertainties and assumptions, the events described in the forward-looking statements might not occur or might occur to a different extent or at a different time than described. Forward-looking statements speak only as of the date they are made; Duke Energy expressly disclaims an obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.



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# 2016 Financial Review

Annual Report of the U.S. Investor-Owned  
Electric Utility Industry





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Night  $-5^{\circ}\text{C}$



Tomorrow  $1^{\circ}\text{C}$



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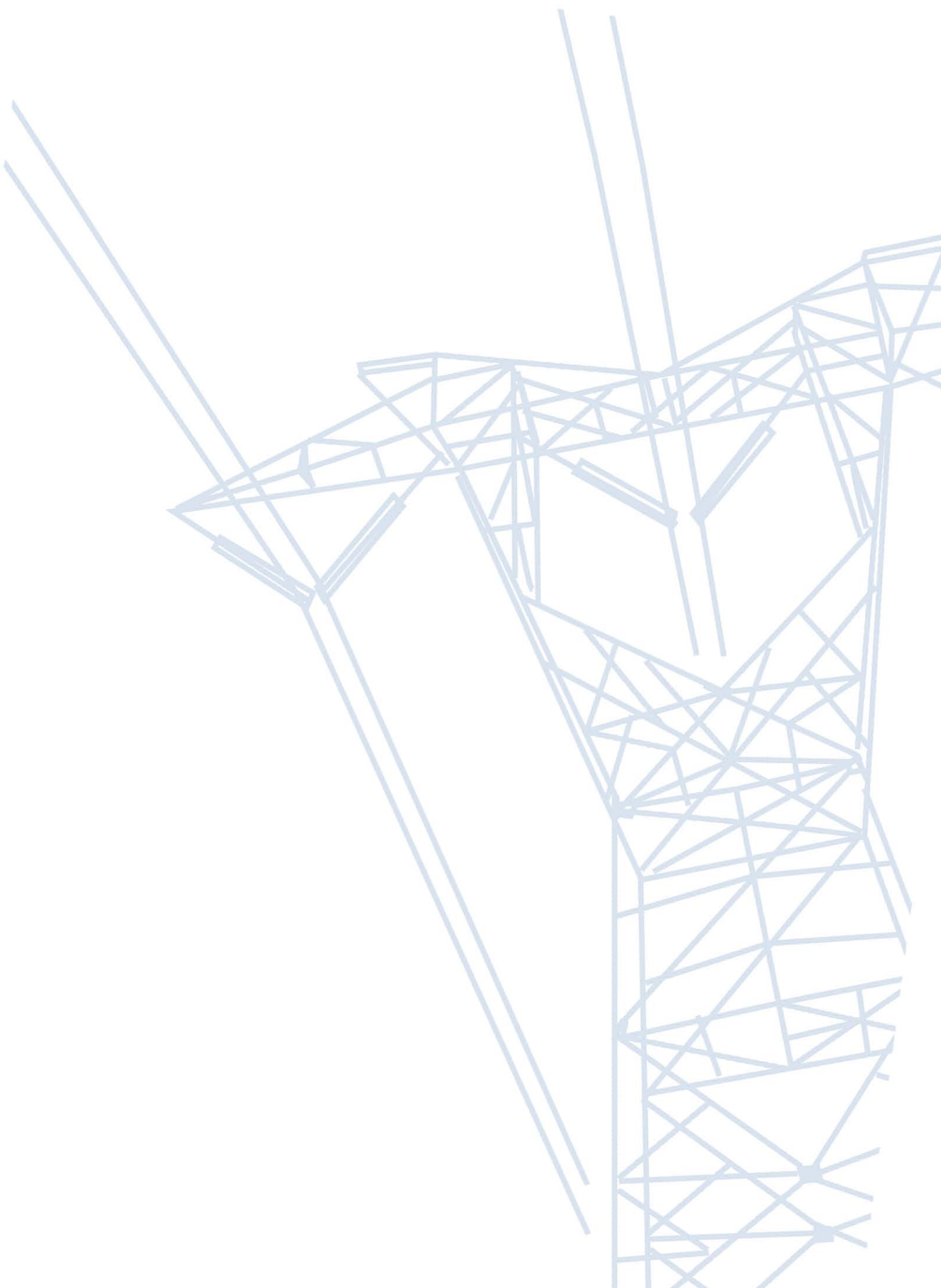
# 2016 FINANCIAL REVIEW

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ANNUAL REPORT  
OF THE U.S. INVESTOR-OWNED  
ELECTRIC UTILITY INDUSTRY

## **About EEI and the Financial Review**

The Edison Electric Institute (EEI) is the association that represents all U.S. investor-owned electric companies. Our U.S. members provide electricity for 220 million Americans and operate in all 50 states and the District of Columbia. As a whole, the electric power industry supports more than 7 million jobs in communities across the U.S. and contributes 5 percent to the nation's GDP. The 2016 Financial Review is a comprehensive source for critical financial data covering 44 investor-owned electric companies whose stocks are publicly traded on major U.S. stock exchanges. The report also includes data on six additional companies that provide regulated electric service in the United States but are not listed on U.S. stock exchanges for one of the following reasons—they are subsidiaries of an independent power producer; they are subsidiaries of foreign-owned companies; or they were acquired by other investment firms. These 50 companies are referred to throughout the publication as the U.S. Investor-Owned Electric Utilities. Please refer to page 101 for a list of these companies.



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## Highlights of 2016

### U.S. INVESTOR-OWNED ELECTRIC UTILITIES

<b>FINANCIAL (\$ Millions)</b>	<b>2016</b>	<b>2015<sup>r</sup></b>	<b>% Change</b>
Total Operating Revenues	350,630	352,160	(0.4%)
Utility Plant (Net)	1,061,974	989,309	7.3%
Total Capitalization	941,396	873,268	7.8%
Earnings Excluding Non-Recurring and Extraordinary Items	46,716	39,949	16.9%
Dividends Paid, Common Stock	23,461	21,938	6.9%

r = revised Note: Percent changes may reflect rounding.

## Abbreviations and Acronyms

AFUDC	Allowance for Funds Used During Construction	kWh	Kilowatt-hour
BTU	British Thermal Unit	M&A	Mergers & Acquisitions
CFTC	Commodity Futures Trading Commission	MW	Megawatt
CPI	Consumer Price Index	MWh	Megawatt-hour
DOE	Department of Energy	NARUC	National Association of Regulatory Utility Commissioners
DOJ	Department of Justice	NERC	North American Electric Reliability Corporation
DPS	Dividends per share	NOx	Nitrogen Oxides
EEI	Edison Electric Institute	NOAA	National Oceanic & Atmospheric Administration
EIA	Energy Information Administration	NRC	Nuclear Regulatory Commission
EITF	Emerging Issues Task Force	O&M	Operations and Maintenance
EPA	Environmental Protection Agency	PSC	Public Service Commission
EPS	Earnings per share	PUC	Public Utility Commission
FASB	Financial Accounting Standards Board	PUHCA	Public Utility Holding Company Act
FERC	Federal Energy Regulatory Commission	PURPA	Public Utility Regulatory Policies Act
GDP	Gross Domestic Product	ROE	Return on Equity
GW	Gigawatt	RTO	Regional Transmission Organization
GWh	Gigawatt-hour	SEC	Securities and Exchange Commission
IPP	Independent Power Producer	SO <sub>2</sub>	Sulfur Dioxide
IRS	Internal Revenue Service	T&D	Transmission & Distribution
ISO	Independent System Operator		
ITC	Independent Transmission Company		



## Company Categories

Three categories are used throughout this publication that group companies on their percentage of total assets that are regulated. These categories are used to provide an informative framework for tracking financial trends:

**Regulated:** Greater than 80% of total assets are regulated.

**Mostly Regulated:** 50% to 80% of total assets are regulated.

**Diversified:** Less than 50% of total assets are regulated.

**EEl**

WISHING

# David K. Owens

**THE BEST IN HIS RETIREMENT**



For nearly four decades, David has provided pioneering leadership to EEl and to our member companies. David will be sorely missed by his colleagues and by a legion of friends and admirers throughout the electric power industry and beyond.



# President's Letter

## 2016 Financial Review

Last year, I wrote to you about the profound transformation that our industry is leading across the nation. As our industry continues to evolve, one thing remains constant—our commitment to meeting customers' needs by building and using smarter energy infrastructure, by providing even cleaner energy, and by creating the energy solutions they want. This commitment guides us, and also provides opportunities to collaborate and make progress on key policy priorities.

To meet customers' changing needs, we are transitioning to even cleaner generation sources and are leading the way on renewables. In just 10 years, the mix of sources used to generate electricity has changed dramatically and is increasingly clean. In 2016, natural gas use surpassed coal as a main source of electricity in the U.S.—the first time that a fuel other than coal has supplied the bulk of the nation's power. Electric companies also are the largest investors in renewable energy in the U.S. Virtually all of the wind, geothermal, and hydropower in the country—and the majority of installed solar capacity—is provided by electric companies.

We are building smarter energy infrastructure, and our investments are creating additional jobs and are making the energy grid more dynamic and more secure for all customers. We are investing in energy efficiency

and are providing customers the energy solutions they want. We also are partnering with leading innovative companies and start-ups to shape the future using technology.

Today, the Edison Electric Institute's (EEI's) member companies connect millions of Americans in their homes, communities, businesses and industries, and around the nation. We are an integral and robust component of our nation's economy. As a whole, the electric power industry supports more than 7 million jobs in communities across the United States—this includes nearly 2.7 million directly provided jobs that result from the industry's operations and investments. We also are creating long-term solutions to address the ongoing need for a skilled, diverse workforce in the future.

As you will see in this year's Financial Review, EEI's investor-owned electric company members continue to build upon a strong financial foundation. The industry's average credit rating was BBB+ for the third straight year in 2016, after increasing from the BBB average that had previously held since 2004. Ratings upgrades were a very favorable 73.1% of total credit actions, resulting from companies' increased focus on regulated operations, achieved through spin-offs and divestitures, as well as the effective management of regulatory risk. The improved credit quality greatly supports the continued surge in capital expenditures, which rose by \$8.5 billion,



or 8.2%, to a new record high of \$112.5 billion in 2016.

For the sixth consecutive year, all of the EEI Index companies paid a dividend in 2016, and strong dividend yields continue to support utility stocks. The industry's dividend yield at the end of 2016 stood at 3.4%, and 40 electric companies, or 91% of the industry, increased their dividend last year, the largest percentage on record.

Looking ahead, I am optimistic about our industry's future. EEI's member companies are committed to providing reliable, affordable, secure, and increasingly clean energy to drive our nation's economy and power our everyday lives. By continuing to lead together on the issues driving the electric power industry's transformation, EEI and our member companies will demonstrate Power by Association, and we will deliver America's energy future.

We truly value the partnership that we share with the financial community.

Thomas R. Kuhn

A handwritten signature in black ink that reads "Thomas R. Kuhn". The signature is fluid and cursive, written in a professional style.

President  
Edison Electric Institute



# Industry Financial Performance

## Income Statement

### Electric Output Increases 0.2% in 2016

As shown in the table *U.S. Electric Output*, the U.S. electric power industry in 2016 made 4,026,393 gigawatt-hours (GWh) of electricity available for distribution in the continental U.S., an increase of 0.2% over 2015's total of 4,019,387 GWh. While 2016 was the fourth consecutive year in which U.S. electric output increased, the year's total was only about 1% above 2006's 3,988,868 GWh and nearly 2% below 2008's 4,062,716 GWh. The electric output data is compiled by the Edison Electric Institute on a weekly basis and represents all electricity placed on the grid in the contiguous 48 states by investor-owned electric utilities, rural electric cooperatives, government power projects and independent power producers.

Five of the nine U.S. power regions experienced an increase in electric output in 2016. The South Central region saw one of the largest year-to-year gains for a fourth consecutive year, with the Southeast, Central Industrial, West Central, and Pacific Northwest regions also showing growth. The New England

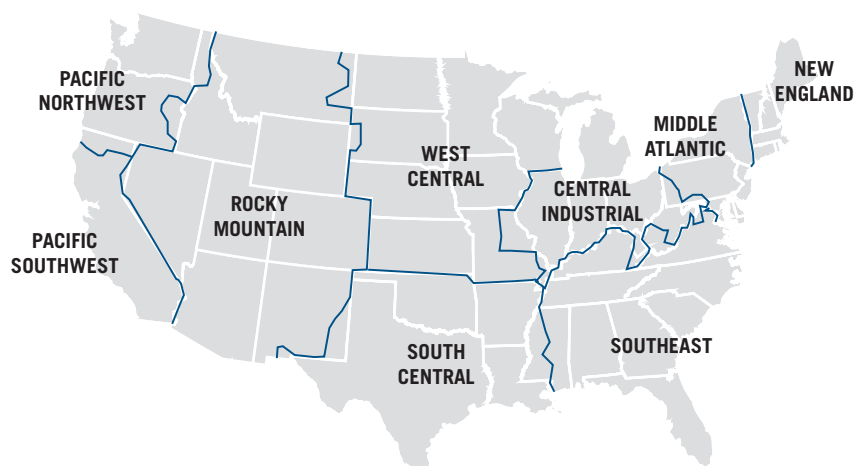
## U.S. Electric Output (GWh) Periods Ending December 31

Region	2016	2015	% Change
New England	123,972	126,894	(2.3%)
Mid-Atlantic	436,080	444,359	(1.9%)
Central Industrial	676,832	674,318	0.4%
West Central	330,753	329,835	0.3%
Southeast	1,031,965	1,020,773	1.1%
South Central	716,334	709,227	1.0%
Rocky Mountain	275,312	276,813	(0.5%)
Pacific Northwest	152,226	152,141	0.1%
Pacific Southwest	282,919	285,027	(0.7%)
<b>Total United States</b>	<b>4,026,393</b>	<b>4,019,387</b>	<b>0.2%</b>

Note: Represents all power placed on grid for distribution to end customers; does not include Alaska or Hawaii.

Source: EEI Business Information Group.

## EEI U.S. Electric Output – Regions



Source: EEI Business Information Group.



region saw the largest decrease in output, at -2.3%. The Mid-Atlantic, Pacific Southwest, and Rocky Mount regions also experienced decreases in output for the year.

EI also calculates weather-normalized output using cooling degree day (CDD) and heating degree day (HDD) data from the National Oceanic and Atmospheric Administration (NOAA) (see table, *U.S. Weather*). On a weather-adjusted basis, electric output decreased in 2016 by 0.1%. The weather-normalized data shows that, similar to the prior year, the New England region had the largest decrease in output, at -2.1%, followed by the Mid-Atlantic region at -1.7%, while the Southeast region had the highest year-to-year increase, at 1.1% (weather-normalized).

U.S. real gross domestic product (GDP) grew 1.6% in 2016, below the 2.6% and 2.4% rates in 2015 and 2014, respectively. While the official unemployment rate fell below 5% in 2016, for the third straight year the percentage of working-age (i.e., aged 16 or above) U.S. citizens in the labor force was below 63%, a level not seen since the late 1970s and more than three percentage points below the 66% level that preceded the recession of 2008/2009. While due in part to demographic factors (e.g., an aging workforce), the lower labor participation rate probably also reflects the fact that some workers have been unable to get back into the labor force since the last economic downturn and are therefore not counted in the unemployment

U.S. Weather January – December 2016					
	Total	Dev from Norm	% Change	Dev from Last Year	% Change
<b>Cooling Degree Days</b>					
New England	794	377	90%	175	28%
Mid-Atlantic	1,039	383	58%	172	20%
East North Central	1,009	301	43%	284	39%
West North Central	1,092	164	18%	121	12%
South Atlantic	2,493	528	27%	98	4%
East South Central	2,048	500	32%	286	16%
West South Central	2,916	465	19%	160	6%
Mountain	1,476	233	19%	68	5%
Pacific	899	195	28%	(141)	(14%)
<b>United States</b>	<b>1,575</b>	<b>358</b>	<b>29%</b>	<b>123</b>	<b>8%</b>
<b>Heating Degree Days</b>					
New England	5,845	(800)	(12%)	(758)	(11%)
Mid-Atlantic	5,204	(739)	(12%)	(504)	(9%)
East North Central	5,669	(862)	(13%)	(531)	(9%)
West North Central	5,762	(1,022)	(15%)	(359)	(6%)
South Atlantic	2,491	(377)	(13%)	(37)	(1%)
East South Central	3,075	(548)	(15%)	(159)	(5%)
West South Central	1,776	(523)	(23%)	(355)	(17%)
Mountain	4,358	(874)	(17%)	(80)	(2%)
Pacific	2,608	(635)	(20%)	84	3%
<b>United States</b>	<b>3,875</b>	<b>(672)</b>	<b>(15%)</b>	<b>(268)</b>	<b>(6%)</b>

A mean daily temperature (average of the daily maximum and minimum temperatures) of 65 degrees Fahrenheit is the base for both heating and cooling degree day computations. National averages are population weighted.

Source: National Oceanic and Atmospheric Administration, National Weather Service, Climate Prediction Center.

rate. Total U.S. retail sales grew by 2% last year, but industrial production declined by 1%. The drop in industrial production was mirrored by a decline in industrial electricity sales of nearly 4%.

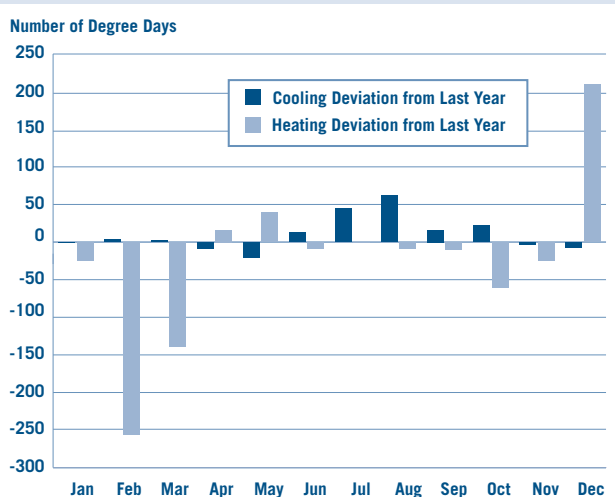
### Industry Revenue Fell 0.4%

As shown in the *Consolidated Income Statement*, the industry's total revenue fell by \$1.5 billion, or 0.4%, in 2016. However, roughly half the companies reported higher

revenue and the equal-weight, average change was a 0.1% increase. Four companies posted a double-digit percent increase and five experienced a double-digit percent decrease. A total of 70 new rate cases were filed in 2016; this was the second-highest number of new cases filed in a year over the last three decades (see *Rate Case*).

## 2016 Weather Compared to 2015

AS MEASURED BY DEVIATIONS BETWEEN THE TWO YEARS



Source: National Oceanic and Atmospheric Administration and National Weather Service.

## Heating and Cooling Degree Days and Percent Changes

January–December 2016

	COOLING DEGREE DAYS			HEATING DEGREE DAYS			PERCENTAGE CHANGE			
	Total	Deviation From Norm	Deviation From Last Yr	Total	Deviation From Norm	Deviation From Last Yr	Cooling Degree Change From Norm	Cooling Degree Change From Last Yr	Heating Degree Change From Norm	Heating Degree Change From Last Yr
Jan	4	(5)	(1)	870	(47)	(25)	(55.6%)	(20.0%)	(5.1%)	(2.8%)
Feb	7	(2)	3	659	(96)	(256)	(22.2%)	75.0%	(12.7%)	(28.0%)
Mar	24	6	2	450	(143)	(139)	33.3%	9.1%	(24.1%)	(23.6%)
<b>First Quarter</b>	<b>35</b>	<b>(1)</b>	<b>4</b>	<b>1,979</b>	<b>(286)</b>	<b>(420)</b>	<b>(2.8%)</b>	<b>12.9%</b>	<b>(12.6%)</b>	<b>(17.5%)</b>
Apr	38	8	(9)	317	(28)	16	26.7%	(19.1%)	(8.1%)	5.3%
May	106	9	(20)	154	(5)	39	9.3%	(15.9%)	(3.1%)	33.9%
Jun	269	56	13	19	(20)	(8)	26.3%	5.1%	(51.3%)	(29.6%)
<b>Second Quarter</b>	<b>413</b>	<b>73</b>	<b>(16)</b>	<b>490</b>	<b>(53)</b>	<b>47</b>	<b>21.5%</b>	<b>(3.7%)</b>	<b>(9.8%)</b>	<b>10.6%</b>
Jul	387	66	45	5	(4)	(1)	20.6%	13.2%	(44.4%)	(16.7%)
Aug	374	84	62	3	(12)	(8)	29.0%	19.9%	(80.0%)	(72.7%)
Sep	241	86	16	27	(50)	(10)	55.5%	7.1%	(64.9%)	(27.0%)
<b>Third Quarter</b>	<b>1,002</b>	<b>236</b>	<b>123</b>	<b>35</b>	<b>(66)</b>	<b>(19)</b>	<b>30.8%</b>	<b>14.0%</b>	<b>(65.3%)</b>	<b>(35.2%)</b>
Oct	88	35	22	168	(114)	(60)	66.0%	33.3%	(40.4%)	(26.3%)
Nov	23	8	(3)	418	(121)	(25)	53.3%	(11.5%)	(22.4%)	(5.6%)
Dec	14	7	(7)	785	(32)	209	100.0%	(33.3%)	(3.9%)	36.3%
<b>Fourth Quarter</b>	<b>125</b>	<b>50</b>	<b>12</b>	<b>1,371</b>	<b>(267)</b>	<b>124</b>	<b>66.7%</b>	<b>10.6%</b>	<b>(16.3%)</b>	<b>9.9%</b>
<b>Full Year</b>	<b>1,575</b>	<b>358</b>	<b>123</b>	<b>3,875</b>	<b>(672)</b>	<b>(268)</b>	<b>29.4%</b>	<b>8.5%</b>	<b>(14.8%)</b>	<b>(6.5%)</b>

2007 2008 2009 2010 2011 2012 2013 2014 2015 2016

Heating Degree Days Percentage Change from Historical Norm (5.6) (0.8) (0.9) (1.7) (4.5) (16.6) (0.6) 1.1 (9.1) (14.8)

Cooling Degree Days Percentage Change from Historical Norm 14.5 5.3 1.6 19.9 21.5 22.4 10.9 5.8 19.2 29.4

A mean daily temperature (average of the daily maximum and minimum temperatures) of 65°F is the base for both heating and cooling degree day computations. National averages are population weighted.

Source: National Oceanic and Atmospheric Administration and National Weather Service.



## Energy Operating Expenses Decline 9.9%

Total energy operating expenses fell by \$11.7 billion, or 9.9%, from the prior year's level, declining significantly more than revenue. The two components of total energy operating expenses — total electric generation cost (-10.1%) and gas cost (-8.1%) — each contributed to the decrease. Electric generation cost, which includes electric generation fuel expense and the cost of purchased power, was just over 26% of total revenue in 2016. This represents a continued decrease compared to recent years: electric generation cost was 29% of total revenue in 2015, 31% from 2012 through 2014, and 34% from 2009 through 2011, down from a high of 37% in 2008.

For the consolidated industry income statement, natural gas transmission and distribution revenue is aggregated with all other revenue sources in the “Energy Operating Revenue” line. However, the cost associated with natural gas distribution (i.e., the delivery of natural gas to homes and businesses primarily for cooking and heating) is broken out separately as “Gas Cost.” Gas Cost is typically highest in the first quarter due to heating demand and lowest in the third due to the minimal heating needs during the summer.

Gas distribution traditionally accounts for a smaller portion of the industry's overall revenue and earnings than do electric operations. However, the relative contribution from gas operations has increased in recent years due to acquisitions.

## Consolidated Income Statement

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

12 Months Ended

(\$ Millions)	12/31/2016	12/31/2015r	% Change
<b>Energy Operating Revenues</b>	\$350,630	\$352,160	(0.4%)
<b>Energy Operating Expenses</b>			
Total Electrical Generation Cost	92,906	103,368	(10.1%)
Gas Cost	14,092	15,337	(8.1%)
<b>Total Energy Operating Expenses</b>	<b>106,998</b>	<b>118,705</b>	<b>(9.9%)</b>
<b>Revenues less energy operating expenses</b>	<b>243,631</b>	<b>233,455</b>	<b>4.4%</b>
<i>Other Operating Expenses</i>			
Operations & maintenance	92,912	90,436	2.7%
Depreciation & Amortization	46,174	42,188	9.4%
Taxes (not income) - Total	18,466	17,911	3.1%
Other Operating Expenses	12,951	11,934	8.5%
<b>Total Operating Expenses</b>	<b>277,502</b>	<b>281,174</b>	<b>(1.3%)</b>
Operating Income	73,128	70,986	3.0%
<i>Other Recurring Revenue</i>			
Partnership Income	1,264	1,113	13.6%
Allowance for Equity Funds Used for Construction	1,810	1,587	14.1%
Other Revenue	2,530	1,898	33.3%
<b>Total Other Recurring Revenue</b>	<b>5,604</b>	<b>4,598</b>	<b>21.9%</b>
<i>Non-Recurring Revenue</i>			
Gain on Sale of Assets	767	789	(2.8%)
Other Non-Recurring Revenue	888	(4)	NM
<b>Total Non-Recurring Revenue</b>	<b>1,655</b>	<b>785</b>	<b>110.8%</b>
Interest expense	22,271	20,966	6.2%
Other expenses	511	501	2.1%
Asset Writedowns	17,480	5,189	236.8%
Other Non-Recurring Expenses	3,110	1,764	76.3%
Total Non-Recurring Expenses	20,590	6,953	196.1%
<b>Net Income Before Taxes</b>	<b>37,015</b>	<b>47,949</b>	<b>(22.8%)</b>
Provision for Taxes	9,234	14,168	(34.8%)
Dividends on Preferred Stock of Subsidiary	-	-	NM
Other Minority Interest Expense	-	-	NM
Minority Interest Expense	-	-	NM
Trust Preferred Security Payments	-	-	NM
Other After-tax Items	-	-	NM
Total Minority Interest and Other After-tax Items	-	-	NM
<b>Net Income Before Extraordinary Items</b>	<b>27,780</b>	<b>33,781</b>	<b>(17.8%)</b>
Discontinued Operations	(668)	(1,148)	(41.8%)
Change in Accounting Principles	-	-	NM
Early Retirement of Debt	-	-	NM
Other Extraordinary Items	-	-	NM
Total Extraordinary Items	(668)	(1,148)	(41.8%)
<b>Net Income</b>	<b>27,112</b>	<b>32,633</b>	<b>(16.9%)</b>
Preferred Dividends Declared	17	2	652.1%
Other Preferred Dividends after Net Income	2	2	0.0%
Other Changes to Net Income	(7)	(4)	101.6%
Net Income Attributable to Noncontrolling Interests	606	412	NA
<b>Net Income Available to Common</b>	<b>26,480</b>	<b>32,214</b>	<b>(17.8%)</b>
<b>Common Dividends</b>	<b>23,461</b>	<b>21,938</b>	<b>6.9%</b>

r = revised NM = not meaningful

Note: Statement items for both periods have been adjusted due to M&amp;A-related activity. Data for Empire District Electric Company and TECO Energy include only the first three quarters of 2016.

Source: S&amp;P Global Market Intelligence and EEI Finance Department.

The gas contribution can help balance the seasonal earnings stream for combined gas/electric distribution companies due to the fact that residential gas demand peaks in the colder months while electricity demand peaks in the hot summer months for most U.S. utilities.

**Operations and Maintenance (O&M) Expenses Rise 2.7%**

Operations and maintenance (O&M) expenses for the industry increased 2.7% in 2016, in-line with the median company increase of 2.8%. O&M accounted for 33% of the industry’s operating expenses, which is the highest percentage over

the last decade. The combination of O&M and Depreciation and Amortization accounted for half of operating expenses in 2016, up from roughly one-third of operating expenses a decade earlier.

The consolidated industry O&M total includes not only the electric but also the natural gas and other operating segments and is influenced by plant and business divestitures.

**Operating Income Climbs 3.0%**

The industry’s aggregate operating income rose by \$2.1 billion, or 3.0%, with a median increase of 5.4%; 75% of companies showed a

year-to-year gain. Last year was the fourth consecutive year in which the industry’s operating income increase exceeded the 2.0% compound annual growth rate over the trailing 10 years.

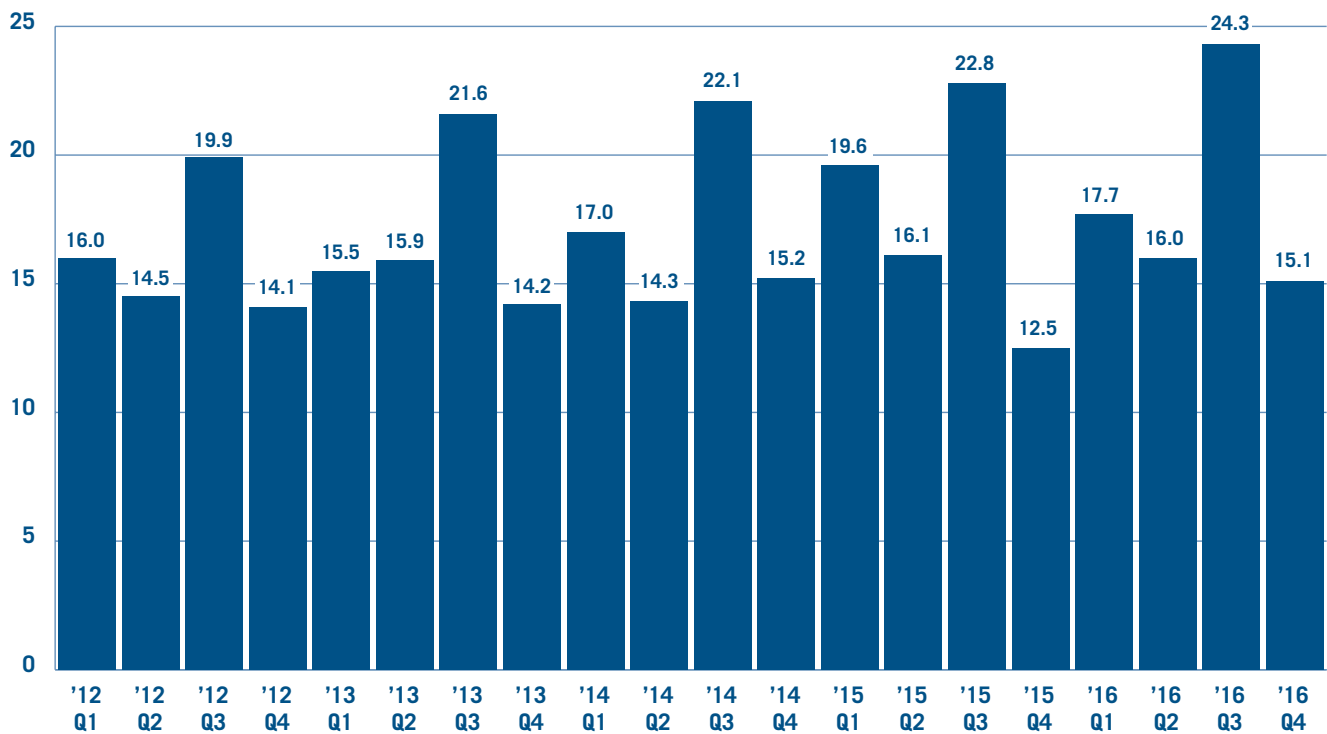
**Interest Expense Up 6.2%**

Interest expense rose by 6.2%, to \$22.3 billion from \$21.0 billion in 2015. Nine companies recorded double-digit percent increases while only three accounted for more than 85% of the overall increase. The median change was an increase of 2.0%. Interest expense has held relatively steady for most of the last decade as upward pressure from ris-

**Quarterly Net Operating Income**

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Billions)

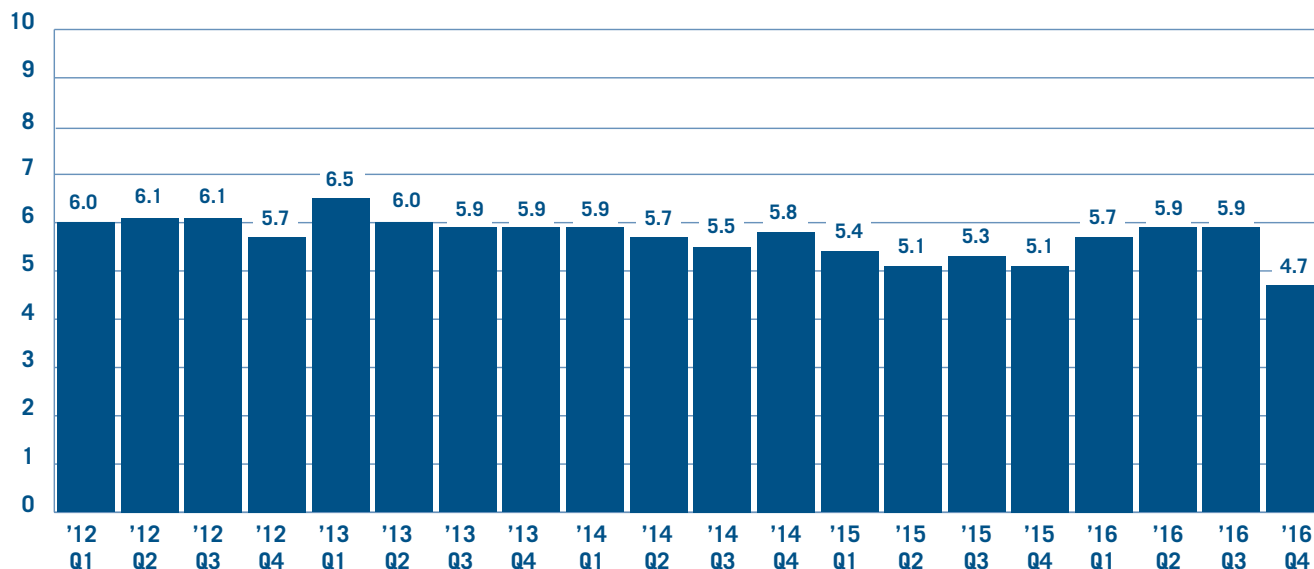


Source: S&P Global Market Intelligence and EEI Finance Department.

## Quarterly Interest Expense

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Billions)



Source: S&P Global Market Intelligence and EEI Finance Department.

ing debt needed to fund capital investment has been offset by declining interest rates. The movement of the quarterly average coupon rates for newly issued 10-year utility bonds closely mirrored that of 10-year Treasuries in 2016; however, the utility spread was above the Treasury yield for two quarters in 2016, which is only the third time this has occurred during the last decade (see *Balance Sheet*).

### Non-Recurring and Extraordinary Activity

As shown in the table *Individual Non-Recurring and Extraordinary Items*, the industry reported a \$12.3 billion year-to-year increase in the total expense associated with non-recurring and extraordinary items, mostly due to a \$12.3 billion increase in “Asset Writedowns”.

The cost of “Asset Writedowns” increased from \$5.2 billion in 2015 to \$17.5 billion in 2016; however

only 12 companies reported writedowns and the majority of the industry’s total increase was attributable to a single company.

### Net Income Higher at Most Companies

The industry’s net income declined from \$32.6 billion in 2015 to \$27.1 billion in 2016, a \$5.5 billion or 17% decrease. However, net income rose for about three-quarters of the industry and 21 companies reported a double-digit percentage gain.

## Individual Non-Recurring and Extraordinary Items 2007–2016

## U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Millions)	2007	2008	2009	2010	2011	2012	2013	2014	2015r	2016
Net Gain (Loss) on Sale of Assets	5,240	581	7,176	3,410	891	311	414	996	789	767
Other Non-Recurring Revenue	130	1,661	(494)	2,065	946	264	78	296	(4)	888
<b>Total Non-Recurring Revenue</b>	<b>5,370</b>	<b>2,243</b>	<b>6,682</b>	<b>5,475</b>	<b>1,837</b>	<b>576</b>	<b>492</b>	<b>1,292</b>	<b>785</b>	<b>1,655</b>
Asset Writedowns	(215)	(11,256)	(2,022)	(8,805)	(2,743)	(5,646)	4,276	8,762	5,189	17,480
Other Non-Recurring Charges	(1,091)	(1,525)	(822)	(545)	(851)	(3,136)	3,510	2,675	1,764	3,110
<b>Total Non-Recurring Charges</b>	<b>(1,306)</b>	<b>(12,781)</b>	<b>(2,844)</b>	<b>(9,350)</b>	<b>(3,594)</b>	<b>(8,783)</b>	<b>7,786</b>	<b>11,437</b>	<b>6,953</b>	<b>20,590</b>
Discontinued Operations	599	759	(63)	(476)	(1,011)	(4,317)	(88)	295	(1,148)	(668)
Change in Accounting Principles	(158)	–	–	–	–	–	–	–	–	–
Early Retirement of Debt	–	–	–	–	–	–	–	–	–	–
Other Extraordinary Items	(79)	67	(5)	10	960	–	–	–	–	–
<b>Total Extraordinary Items</b>	<b>362</b>	<b>826</b>	<b>(68)</b>	<b>(466)</b>	<b>(51)</b>	<b>(4,317)</b>	<b>(88)</b>	<b>295</b>	<b>(1,148)</b>	<b>(668)</b>
<b>Total Non-Recurring and Extraordinary Items</b>	<b>4,426</b>	<b>(9,713)</b>	<b>3,771</b>	<b>(4,341)</b>	<b>(1,808)</b>	<b>(12,524)</b>	<b>(7,381)</b>	<b>(9,850)</b>	<b>(7,316)</b>	<b>(19,604)</b>

r = revised

Note: Figures represent net industry totals. Totals may reflect rounding.

Source: S&amp;P Global Market Intelligence and EEI Finance Department.

## Top Net Non-Recurring and Extraordinary Gains (Losses) 2016

## U.S. INVESTOR-OWNED ELECTRIC UTILITIES

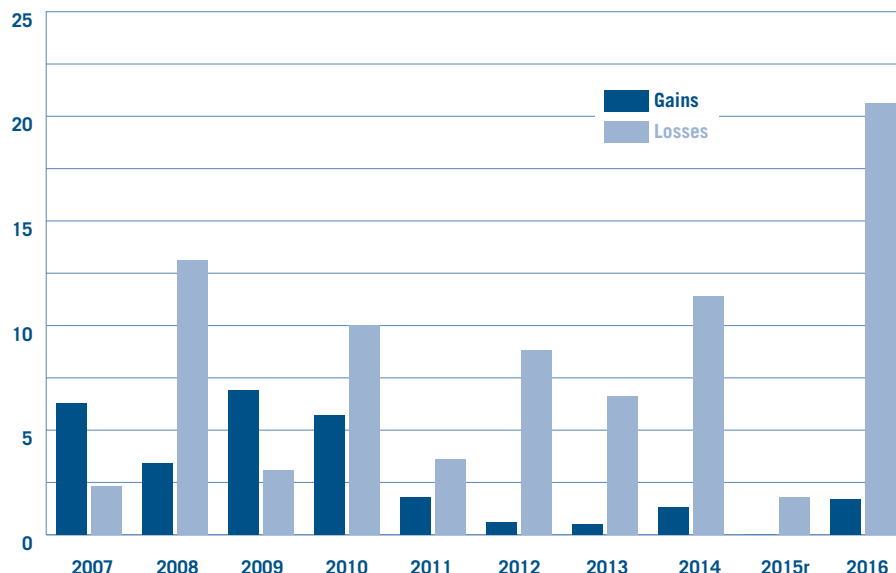
(\$ Millions) Company	Gains	Losses	Net Total
<b>FirstEnergy</b>	–	10,665	10,665
<b>Entergy</b>	–	2,836	2,836
<b>AEP</b>	–	2,268	2,268
<b>Duke</b>	27	999	972
<b>Exelon</b>	(48)	850	898
<b>DPL</b>	–	862	862
<b>Sempra</b>	719	153	566
<b>NextEra</b>	675	135	540
<b>Southern</b>	–	539	539
<b>PG&amp;E</b>	–	507	507

Source: S&amp;P Global Market Intelligence and EEI Finance Department.

## Aggregate Non-Recurring and Extraordinary Items 2007–2016

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Billions)



	2007	2008	2009	2010	2011	2012	2013	2014	2015r	2016	Total
<b>Gains</b>	6.3	3.4	6.9	5.7	1.8	0.6	0.5	1.3	0.0	1.7	28.1
<b>Losses</b>	2.3	13.1	3.1	10.0	3.6	8.8	6.6	11.4	1.8	20.6	81.3
<b>Total</b>	<b>4.0</b>	<b>(9.7)</b>	<b>3.8</b>	<b>(4.3)</b>	<b>(1.8)</b>	<b>(8.2)</b>	<b>(6.2)</b>	<b>(10.1)</b>	<b>(1.8)</b>	<b>(18.9)</b>	<b>(53.2)</b>

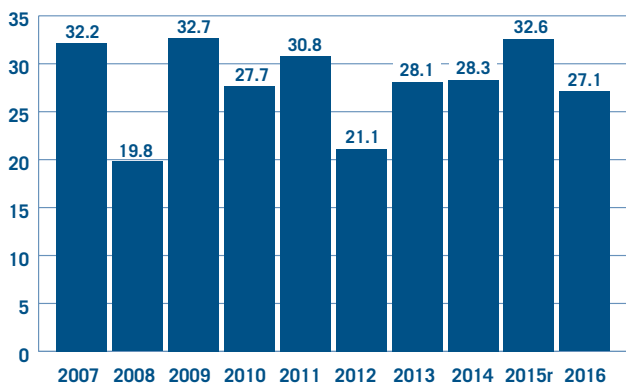
r = revised Note: Totals may reflect rounding.

Source: S&P Global Market Intelligence and EEI Finance Department.

## Net Income 2007–2016

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Billions)



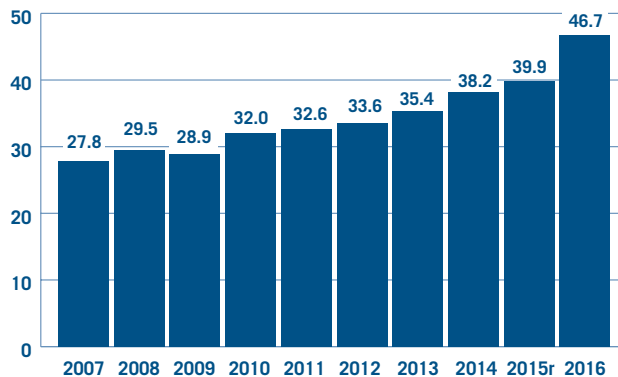
r = revised

Source: S&P Global Market Intelligence and EEI Finance Department.

## Net Income Before Non-Recurring and Extraordinary Items 2007–2016

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Billions)



r = revised

Source: S&P Global Market Intelligence and EEI Finance Department.

## Balance Sheet

The industry's consolidated balance sheet remained generally healthy in 2016, although rising debt associated in part with the year's merger and acquisition activity caused debt as a percent of total capitalization to rise for a second straight year. Long-term debt was 55.4% of total capitalization at yearend 2016, up from 53.6% at yearend 2015 and 53.1% at yearend 2014. However the jump is less significant when put in the context of the past decade as the level ranged between 53.8% and 56.4% from 2007 through 2013. Rising debt levels during the period have been largely offset with net income and common stock issuance, although 2016's \$53.4 billion increase in long-term debt was about double the more gradual \$19.1 billion average rise from 2008 through 2015.

The broad trends that have impacted the industry for the past several years and that have supported the industry's overall strong financial condition were also little changed in 2016. These include the continuation of a multi-year migration toward regulated business strategies, generally constructive regulation, moderate and steady profitability and, importantly, accommodating financial markets characterized by very low interest rates and a hunger for yield (whether in the form of dividends or bond interest) on the part of investors worldwide.

The favorable financial market environment for companies seeking to raise capital through bond offerings continued in 2016. U.S.

Capitalization Structure			
U.S. INVESTOR-OWNED ELECTRIC UTILITIES			
Capitalization Structure	12/31/2016	12/31/2015r	12/31/2014r
<b>Common Equity</b>	406,225	396,856	386,292
<b>Preferred Equity &amp; Noncontrolling Interests</b>	13,901	8,492	7,399
<b>Long-term Debt (current &amp; non-current)*</b>	521,270	467,919	446,283
<b>Total</b>	<b>941,396</b>	<b>873,268</b>	<b>839,974</b>
<b>Common Equity %</b>	43.2%	45.4%	46.0%
<b>Preferred &amp; Noncontrolling %</b>	1.5%	1.0%	0.9%
<b>Long-term Debt %</b>	55.4%	53.6%	53.1%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

\* Long-term debt not adjusted for (i.e., includes) securitization bonds.  
r = revised  
Source: S&P Global Market Intelligence and EEI Finance Department.

interest rates remained very low by historical standards, although yields were somewhat volatile; the 10-year U.S. Treasury yield began the year at 2.3% and fell to 1.4% by early July on concern over the strength of global economic growth and weak inflation indicators. The year's second half produced rising confidence in both domestic U.S. and global economic conditions and the U.S. 10-year yield rose back to 2.5% by yearend. Corporate credit spreads (the difference between risk-free Treasury yields and yields on comparable maturity corporate bonds) generally tightened during the year. Credit spreads for A rated corporate utility bonds declined from about 210 basis points early in the year to under 170 basis points by yearend.

Bond investors worldwide turned to the U.S. for income in 2016 as government yields in the Eurozone and Japan were near zero due to very lethargic economies and to aggres-

sive asset purchase programs at both the European Central Bank and the Bank of Japan. U.S. electric utilities were able to take advantage of strong investor demand to issue debt at historically very favorable yields; the industry's high-quality debt securities hold strong appeal for global investors seeking income without an uncomfortable level of financial risk. The industry's aggregate short-term debt also rose, reaching \$34.1 billion at yearend 2016 from \$28.7 at the end of 2015.

All three company categories saw long-term debt rise as a percent of total capitalization, however the industry's steady multi-year migration back to a regulated focus has greatly diminished the meaningfulness of analysis by company category. During 2016, 36 of the industry's 50 companies were in the Regulated category and 12 were in the Mostly Regulated category. The Diversified category contained

only two companies. Nevertheless, the year's jump in debt was evident across all three categories. The Regulated category's long-term debt as a percent of total capitalization rose from 53.8% at yearend 2015 to 55.1% at yearend 2016, the Mostly Regulated's percentage climbed from 54.3% to 56.1% and the Diversified category's two companies showed a combined jump from 48.4% to 55.1%. While those totals are category aggregates, activity within each shows the increase was fairly narrowly focused. In the Regulated category only 13 of the 36 companies saw the ratio rise more than one percentage point. In the Mostly Regulated category it

was only four of 12 companies and in the Diversified category only one of the two. In total, only 18 of the industry's 50 companies saw debt as a percent of total capitalization rise more than one percentage point.

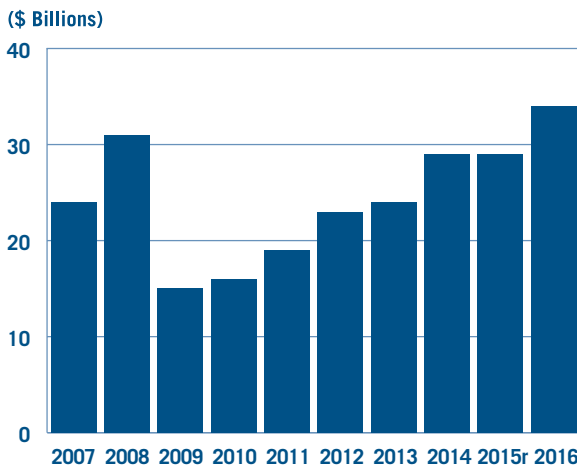
The industry's aggregate total common equity rose by \$9.4 billion in 2016, or 2.3%, from \$396.9 billion to \$406.2 billion. The rise in balance sheet equity was supported by aggregate net income of \$27.1 billion and \$11.9 billion in net stock issuance (proceeds from stock offerings less buybacks), although payment of \$23.8 billion in common stock dividends constrained the total income retained as equity on the balance sheet. The balance

sheet shows changes in equity resulting from public stock offerings, which increase equity, and retained earnings or losses, which increase or decrease equity (see chart, *Proceeds from Issuance of Common Equity*). Industry credit quality — tied closely in recent years to the management of capital spending, merger and acquisition activity, and related financing strategies — remained at BBB+ in 2016 for a third straight year after improving in 2014 to an average BBB+ from BBB. The improvement in 2014 was the first change since 2004, when the average rating rose to BBB from BBB-.

Total long-term debt (current and non-current) has risen from \$314.9

### Short-term Debt 2007–2016

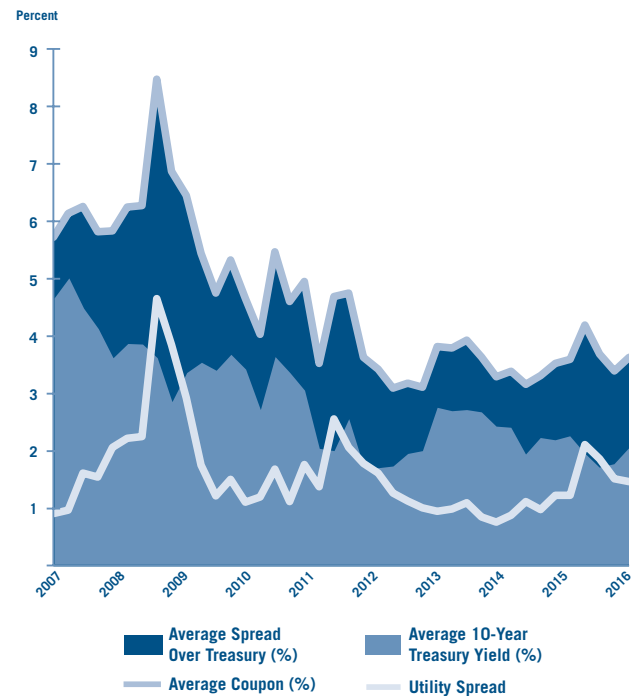
U.S. INVESTOR-OWNED ELECTRIC UTILITIES



r = revised

Source: S&P Global Market Intelligence and EEI Finance Department.

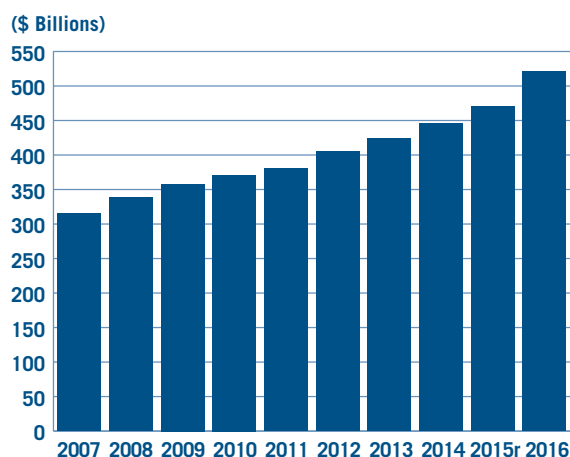
### Utilities' Cost of Debt: 10-Year Treasury Yields and Bond Spreads (New Offerings)



Source: S&P Global Market Intelligence and EEI Finance Department.

## Long-term Debt 2007–2016

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

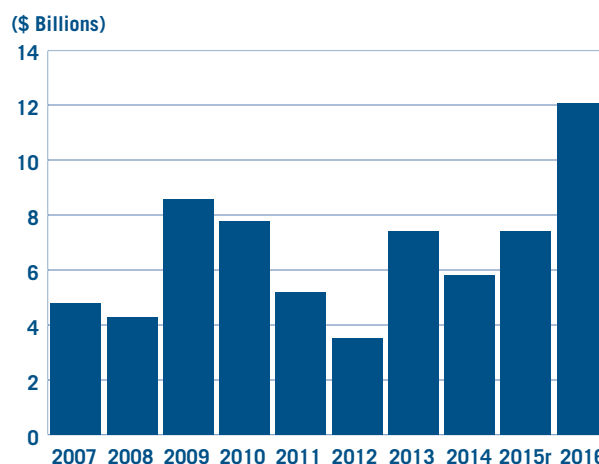


r = revised

Source: S&amp;P Global Market Intelligence and EEI Finance Department.

## Proceeds from Issuance of Common Equity 2007–2016

U.S. INVESTOR-OWNED ELECTRIC UTILITIES



r = revised

Source: S&amp;P Global Market Intelligence and EEI Finance Department.

billion at yearend 2007 to \$521.3 billion at yearend 2016, a 66% increase, driven higher mostly by the need to finance consistently high levels of capital expenditures (capex). Industry capex climbed from a cyclical low of \$41.1 billion in 2004 to a record high of \$112.5 billion in 2016 and is expected to rise to \$119.7 billion in 2016, based on EEI estimates.

### Impact of Elevated Capex

The impact of historically high levels of capital spending is evident in the industry's consolidated balance sheet. Total net property, plant and equipment in service (shown in the adjacent table) jumped 28% from yearend 2012 to yearend 2016.

A rising level of construction work-in-progress (CWIP) also re-

Date	PP&E in Service, Net (\$Mil)	% Change from 12/31/2012
12/31/2016	\$969,838	28%
12/31/2015r	\$898,171	18%
12/31/2014r	\$839,351	10%
12/31/2013	\$803,007	6%
12/31/2012	\$760,105	

Source: S&amp;P Global Market Intelligence and EEI Finance Department.

flects the industry's elevated capital spending. CWIP jumped from \$62.4 billion at yearend 2012 to \$74.3 billion at yearend 2016. CWIP, along with adjustment clauses, interim rate increases and the use of projected costs in rate cases, is especially important during large construction cycles because it helps minimize regulatory lag.

Deferred taxes rose by \$13.3 billion, or 9.2%, to \$158.4 billion at yearend 2016 from a revised \$145.1 billion at yearend 2015. Deferred taxes have risen nearly 30% since yearend 2012 as a result of persistently high capital spending and the impact of accelerated depreciation (see *Cash Flow Statement*).



## Debt-to-Cap Ratio by Category 2016 vs. 2015r

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

	Regulated		Mostly Regulated		Diversified		Total Industry	
	Number	%	Number	%	Number	%	Number	%
Lower	8	22.2%	3	25.0%	1	50.0%	12	24.0%
No Change*	15	41.7%	5	41.7%	0	0.0%	20	40.0%
Higher	13	36.1%	4	33.3%	1	50.0%	18	36.0%
<b>Total</b>	<b>36</b>	<b>100.0%</b>	<b>12</b>	<b>100.0%</b>	<b>2</b>	<b>100.0%</b>	<b>50</b>	<b>100.0%</b>

\*No change defined as less than 1.0%

Note: December 31, 2016 vs. December 31, 2015. Refer to page v for category descriptions.

Source: S&amp;P Global Market Intelligence and EEI Finance Department.

## Capitalization Structure by Category 2016 vs. 2015r

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

	Total Industry			Regulated		
	2016	2015r	Change	2016	2015r	Change
Common Equity	406,225	396,856	9,369	278,429	267,833	10,596
Total Preferred Equity	13,901	8,492	5,409	6,583	4,589	1,994
Long-term Debt (current & non-current)*	521,270	467,919	53,351	350,426	317,147	33,279
<b>Total Capitalization</b>	<b>941,396</b>	<b>873,268</b>	<b>68,128</b>	<b>635,438</b>	<b>589,569</b>	<b>45,869</b>
Common Equity %	43.2%	45.4%	(2.3%)	43.8%	45.4%	(1.6%)
Preferred Equity %	1.5%	1.0%	0.5%	1.0%	0.8%	0.3%
Long-term Debt %	55.4%	53.6%	1.8%	55.1%	53.8%	1.4%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>—</b>	<b>100.0%</b>	<b>100.0%</b>	<b>—</b>

	Mostly Regulated			Diversified		
	2016	2015r	Change	2016	2015r	Change
Common Equity	99,893	101,303	(1,410)	27,904	27,721	183
Total Preferred Equity	5,543	2,402	3,141	1,775	1,501	274
Long-term Debt (current & non-current)*	134,479	123,308	11,171	36,365	27,464	8,901
<b>Total Capitalization</b>	<b>239,915</b>	<b>227,013</b>	<b>12,902</b>	<b>66,044</b>	<b>56,686</b>	<b>9,358</b>
Common Equity %	41.6%	44.6%	(3.0%)	42.3%	48.9%	(6.7%)
Preferred Equity %	2.3%	1.1%	1.3%	2.7%	2.6%	0.0%
Long-term Debt %	56.1%	54.3%	1.7%	55.1%	48.4%	6.6%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>—</b>	<b>100.0%</b>	<b>100.0%</b>	<b>—</b>

r = revised

Refer to page v for category descriptions.

Note: Long-term debt not adjusted for (i.e., includes) securitization bonds.

Source: S&amp;P Global Market Intelligence and EEI Finance Department.

## Consolidated Balance Sheet

### U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Millions)	12/31/2016	12/31/2015r	% Change	\$ Change
PP&E in service, gross	1,379,716	1,290,264	6.9%	89,452
Accumulated depreciation	<u>409,878</u>	<u>392,093</u>	4.5%	<u>17,785</u>
PP&E in service, net	969,838	898,171	8.0%	71,668
Construction work in progress	74,326	73,077	1.7%	1,249
Net nuclear fuel	16,054	16,111	(0.4%)	(57)
Other property	<u>1,755</u>	<u>1,950</u>	(10.0%)	<u>(195)</u>
PP&E, net	1,061,974	989,309	7.3%	72,665
Cash & cash equivalents	12,323	18,389	(33.0%)	(6,066)
Accounts receivable	38,253	35,530	7.7%	2,723
Inventories	24,057	25,380	(5.2%)	(1,323)
Other current assets	<u>43,705</u>	<u>38,008</u>	15.0%	<u>5,697</u>
Total current assets	118,338	117,307	0.9%	1,031
Total investments	<u>86,181</u>	<u>80,421</u>	7.2%	<u>5,760</u>
Other assets	<u>255,871</u>	<u>226,662</u>	12.9%	<u>29,209</u>
<b>Total Assets</b>	<b>1,522,363</b>	<b>1,413,698</b>	<b>7.7%</b>	<b>108,665</b>
Common equity	406,225	396,856	2.4%	9,369
Preferred equity	851	54	1470.8%	797
Noncontrolling interests	<u>13,050</u>	<u>8,438</u>	54.6%	<u>4,611</u>
Total equity	420,126	405,349	3.6%	14,777
Short-term debt	34,141	28,697	19.0%	5,444
Current portion of long-term debt	<u>28,226</u>	<u>25,418</u>	11.0%	<u>2,808</u>
Short-term and current long-term debt	62,367	54,115	15.2%	8,252
Accounts payable	66,407	58,725	13.1%	7,682
Other current liabilities	<u>36,009</u>	<u>34,842</u>	3.3%	<u>1,166</u>
Current liabilities	164,783	147,683	11.6%	17,100
Deferred taxes	158,426	145,085	9.2%	13,342
Non-current portion of long-term debt	493,044	442,501	11.4%	50,543
Other liabilities	<u>285,258</u>	<u>272,134</u>	4.8%	<u>13,123</u>
Total liabilities	1,101,511	1,007,403	9.3%	94,108
Subsidiary preferred	553	686	(19.4%)	(133)
Other mezzanine	<u>173</u>	<u>260</u>	(33.3%)	<u>(87)</u>
Total mezzanine level	726	946	(23.3%)	(220)
<b>Total Liabilities and Owner's Equity</b>	<b>1,522,363</b>	<b>1,413,698</b>	<b>7.7%</b>	<b>108,665</b>

r = revised

Note: Balance items for all three periods have been adjusted due to M&A-related activity. Data for Empire District Electric Company and TECO Energy include only the first three quarters of 2016.

Source: S&P Global Market Intelligence and EEI Finance Department.

## Cash Flow Statement

### Net Cash Provided by Operating Activities

Net Cash Provided by Operating Activities decreased by \$3.3 billion, or 3.3%, to \$98.3 billion in 2016 from \$101.6 billion in 2015. This metric decreased for about half of the industry at the holding company level. As shown in the *Statement of Cash Flows*, a year-to-year decline of \$5.0 billion in cash provided by Deferred Taxes and Investment Credits and a \$5.5 billion drop in cash provided by Net Income were only partially offset by a \$3.8 billion increase in cash from rising Depreciation and Amortization and a \$4.2 billion increase from Other Operating Changes in Cash.

Although the cash provided by Deferred Taxes and Investment Credits was lower, at \$8.9 billion in 2016 versus \$13.8 billion in 2015, it remained at a historically high level for the ninth straight year. In combination with the industry's elevated capital expenditures, the use of bonus depreciation has created a significant increase in deferred taxes over the period. On December 18, 2015, Congress passed the Protecting Americans from Tax Hikes (PATH) Act of 2015, which extended bonus depreciation for five additional years (it had expired at the end of 2014). The previous 50% level of bonus depreciation continues for property placed in service during 2015, 2016 or 2017, then phases down to 40% in 2018 and 30% in 2019. Bonus depreciation has been in place most of the time since September 11,

Statement of Cash Flows			
U.S. INVESTOR-OWNED ELECTRIC UTILITIES			
\$ Millions	12 Months Ended		
	12/31/2016	12/31/2015r	% Change
Net Income	\$27,112	\$32,663	(16.9%)
Depreciation and Amortization	49,166	45,342	8.4%
Deferred Taxes and Investment Credits	8,879	13,829	(35.8%)
Operating Changes in AFUDC	(1,409)	(1,275)	10.5%
Change in Working Capital	3,015	3,688	(18.3%)
Other Operating Changes in Cash	11,581	7,425	56.0%
<b>Net Cash Provided by Operating Activities</b>	<b>98,320</b>	<b>101,643</b>	<b>(3.3%)</b>
Capital Expenditures	(112,536)	(103,990)	8.2%
Asset Sales	15,422	15,226	1.3%
Asset Purchases	(43,606)	(18,076)	141.2%
Net Non-Operating Asset Sales and Purchases	(28,184)	(2,849)	889.1%
Change in Nuclear Decommissioning Trust	(414)	(400)	3.4%
Investing Changes in AFUDC	114	101	12.2%
Other Investing Changes in Cash	(4,265)	3,353	NM
<b>Net Cash Used in Investing Activities</b>	<b>(145,285)</b>	<b>(103,785)</b>	<b>40.0%</b>
Net Change in Short-term Debt	3,419	519	559.2%
Net Change in Long-term Debt	44,373	24,138	83.8%
Proceeds from Issuance of Preferred Equity	1,157	68	NM
Preferred Share Repurchases	(494)	(472)	4.6%
Net Change in Preferred Issues	663	(404)	NM
Proceeds from Issuance of Common Equity	12,123	7,381	64.2%
Common Share Repurchases	(267)	(1,947)	(86.3%)
Net Change in Common Issues	11,855	5,434	118.2%
Dividends Paid to Common Shareholders	(23,828)	(22,478)	6.0%
Dividends Paid to Preferred Shareholders	(62)	(105)	(40.9%)
Other Dividends	–	–	NM
Dividends Paid to Shareholders	(23,891)	(22,583)	5.8%
Other Financing Changes in Cash	4,062	(85)	NM
<b>Net Cash (Used in) Provided by Financing Activities</b>	<b>40,481</b>	<b>7,020</b>	<b>476.7%</b>
Other Changes in Cash	443	1,419	(68.8%)
Net increase (decrease) in cash and cash equivalents	\$(6,042)	\$6,296	NM
Cash and cash equivalents at beginning of period	\$18,365	\$12,093	51.9%
Cash and cash equivalents at end of period	\$12,323	\$18,389	(33.0%)

r = revised NM = not meaningful  
Source: S&P Global Market Intelligence and EEI Finance Department.

2001 at levels that have varied from 30% to 100%. Although potential comprehensive tax reform was in its early stages at year end, it should be noted that both the Trump and House GOP Blueprint tax reform proposals included components of 100% expensing.

### Net Cash Used in Investing Activities

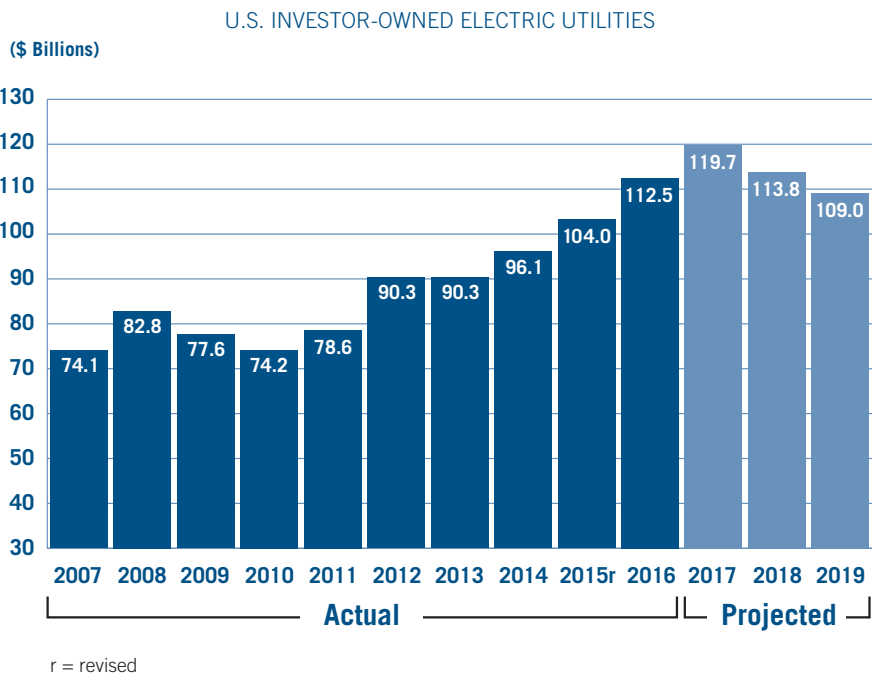
Net Cash Used in Investing Activities rose by \$41.5 billion, or 40.0%, to \$145.3 billion in 2016 from \$103.8 billion in 2015. The increase was caused primarily by a \$25.5 billion, or 141.2%, surge in Asset Purchases, which increased from \$18.1 billion in

2015 to \$43.6 billion in 2016. The surge was driven by just a handful of companies; asset purchases increased by about \$9.0 billion at Southern Company, \$6.9 billion at Exelon, \$4.6 billion at Duke and \$3.7 billion at Dominion as all were active in the M&A space (*please see Mergers & Acquisitions section for more details*).

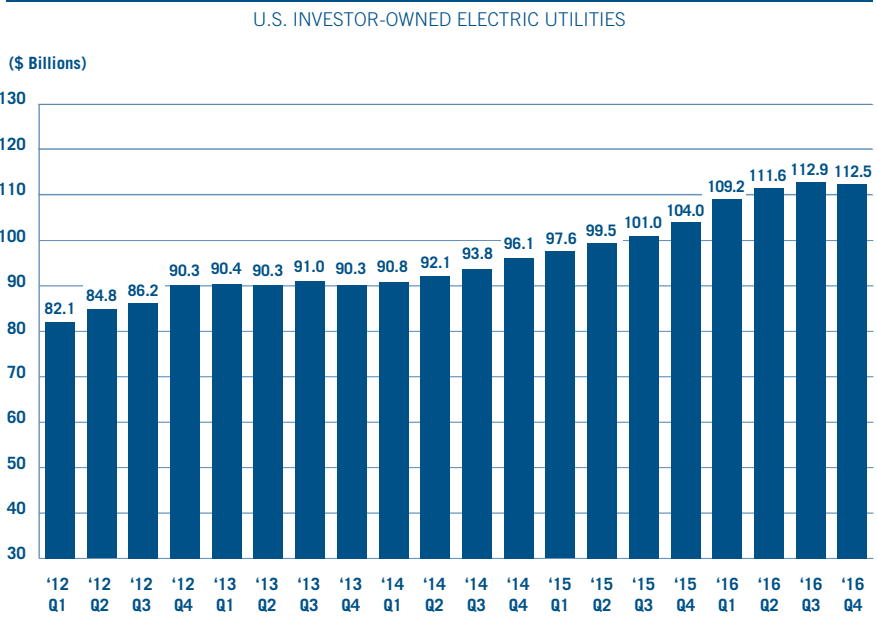
The industry experienced an 8.2% increase in Capital Expenditures, which rose from \$104.0 billion in 2015 to \$112.5 billion in 2016 for a fifth consecutive annual record high. The elevated level of capex is depicted in the *Capital Spending – Trailing 12 Months* chart. One of the principle drivers of rising capex has been the industry’s considerable investment in clean energy generation, including natural gas, nuclear, wind and solar. The industry has also sustained a high level of transmission and distribution investment for grid modernization and system expansion. Finally, investment in natural gas supply pipelines and gas distribution utilities has driven capital spending in the industry’s natural gas infrastructure segment. The \$112.5 billion spent on capex in 2016 is 180% greater than the \$40.2 billion invested during the 12-month period that ended September 30, 2004, which marked the cyclical low following the competitive generation build-out that peaked in 2001.

EEI currently projects industry capex at \$119.7 billion in 2017, \$113.8 billion in 2018 and \$109.0 billion in 2019. The 2017 projection, if realized, will be another record high for the industry, although a year’s actual total has typically been

## Capital Expenditures 2007–2016



## Capital Spending—Trailing 12 Months



slightly lower than the amount projected early in the year. In contrast, the projections for two years and three years ahead have usually been somewhat understated. EEI will update the industry’s capex projection by business function (transmission, distribution, generation, natural gas-related and environment) during the summer of 2017.

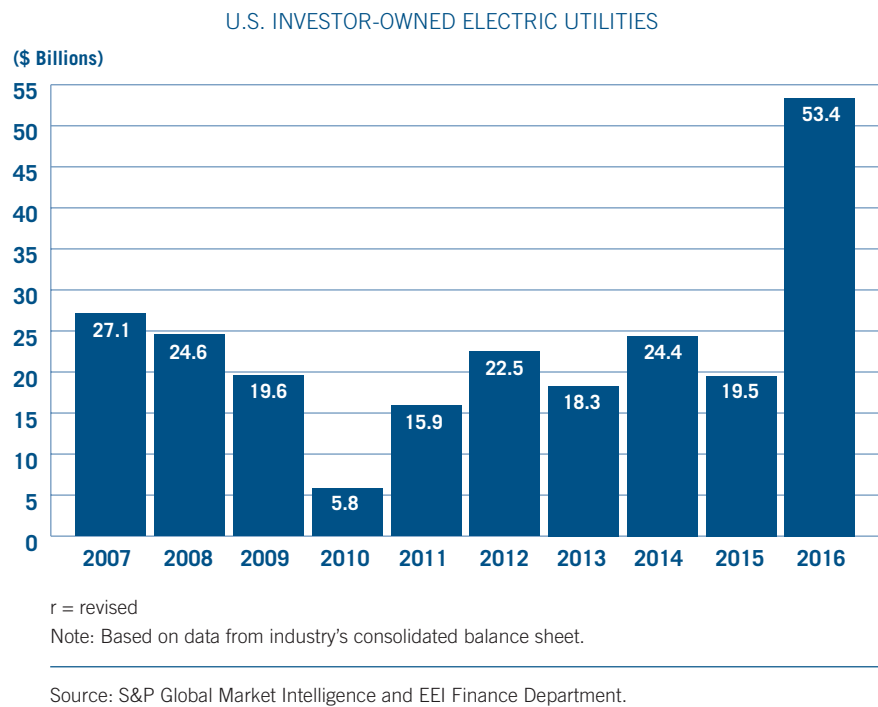
**Net Cash Provided by Financing Activities**

Net Cash Provided by Financing Activities increased by \$33.5 billion, or nearly 500%, to \$40.5 billion in 2016 from \$7.0 billion in 2015. The primary reason was a \$20.2 billion increase in the Net Change in Long-term Debt as the group of companies that were active asset purchasers in 2016 issued debt to fund these purchases. The industry’s long-term debt increased annually at an average of \$19.1 billion per year between 2008 and 2015. In 2016, however, long-term debt jumped by \$53.4 billion, as noted on the *Net Change in Long-term Debt* graph, which is based on data from the industry’s consolidated balance sheet.

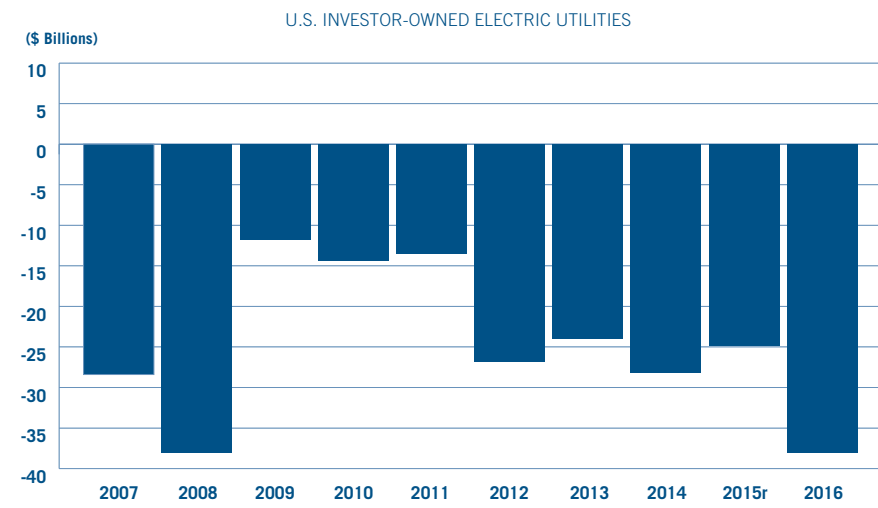
Given the industry’s extended period of elevated capital spending, it is not surprising that long-term debt has risen continuously since the sizeable debt pay-downs that took place from 2003 through mid-year 2006. Total long-term debt fell from \$349.7 billion at the end of 2003 to \$322.8 billion at June 30, 2006 and has since risen to \$555.4 billion (including securitized debt) at December 31, 2016.

Proceeds from Issuance of Common Equity rose 64.2%, to

**Net Change in Long-term Debt 2007–2016**



**Free Cash Flow (FCF) 2007–2016**



(\$ Billions)	2007	2008	2009	2010	2011	2012	2013	2014	2015r	2016
Net Cash Provided by Operating Activities	61.1	61.3	82.9	77.7	84.4	84.0	87.1	89.0	101.6	98.3
Capital Expenditures	(74.1)	(82.8)	(77.6)	(74.2)	(78.6)	(90.3)	(90.3)	(96.1)	(104.0)	(112.5)
Dividends Paid to Common Shareholders	(15.4)	(16.5)	(17.1)	(18.0)	(19.3)	(20.5)	(20.8)	(21.1)	(22.5)	(23.8)
<b>Free Cash Flow</b>	<b>(28.4)</b>	<b>(38.0)</b>	<b>(11.8)</b>	<b>(14.4)</b>	<b>(13.5)</b>	<b>(26.8)</b>	<b>(24.0)</b>	<b>(28.2)</b>	<b>(24.8)</b>	<b>(38.0)</b>

r = revised  
 Note: Totals may not equal sum of components due to rounding.  
 Source: S&P Global Market Intelligence and EEI Finance Department.

\$12.1 billion in 2016 from \$7.4 billion in 2015. The industry's strong stock market performance over the last decade, in addition to a widespread desire to strengthen debt-to-capitalization ratios, led to relatively higher stock issuances over the period.

### Free Cash Flow Deficit Continues in 2016

Free cash flow was negative \$38.0 billion in 2016 compared to negative \$24.8 billion in 2015 and negative \$28.2 billion in 2014. The change in 2016 related to the \$3.3 billion decrease in Net Cash Provided by Operating Activities paired with the \$8.5 billion increase in Capital Expenditures. The industry's calendar-year free cash flow was last positive in 2004. There is a strong association on the regulated side of the business between rising capex, declin-

ing free cash flow and regulatory lag (defined as the time between a rate case filing and decision). Regulatory lag delays the recovery of costs associated with capital investment and can result in utilities significantly under-earning their allowed return on equity (ROE).

Total aggregate industry-wide cash Dividends Paid to Common Shareholders rose \$1.4 billion, or 6.0%, in 2016 from 2015's level. From 2003 through 2016, total industry-wide cash dividends grew by 93.5%, to \$23.8 billion from \$12.3 billion. While some analysts define free cash flow as the difference between cash flow from operations and capital expenditures, we also deduct common dividends due to the utility industry's strong tradition of dividend payments.

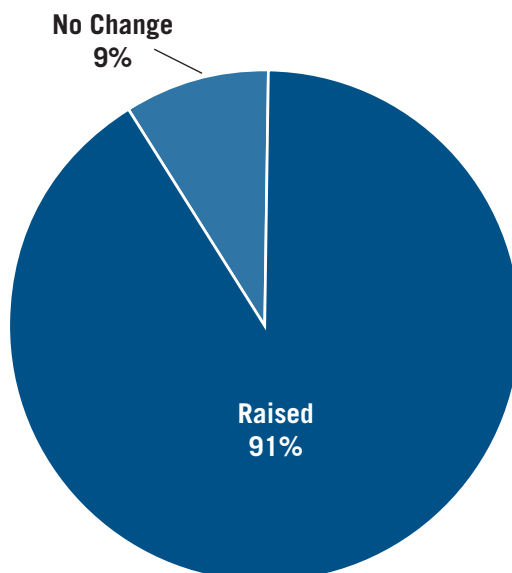
## Dividends

The investor-owned electric utility industry extended its long-term trend of widespread dividend increases during 2016. A total of 40 companies increased or reinstated their dividend in 2016; this was the highest number since 43 did so in 2007. During 2016, twenty companies increased their dividend in Q1, seven in Q2, four in Q3 and nine in Q4. This follows the usual trend of the first quarter being the most active for dividend changes.

The percentage of companies that raised or reinstated their dividend in 2016 was 91%, up from 85% in 2015, 79% in 2014, 74% in 2013, 73% in 2012, 58% in 2011 and 60% in 2010. The 2016 result is the high-

### 2016 Dividend Patterns

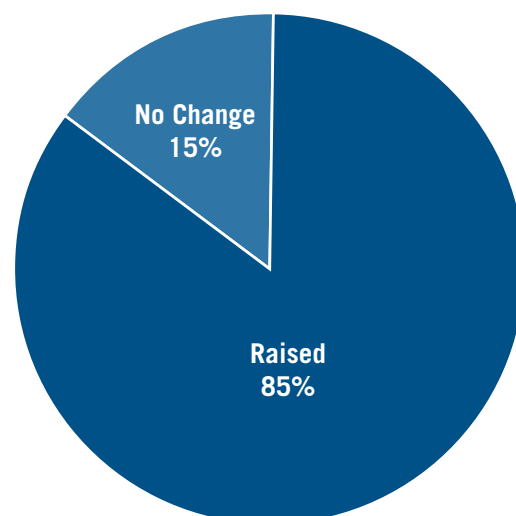
U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Source: EEI Finance Department.

### 2015 Dividend Patterns

U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Source: EEI Finance Department.

est on record, based on data going back to 1988. In 2003, only 27 of the 65 companies (42%) increased their dividend. The 15% dividend tax rate has supported the high number of increases in recent years.

At December 31, 2016, all 44 publicly traded companies in the EEI Index were paying a common stock dividend. The *Dividend Patterns* table

shows the industry's dividend paying patterns over the past 24 years. Each company is limited to one action per year. For example, if a company raised its dividend twice during a year, that counts as one in the Raised column. Companies generally use the same quarter each year for dividend changes, with the first quarter being the most common for electric utilities.

### 2016 Increases Average 5.6%

The average dividend increase per company during 2016 was 5.6%, with a range of 0.7% to 13.0% and a median increase of 5.1%. Coincidentally, three companies tied for the largest annual percentage increase at 13.0%; Next Era Energy raised its dividend in Q1, Edison International in Q4 and DTE Energy reached 13.0% after two increases, in Q2 and Q4.

## Dividend Patterns 1993–2016

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

	Raised	No Change	Lowered	Omitted*	Reinstated	Not Paying	Total	Dividend Payout Ratio
1993	65	29	1	–	1	4	100	80.5%
1994	54	37	6	–	–	3	100	79.8%
1995	52	40	3	–	–	3	98	75.3%
1996	48	44	2	1	1	2	98	70.7%
1997	40	45	6	2	–	3	96	84.2%
1998	40	37	7	–	–	5	89	82.1%
1999	29	45	4	–	3	2	83	74.9%
2000	26	39	3	1	–	2	71	63.9%**
2001	21	40	3	2	–	3	69	64.1%
2002	26	27	6	3	–	3	65	67.5%
2003	26	24	7	2	1	5	65	63.7%
2004	35	22	1	–	–	7	65	67.9%
2005	34	22	1	1	2	5	65	66.5%
2006	41	17	–	–	–	6	64	63.5%
2007	40	15	–	–	3	3	61	62.1%
2008	36	20	1	–	1	1	59	66.8%
2009	31	23	3	–	–	1	58	69.6%
2010	34	22	–	–	–	1	57	62.0%
2011	31	22	–	1	1	–	55	62.8%
2012	36	14	–	–	1	–	51	64.2%
2013	36	12	1	–	–	–	49	61.5%
2014	38	9	1	–	–	–	48	60.4%
2015	39	7	–	–	–	–	46	67.0%
2016	40	4	–	–	–	–	44	62.9%

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Average of the Increased Dividend Actions ***</b>	7.4%	9.4%	7.2%	8.2%	6.8%	7.2%	5.3%	5.7%	5.8%	5.6%

<b>Average of the Declining Dividend Actions ***</b>	NA	(45.7%)	(46.4%)	NA	(100.0%)	NA	(41.0%)	(34.5%)	NA	NA
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\* Omitted in current year. This number is not included in the Not Paying column.

\*\* Prior to 2000 = total industry dividends/total industry earnings, starting in 2000 = average of all companies paying a dividend.

\*\*\* Excludes companies that omitted or reinstated dividends.

Note: Dividend percent changes are based on year-end comparisons.

Source: EEI Finance Department and S&P Global Market Intelligence.



NextEra, based in Juno Beach, Florida, raised its quarterly dividend from \$0.77 to \$0.87 per share in the first quarter. The increase is consistent with the company's plan, announced in 2015, to target 12% to 14% annual growth in dividends per share (off a 2015 base) and a 65% payout ratio (relative to adjusted earnings per share) by 2018.

Edison International, headquartered in Rosemead, California, announced in Q4 an increase in its quarterly dividend from \$0.48 to \$0.5425 per share, marking a third straight year of a \$0.25 per share annual increase. The company also said it would like to increase its payout ratio (within a range of 45% to 55% of earnings of Southern California Edison).

DTE Energy, base in Detroit, announced a \$0.04 per share increase in Q2 and \$0.055 per share in Q4; together these produced an aggregate 13.0% increase. The company said it is targeting an annual dividend increase of approximately 7% through 2019 — higher than the 5.6% average dividend increase over the past five years — in order to bring its dividend payout ratio in line with industry peers.

### Payout Ratio and Dividend Yield

The industry's dividend payout ratio was 61.5% for the year ended December 31, 2016, remaining among the highest of all U.S. business sectors. The broader Utilities sector (consisting of electric, gas and water utilities) was slightly lower, at 61.1%. The industry's payout ratio was 62.9% when measured as an un-weighted average of individual company ratios; 61.5% represents an aggregate figure.

Sector Comparison Dividend Payout Ratio For 12-month period ending 12/31/16	
Sector	Payout Ratio (%)
<b>EI Index Companies*</b>	<b>61.5%</b>
Energy	392.4%
Utilities	61.1%
Consumer Staples	54.9%
Materials	42.0%
Industrial	39.1%
Technology	32.7%
Consumer Discretionary	30.9%
Financial	28.8%
Health Care	27.2%

\* For this table, EEI (1) sums dividends and (2) sums earnings of all index companies and then (3) divides to determine the comparable DPR.

**Assumptions:**

1. EEI Index Companies payout ratio based on LTM common dividends paid and income before nonrecurring and extraordinary items.
2. S&P sector payout ratios based on 2016E dividends and earnings per share (estimates as of 12/31/2016).

For more information on constituents of each S&P sector, see <http://www.sectorspdr.com/>.

Source: AltaVista Research, S&P Global Market Intelligence, and EEI Finance Department.

While the industry's net income has fluctuated from year to year, its payout ratio has remained relatively consistent after eliminating non-recurring and extraordinary items from earnings. From 2000 through 2016, the annual payout ratio ranged from 60.4% to 69.6%, with the highest result in 2009 due to the weak economy and the weather's negative impact on earnings. We use the fol-

lowing approach when calculating the industry's dividend payout ratio:

1. Non-recurring and extraordinary items are eliminated from earnings.
2. Companies with negative adjusted earnings are eliminated.
3. Companies with a payout ratio in excess of 200% are eliminated.



The industry’s average dividend yield was 3.4% on December 31, 2016, higher than that of all other business sectors except the broader Utilities sector’s 3.8%. The industry’s yield was 3.4% at September 30, 3.2% at June 30 and 3.4% at March 31. This follows yields of 3.8% at year-end 2015, 3.3% at year-end 2014, 4.0% at year-end 2013, 4.3% at year-end 2012, 4.1% at year-end 2011, 4.5% at year-ends 2010 and 2009, and 4.9% at year-end 2008.

We calculate the industry’s aggregate dividend yield using an un-weighted average of the 44 publicly traded EEI Index companies’ yields. The strong dividend yields prevalent among most electric utilities have helped support their share prices over the past decade, especially given the period’s historically low interest rates. The decline in yield over the last year is due to the rise in utility stock prices. The EEI Index gained 17.4% in 2016, outperforming the broader market in-

dices. This follows a negative 3.9% return in 2015 and positive returns of 28.9%, 13.0%, 2.1%, 20.0%, 7.0% and 10.7% in 2014, 2013, 2012, 2011, 2010 and 2009, respectively. The EEI Index produced a positive total return in 12 of the last 14 years.

**Business Category Comparison**

As shown in the *Category Comparison, Dividend Yield* table, the Regulated and Mostly Regulated categories both had dividend yields of 3.4% at yearend 2016, while the Diversified category had a 3.7% yield. Note that Diversified category metrics have become less meaningful indicators of broad industry trends in recent years; category membership fell to just two publicly traded companies in 2016 as industry business models have migrated back to a Regulated emphasis. The yields for all three categories are below their levels at December 31, 2015, when the Regulated, Mostly Regulated and Diversified yields were 3.7%, 3.8% and 4.2%, respectively.

The Regulated category had a dividend payout ratio of 61.1% in 2016, compared to 68.0% and 64.6% for the Mostly Regulated and Diversified categories, respectively (see *Category Comparison, Dividend Payout Ratio* table). The Regulated category produced the highest annual payout ratio in 2015, 2011 and 2010 and each year from 2003 through 2008. It was exceeded by the Mostly Regulated group in 2009 and from 2012 through 2014. It’s likely that the weaker earnings from

**Sector Comparison, Dividend Yield**  
As of December 31, 2016

Sector	Dividend Yield (%)
<b>EEI Index Companies</b>	<b>3.4%</b>
Utilities	3.8%
Consumer Staples	2.8%
Energy	2.3%
Industrial	2.3%
Materials	2.2%
Financial	2.1%
Health Care	1.9%
Technology	1.9%
Consumer Discretionary	1.6%

**Assumptions:**

1. EEI Index Companies' yield based on last announced, annualized dividend rates (as of 12/31/2016); S&P sector yields based on 2016E cash dividends (estimates as of 12/31/2016).

For more information on constituents of each S&P sector, see <http://www.sectorspdr.com/>.

Source: AltaVista Research, S&P Global Market Intelligence and EEI Finance Department.

## Category Comparison, Dividend Payout Ratio

Category <sup>1</sup>	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>EI Index</b>	<b>62.1</b>	<b>66.8</b>	<b>69.6</b>	<b>62.0</b>	<b>62.8</b>	<b>64.2</b>	<b>61.5</b>	<b>60.4</b>	<b>67.0</b>	<b>62.9</b>
Regulated	65.0	71.2	68.2	64.1	63.4	62.1	60.5	59.4	68.7	61.1
Mostly Regulated	63.5	66.7	72.2	60.7	63.1	69.7	64.7	63.8	62.6	68.0
Diversified	45.5	44.6	69.2	49.7	54.7	53.4	44.7	56.4	64.9	64.6

<sup>1</sup> Refer to page v for category descriptions.

Note: In addition to the impact of dividend strategies and company earnings, the dividend payout ratios for each category are also affected by the movement of companies between categories and by dividend reinstatements and cancellations.

Source: EEI Finance Department, S&P Global Market Intelligence, and company annual reports.

## Category Comparison, Dividend Yield As of December 31, 2016

Category <sup>1</sup>	Dividend Yield
<b>EI Index</b>	<b>3.4%</b>
Regulated	3.4%
Mostly Regulated	3.4%
Diversified	3.7%

<sup>1</sup> Refer to page v for category descriptions.

Source: EEI Finance Department and S&P Global Market Intelligence.

the competitive power business contributed to the higher payout ratio among Mostly Regulated companies over the last five years.

### Share Repurchases Remain Low

Ten of the industry's publicly traded companies repurchased an aggregate \$267 million of common

shares during 2016 as an alternate way of returning cash to shareholders. This compares to 12 companies and \$1.9 billion in 2015, 12 companies and \$668 million in 2014, 10 companies and \$410 million in 2013, 14 companies and \$821 million in 2012, 15 companies and \$1.8 billion in 2011, 13 companies

and \$2.7 billion in 2010, 11 companies and \$908 million in 2009, and 18 companies and \$2.4 billion in 2008 — all levels that were far below the \$11.9 billion of 2007. The industry's common share repurchases exceeded \$6.0 billion in 2004, 2005 and 2006 after rising from only \$120 million in 2003.

## Dividend Summary

### As of December 31, 2016

#### U.S. INVESTOR-OWNED ELECTRIC UTILITIES

Company Name	Stock	Company Category	Annualized Dividends	Payout Ratio	Yield (%)	Last Action	To	From	Date Announced
ALLETE, Inc.	ALE	MR	\$2.08	61.6%	3.2%	Raised	\$2.08	\$2.02	2016 Q1
Alliant Energy Corporation	LNT	R	\$1.18	60.2%	3.1%	Raised	\$1.18	\$1.10	2016 Q1
Ameren Corporation	AEE	R	\$1.76	63.3%	3.4%	Raised	\$1.76	\$1.70	2016 Q4
American Electric Power Company, Inc.	AEP	R	\$2.36	41.3%	3.7%	Raised	\$2.36	\$2.24	2016 Q4
AVANGRID, Inc.	AGR	MR	\$1.73	94.8%	4.6%	Raised	\$1.73	\$1.69	1996 Q1
Avista Corporation	AVA	R	\$1.37	67.3%	3.4%	Raised	\$1.37	\$1.32	2016 Q1
Black Hills Corporation	BKH	R	\$1.68	42.1%	2.7%	Raised	\$1.68	\$1.62	2016 Q1
CenterPoint Energy, Inc.	CNP	MR	\$1.03	55.0%	4.2%	Raised	\$1.03	\$0.99	2016 Q1
CMS Energy Corporation	CMS	R	\$1.24	59.6%	3.0%	Raised	\$1.24	\$1.16	2016 Q1
Consolidated Edison, Inc.	ED	R	\$2.68	68.4%	3.6%	Raised	\$2.68	\$2.60	2016 Q1
Dominion Resources, Inc.	D	MR	\$2.80	80.2%	3.7%	Raised	\$2.80	\$2.59	2016 Q1
DTE Energy Company	DTE	R	\$3.30	60.1%	3.3%	Raised	\$3.30	\$3.08	2016 Q4
Duke Energy Corporation	DUK	R	\$3.42	65.7%	4.4%	Raised	\$3.42	\$3.30	2016 Q3
Edison International	EIX	R	\$2.17	60.8%	3.0%	Raised	\$2.17	\$1.92	2016 Q4
El Paso Electric Company	EE	R	\$1.24	54.4%	2.7%	Raised	\$1.24	\$1.18	2016 Q2
Empire District Electric Company	EDE	R	\$1.04	66.1%	3.1%	Raised	\$1.04	\$1.02	2014 Q4
Entergy Corporation	ETR	R	\$3.48	37.1%	4.7%	Raised	\$3.48	\$3.40	2016 Q4
Eversource Energy	ES	R	\$1.78	62.6%	3.2%	Raised	\$1.78	\$1.67	2016 Q1
Exelon Corporation	EXC	D	\$1.27	57.6%	3.6%	Raised	\$1.27	\$1.24	2016 Q2
FirstEnergy Corp.	FE	MR	\$1.44	50.4%	4.6%	Lowered	\$1.44	\$2.20	2014 Q1
Great Plains Energy Inc.	GXP	R	\$1.10	75.8%	4.0%	Raised	\$1.10	\$1.05	2016 Q4
Hawaiian Electric Industries, Inc.	HE	D	\$1.24	71.6%	3.7%	Raised	\$1.24	\$1.22	1998 Q1
IDACORP, Inc.	IDA	R	\$2.20	53.4%	2.7%	Raised	\$2.20	\$2.04	2016 Q3
MDU Resources Group, Inc.	MDU	MR	\$0.77	81.3%	2.7%	Raised	\$0.77	\$0.75	2016 Q4
MGE Energy, Inc.	MGEE	MR	\$1.23	57.8%	1.9%	Raised	\$1.23	\$1.18	2016 Q3
NextEra Energy, Inc.	NEE	MR	\$3.48	66.7%	2.9%	Raised	\$3.48	\$3.08	2016 Q1
NiSource Inc.	NI	R	\$0.66	69.3%	3.0%	Raised	\$0.66	\$0.62	2016 Q2
NorthWestern Corporation	NWE	R	\$2.00	58.7%	3.5%	Raised	\$2.00	\$1.92	2016 Q1
OGE Energy Corp.	OGE	R	\$1.21	72.7%	3.6%	Raised	\$1.21	\$1.10	2016 Q3
Otter Tail Corporation	OTTR	R	\$1.25	80.3%	3.1%	Raised	\$1.25	\$1.23	2016 Q1
PG&E Corporation	PCG	R	\$1.96	61.3%	3.2%	Raised	\$1.96	\$1.82	2016 Q2
Pinnacle West Capital Corporation	PNW	R	\$2.62	61.0%	3.4%	Raised	\$2.62	\$2.50	2016 Q4
PNM Resources, Inc.	PNM	R	\$0.97	35.2%	2.8%	Raised	\$0.97	\$0.88	2016 Q4
Portland General Electric Company	POR	R	\$1.28	60.1%	3.0%	Raised	\$1.28	\$1.20	2016 Q2
PPL Corporation	PPL	R	\$1.52	55.9%	4.5%	Raised	\$1.52	\$1.51	2016 Q1
Public Service Enterprise Group Incorporated	PEG	MR	\$1.64	62.5%	3.7%	Raised	\$1.64	\$1.56	2016 Q1
SCANA Corporation	SCG	MR	\$2.30	57.1%	3.1%	Raised	\$2.30	\$2.18	2016 Q1
Sempra Energy	SRE	MR	\$3.02	80.2%	3.0%	Raised	\$3.02	\$2.80	2016 Q1
Southern Company	SO	R	\$2.24	67.1%	4.6%	Raised	\$2.24	\$2.17	2016 Q2
Unitil Corporation	UTL	R	\$1.42	76.3%	3.1%	Raised	\$1.42	\$1.40	2016 Q1

## Dividend Summary (cont.)

As of December 31, 2016

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

Company Name	Stock	Company Category	Annualized Dividends	Payout Ratio	Yield (%)	Last Action	To	From	Date Announced
Vectren Corporation	VVC	R	\$1.68	64.7%	3.2%	Raised	\$1.68	\$1.60	2016 Q4
Westar Energy, Inc.	WR	R	\$1.52	59.2%	2.7%	Raised	\$1.52	\$1.44	2016 Q1
WEC Energy Group, Inc.	WEC	R	\$2.08	71.0%	3.5%	Raised	\$2.08	\$1.98	2016 Q4
Xcel Energy Inc.	XEL	R	\$1.36	61.6%	3.3%	Raised	\$1.36	\$1.28	2016 Q1
<b>Industry Average</b>				<b>62.9%</b>	<b>3.4%</b>				

### NOTES

Business Segmentation: Assets as of 12/31/2015

#### Categories:

**R = Regulated:** greater than 80% of total assets are regulated.

**MR = Mostly Regulated:** 50 to 80% of total assets are regulated.

**D = Diversified:** less than 50% of total assets are regulated.

Dividend Per Share: Per share amounts are annualized declared figures as of 12/31/2016.

Dividend Payout Ratio: Dividends paid for 12 months ended 12/31/2016 divided by net income before nonrecurring and extraordinary items for 12 months ended 12/31/2016. While net income is after-tax, nonrecurring and extraordinary items are pre-tax, as there is no consistent method of gathering these items on a tax adjusted basis under current reporting guidelines. On an individual company basis, the Payout Ratio in the table could differ slightly from what is reported directly by the company.

"NM" applies to companies with negative earnings or payout ratios greater than 200%.

Dividend Yield: Annualized Dividends Per Share at 12/31/2016 divided by stock price at market close on 12/31/2016.

By Business Segment: Average of Dividend Payout Ratios and Dividend Yields for companies within these business segments.

Source: EEI Finance Department and S&P Global Market Intelligence.

## Rate Case Summary

Electric utilities filed 70 new rate cases in 2016, a number consistent with the long-term trend of rising rate case activity since 2000. Previously, in the industry's period of restructuring, electric utilities typically filed fewer than five new cases per quarter. The average awarded ROE in 2016 was 9.75%, the lowest annual average in our nearly 30 years of historical data and at the low end of the long-term decline in approved ROEs over the entire period. The average requested ROE in 2016 was 10.48%; while not a record low, this

was among the lowest levels in our dataset and has declined along with the long-term decline in approved ROEs. Declining interest rates since the early 1980s account for much of the long-term trend in both requested and awarded ROEs. Average regulatory lag in 2016 was 8.8 months, close to the approximate 10-month average over the history of our dataset. Regulatory lag has shown only temporary fluctuations away from its average and will likely continue to remain relatively stable unless state commissions accelerate the speed with which cases are decided.

## Filed Cases in 2016

Broadly speaking, the primary reason for rate case filings is the need to recover capital expenditures (capex). Utilities' desire to establish rate mechanisms and to recover operation and maintenance expenses are often the second and third most common reasons for rate case filings. All of these were evident in 2016. Requests for relief from the impact of only very slowly growing (or even declining) sales was the fourth most-cited reason for filings. Successful implementation of energy efficiency programs, slow economic growth in recent years and the de-industrialization of the U.S. economy over recent decades are all

likely reasons for the current lack of demand growth facing most utilities. Utilities' attempts to increase the customer charge and adjust the allowed ROE also figured prominently as reasons for filings in 2016.

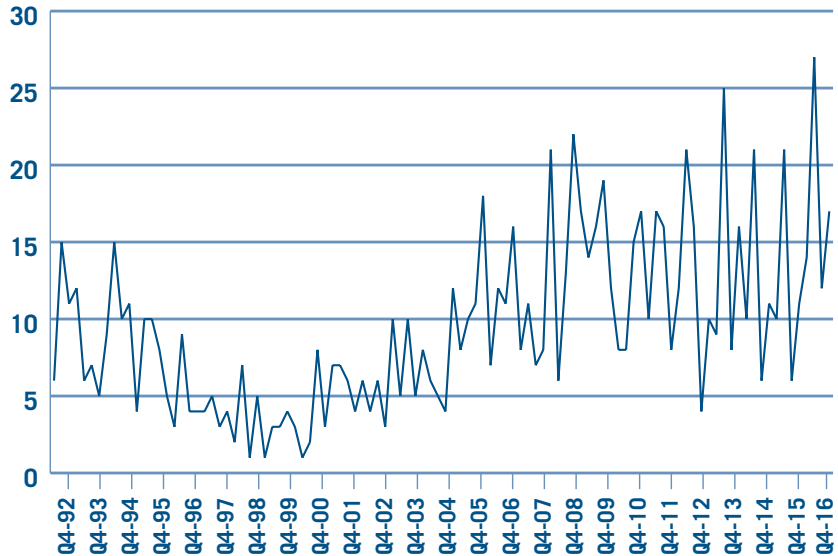
**Capital Expenditures**

Southwestern Public Service in Texas filed in part for rate recognition of the Texas portion of the company's more than \$1 billion in capital investment since June 30, 2014, the end of the test period for its last rate case. Investments included replacements, upgrades and expansions across the company's generation, distribution and transmission systems in order to improve reliability and meet North American Electric Reliability Corporation and environmental requirements. Capital expenditures in 2015 were \$590 million and the company hopes to recover planned expenditures that range from \$450 million to \$790 million annually between 2016 and 2020. Those totals do not include expenditures resulting from the Environmental Protection Agency's Regional Haze Rule or the Clean Power Plan.

Atlantic City Electric in New Jersey filed in part because it believes rates do not provide sufficient revenue to reflect its increased investment in rate base. The company has invested \$716 million since 2011 to improve its distribution system, a level it expects to maintain over the next several years. Further, the company is seeking approval of its "Power Ahead" program, which it describes as "a comprehensive plan to advance the modernization of the electric grid through energy efficiency, in-

**Number of Rate Cases Filed 1992-2016**

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

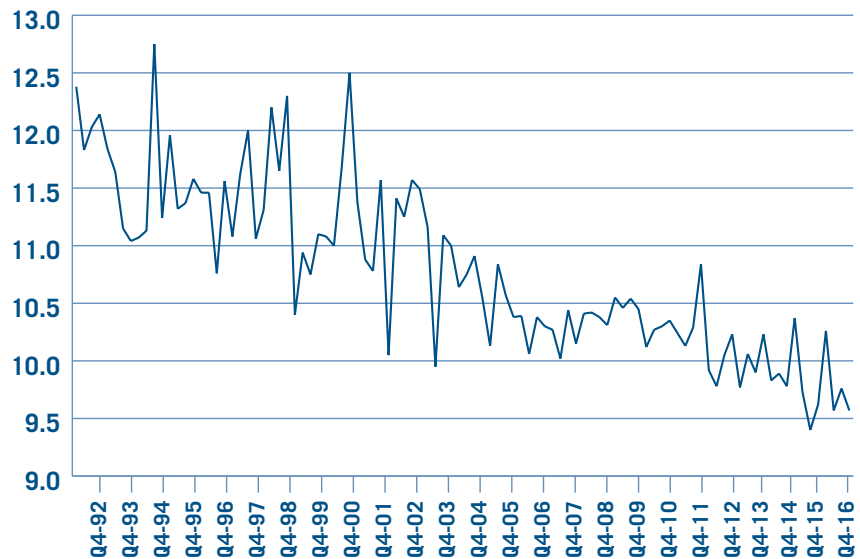


Source: S&P Global Market Intelligence/Regulatory Research Assoc. and

**Average Awarded ROE 1992-2016**

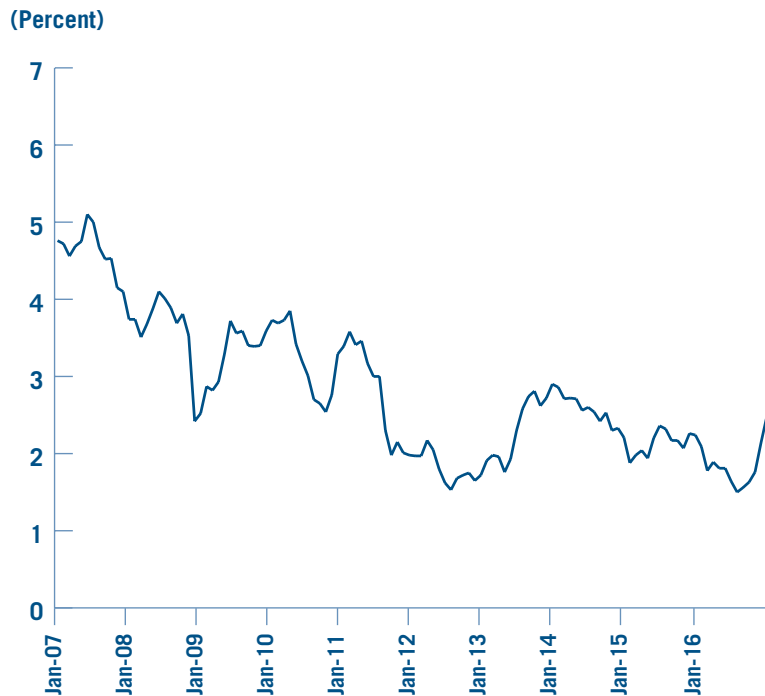
U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(Percent)



Source: S&P Global Market Intelligence/Regulatory Research Assoc. and

## 10-Year Treasury Yield 1/1/07 through 12/31/16



Source: U.S. Federal Reserve.

creased distributed generation, and resiliency, all geared toward improving the distribution system's ability to withstand major storm events." This effort responds to a 2015 commission order encouraging utilities to find ways to harden New Jersey's infrastructure against damage from major storms. The company expects to spend \$176 million for the program over the next five years.

Southern California Edison filed in Q3 to recover for a range of capital investments that included replacement of aging equipment, capacity additions in response to customer and load growth, safety and reliability improvements, and enhancement of its system's ability to manage rising amounts of distributed energy

resources. The company proposes to spend \$2.1 billion in grid modernization between 2018 and 2020, including updating automation systems for the worst-performing distribution circuits, providing communications equipment for these upgrades, and employing analytic tools to advance system planning and grid operations.

### Residential Customer and Demand Charges

Avista filed in Washington state in part to increase its residential customer charge from \$8.50 to \$9.50. KCP&L subsidiaries filed to increase residential customer charges to \$14.50 from \$10.43 for Missouri Public Service and from \$9.54 for

Saint Joseph Light & Power. Atlantic City Electric filed in New Jersey in part to raise its residential customer charge from \$4 to \$6. Delmarva Power in Maryland filed in part to increase the residential customer charge from \$7.94 per month to \$12 per month. Wisconsin Power and Light filed to increase the residential customer charge from \$7.67 per month to \$12 per month in 2017 and then to \$18 per month in 2018.

In Arkansas, Oklahoma Gas and Electric filed in part to implement a three-component rate for residential and general service customers. [The components of a three-component rate are a customer charge, a demand charge and a usage charge. Most electric rates are currently two-component rates — a customer charge and a usage charge.] The filing would increase the customer charge component of the residential rate from \$7.94 to \$11.80 and add a demand charge component of \$1 per kilowatt. For general service customers, the company proposes to raise the customer charge from \$21.75 to \$28 and add a demand charge of \$1 per kilowatt.

Utilities generally seek to increase the customer charge (a fixed component of a customer's bill) because rate structures typically force recovery of fixed costs through variable, usage-related rates. Customers who are able to dramatically lower usage can avoid paying their share of a utility's fixed costs, shifting the burden to other customers who lack the same ability. A utility's less-affluent customers often have limited control over their usage.



*Hawaiian Electric*

Among the companies filing for capex recovery in 2016 was Hawaiian Electric, which sought to recover investment in new biofuel and conventional fuel generation. The company said it has increased its wind generation and made “substantial investments to maintain and improve the efficiency, reliability, and resiliency of its systems and grid. This includes new infrastructure and replacement of underground cables and thousands of poles and transformers, as well as implementation of advanced cybersecurity measures.”

The filing also sought increased revenue to support and improve service quality and customer service, and to achieve state energy policy goals. The filing discussed the company’s significant progress toward clean and renewable energy goals, including exceeding its 2015 renewable portfolio standards goal and lowering greenhouse gas emissions by more than 17% over the past five years.

A third goal of the filing was to make adjustments to the company’s alternative regulatory framework (ARF), which consists of a revenue decoupling mechanism, a cost of service recovery mechanism (CSRM) and an earnings sharing mechanism. The CSRM allows for recovery between rate cases of rate base additions, increases in operating and maintenance expenses (subject to certain limitations), and certain depreciation and amortization expenses. The earnings sharing mechanism provides for no sharing if the company earns below its authorized ROE. The requested ARF adjustment asks that baseline plant

additions be based on either: 1) the amount approved in the most recent rate case adjusted annually by the gross domestic product price index or 2) an average of the projected baseline plant additions specified in the most recent rate case test year and two subsequent years. The company also asked the commission to initiate a docket on performance-based regulation for all Hawaiian electric utilities.

*Kansas City Power & Light Missouri*

Kansas City Power & Light filed in Q3 in part to recover (using the company’s fuel adjustment clause) forecasted levels of transmission costs associated with independent system operator organizations in which the company participates. The company says such recovery is critical to earning its allowed return. If the commission denies the proposal, the company will attempt to recover through a tracking mechanism costs that vary from projections. The company’s previous case disallowed recovery through the fuel adjustment clause of the transmission costs associated with power the company sells into the Southwest Power Pool and repurchases for its native load. The company also hopes to recover infrastructure investments, increased transmission costs and the shortfall caused by lower usage per customer. The company filed to include in revenue requirement forecasted levels of expenses associated with property taxes, critical infrastructure protection and cybersecurity — all in an effort to achieve its allowed return.

*Pepco (Maryland)*

Pepco’s filing in Maryland asked to amortize over ten years its investment in meters retired as a result of Pepco’s implementation of an advanced metering infrastructure. The filing also sought to recover costs associated with a commission-ordered electric vehicle pilot program. The company said in its filing that, even if the commission grants the full requested increase, customer bills will still be 9% below the level of five years ago because market power prices have declined. The requested increase also includes two credits of \$50 each to residential customers; these were part of the terms for Exelon’s acquisition of Pepco.

*Pepco (Washington, D.C.)*

Pepco filed in D.C. in part to enhance its ability to provide an adequate return to its investors, to sustain reliability, and to support customer service, customer satisfaction and technical innovation. As in its Maryland filing, the D.C. filing reflects a one-time residential bill credit of \$54.59 related to Pepco’s acquisition by Exelon. Pepco D.C. is also establishing a \$72.8 million fund to provide benefits to D.C. customers; the company will use \$25.6 million of this to offset any distribution rate increases through March 2019. The full \$25.6 million is allocated to this case filing, \$4.4 million of which will be used to offset increases for customer in master-metered apartment buildings. Pepco also requests that an incremental \$1 million offset to residential rate increases be deferred for recovery in a future year.

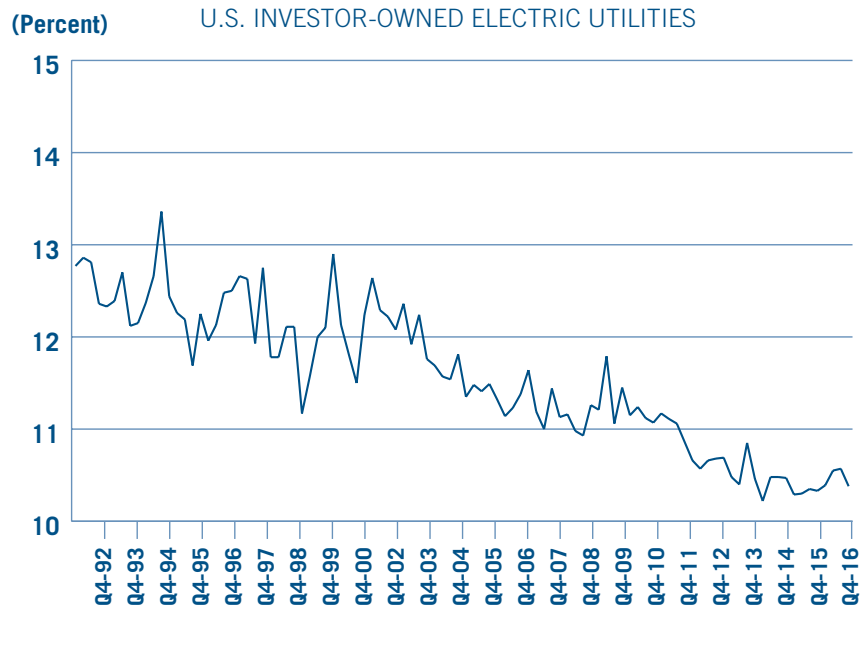
***Rockland Electric New Jersey***

Rockland Electric filed in New Jersey in part to recover costs associated with installing an advanced metering infrastructure (AMI). Rockland’s goals for the AMI are to increase operational efficiency and performance; enhance customer service (including outage detection and service restoration); enable customer engagement; and reduce greenhouse gas emissions. Rockland also envisions the AMI as helping it comply with the New Jersey Energy Master Plan, which includes goals such as driving down the costs of energy for all customers, rewarding energy efficiency and energy conservation, reducing peak demand, and capitalizing on emerging technologies for power production.

***Union Electric Missouri***

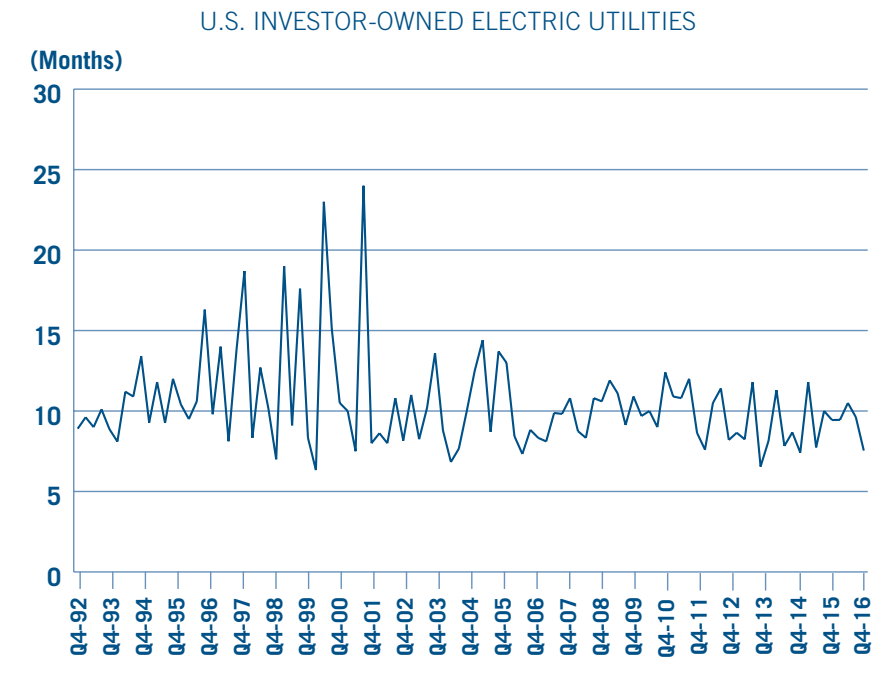
Union Electric in Missouri filed in part to recover \$81.5 million resulting from reduced sales caused by the failing of an electric supply circuit owned by Noranda Aluminum, the company’s largest customer, which filed for bankruptcy. The utility also filed to put into revenue requirements the forecasted transmission costs associated with its participation in the Midcontinent Independent System Operator (MISO), with variations recorded in a tracking mechanism.

**Average Requested ROE 1992–2016**



Source: S&P Global Market Intelligence/Regulatory Research Assoc. and

**Average Regulatory Lag 1992–2016**



Source: S&P Global Market Intelligence/Regulatory Research Assoc. and



***Alaska Electric Light and Power***

Alaska Electric Light and Power’s filing in Q3 requested a 13.8% ROE, more than three percentage points above the industry’s average requested ROE for the quarter. The utility noted that the high request reflects the challenges of operating in

Alaska, which it described as a highly concentrated and geographically isolated service territory with potential for extreme weather. The company also noted its high dependence on a single hydroelectric generating facility, the lack of economies of scale and

absence of certain favorable regulatory mechanisms.

**Decided Cases 2016**

The table below summarizes residential customer charge activities in 2016:

<b>Commission Rulings On Customer Charges: 2016</b>				
<b>Company</b>	<b>State</b>	<b>Former Residential Customer Charge</b>	<b>Requested</b>	<b>Awarded</b>
Avista	Washington	\$8.50	\$14	\$8.50
Kentucky Utilities	Kentucky	\$12	\$15, to increase again to \$18 at the beginning of 2017	\$12
Northern Indiana Public Service	Indiana	\$11	\$20	\$14
Empire District Electric	Missouri	\$12.52	\$14.47	\$13
El Paso Electric	Texas	\$5	\$10 \$15 for private solar customers	\$6.90 \$8.40 for customers taking advantage of time-of-use rate offer \$15 requested for private solar customers was withdrawn as part of settlement
Atlantic City Electric	New Jersey	\$4	\$6	\$4.44
Missouri Public Service	Missouri	\$10.43	\$14	\$10.43
St. Joseph Light & Power	Missouri	\$9.54	\$14	\$10.43
UNS Electric	Arizona	\$10 Time of use: \$11.50	\$15	\$15
Pepco	Maryland	\$7.39	\$12	\$7.60
UNS Electric	Arizona	\$10 \$11.50 for time-of-use		\$15 \$12 for customers choosing time-of-use or three-part rates
Wisconsin Power and Light	Wisconsin	\$7.67		\$15

### Residential Customer Charges

Southwestern Public Service in New Mexico had sought to increase customer charges for many classes of service (including the residential class) and to decrease customer charges for others (such as the small municipal and school classes). The company's approved settlement in Q3 modestly increased the customer charges for all classes; this resulted in a much smaller increase for those classes where an increase was sought.

### Rate Mechanisms

In Q1, the Indiana Commission had approved a rider for Northern Indiana Public Service to recover certain infrastructure investments. However, intervenors in the case appealed it to the Indiana Court of Appeals. The court remanded the rider back to the commission, saying the plan for the recovery associated with the rider lacked the specificity needed to determine reasonableness. The company made a separate filing that the commission approved and then dismissed the original filing, all following separate procedural efforts before the commission that provided additional information the commission found useful.

Also in Q1, the Indiana Commission approved Indianapolis Power & Light's requested rider to recover non-fuel-related costs that vary from base-level costs associated with the company's participation in the regional transmission organization. The company must true up the rider annually. The company also requested similar treatment for net capacity costs, which the commission also approved finding

that, if the company alters its generation mix, the capacity rider will help smooth cost volatility. The commission also approved a company-requested storm tracker rate mechanism and an off-system sales rider that shares shortages or overages equally between customers and shareholders.

In Q3, a settlement in Atlantic City Electric's case in New Jersey implements two economic development riders. One gives customers that construct, lease or purchase at least 8,000 square feet of new space a 20% discount on their monthly bill for five years. The other gives smaller commercial customers who lease or purchase new or vacant space of 2,500 square feet or more a 20% discount. Space must be vacant for at least three months for customers to qualify for the discount and they must hire at least one new full-time employee at the site.

### Potomac Electric Power Maryland

In Potomac Electric Power's case in Maryland, the company requested a 10.6% ROE while the commission awarded a 9.55% ROE. The commission said, "We have stated in prior rate cases that we are not willing to rule that there can be only one correct method for calculating an ROE. Indeed, the complexity of this subject cannot be captured by a single mathematical formula. ... In its three most recent rate cases, the Company consistently requested an ROE of 10.25% or greater. Each time we declined to adopt the Company's recommendation in view of the economic and risk factors faced by the company at the time. This time is no different. ... We have

considered Pepco's status as a monopolistic provider of electric distribution service in an economically stable service territory. ... We are also mindful of investor perception of utilities constituting low-risk investments. Thus we are once again presented with the question of what has changed since we last established a just and reasonable ROE for Pepco that would now justify a higher return. Our current reality is that interest rates have generally declined since 2008 and have since remained persistently low. Indeed, interest rates have remained at historic lows for nearly a decade and even fallen since the last rate case. ... Accordingly, insofar as investors rely on current market data, the data do not support Pepco's proposed increase but, rather, favor a lower cost of capital than Pepco's current authorized ROE of 9.62%. Additionally, we consider Pepco's current state of financial health and note in particular its strong, secured bond rating, which indicates low risk. In this regard ... we conclude that Pepco's situation has not changed in a manner that would justify an increase in ROE."

In this case, Pepco also attempted to recover investment in its Advance Metering Infrastructure (AMI). In 2010, the commission approved Pepco's proposed plan to deploy AMI and authorized the company to defer the costs. However, the commission ruled the company could only recover the deferred costs if a cost/benefit analysis and prudence review supported the recovery. In this case, Pepco identified operational costs of the AMI with a present value of \$175.5 million

and benefits with a present value of \$349.6 million; the company proposed to collect the deferred program costs over 10 years. While parties to the case did not agree on the respective values, they did agree AMI was cost beneficial. The commission consequently approved recovery, but warned “. . . Pepco has asserted, and Staff largely agrees, that AMI will result in significant [operation and maintenance] and energy savings. It is imperative that these savings are noticeable and demonstrable to customers over the life of AMI.” Further, the commission noted deferred costs include about \$26 million in cost overruns related to capital costs for meters, communications infrastructure and information technology. The commission found a portion of these overruns imprudent and lowered revenue requirement by \$3 million.

Pepco proposed to include in revenue requirement 50% of its annual supplemental executive retirement plan (SERP) expenses. The commission disallowed these expenses, saying “Although the Company may be correct in noting that the commission has disallowed 50% of SERP expenses in Pepco’s two most recent cases, we find that Staff has astutely pointed out that there are some new circumstances to be considered. . . . after two neighboring jurisdictions recently disallowed 100% of SERP costs . . . the Company has not performed any analysis to support its continued claim that SERP benefits help the Company to attract and retain qualified executive level talent.”

Pepco proposed to extend its Grid Resiliency Program with a surcharge of \$31 million over two years. The commission rejected the proposal, saying “We have reserved concurrent cost recovery in the form of a surcharge to exceptional circumstances when we find that immediate improvement to reliability is needed. This is currently no longer the case for Pepco. Its own witness testified that these improvements were not necessary to meet Pepco’s reliability targets for 2019.”

Pepco proposed to increase the residential customer charge from \$7.39 to \$12. The commission said, “As with allocating costs between rate classes, determining the proper ratio between customer, volumetric and demand charges requires balancing many competing variables. It is important that customers who cause certain costs incur those costs, but the principle of gradualism applies here as well. Additionally, policy concerns must also guide the commission, such as energy conservation incentives and the effect of an increased surcharge on low income customers. With these principles in mind, we believe the record in this case supports a gradual increase in the customer charges.” The commission approved an increase in the residential customer charge to \$7.60, saying “. . . we place emphasis on Maryland’s public policy goals that intend to encourage energy conservation. Maintaining relatively low customer charges provides customers with greater control over their electric bills by increasing the value of volumetric charges. No matter how diligently customers might attempt to conserve energy or respond

to AMI-enabled peak pricing incentives, they cannot reduce fixed customer charges. Additionally, lower customer charges provide more value to net metering customers.”

#### *UNS Electric Arizona*

In UNS Electric’s case in Arizona, the commission awarded the company a 9.5% return on equity (ROE). The majority of parties to the case supported the decision, however the Alliance for Solar Choice (TASC) advocated for an allowed ROE of 8.75%. In awarding the 9.5% ROE, the commission said “Although [the company’s] financial metrics, such as its bond rating and capitalization, have improved since its last rate case . . . , interest rates are rising, and [the company] faces significant risks from challenging economic conditions in its service area, declining energy sales, and a current rate design that requires substantial modification in order to comply with traditional principles of cost causation. A Cost of Equity of 9.5% is not unreasonable in this case.”

UNS proposed a capital structure with a 52.83% equity component; this was based on the company’s actual capital structure at the end of the test year. The majority of parties in the case supported the UNS proposal, however TASC advocated for a 50% equity component. The commission accepted the company’s proposal.

The company proposed a three-part rate for distributed generation (DG) customers (about 2% of the company’s customers), an updated net metering tariff and increased customer charges. The company based the demand portion of the

three-part rate on the highest usage in peak periods. The company also proposed paying customers who submitted DG applications after June 1, 2015, 5.84 cents per kilowatt-hour for excess energy sold back to the utility and to adjust this amount annually. The commission deferred ruling on rate design issues to a second phase of the case, which was expected to conclude in March of 2017. However, the commission said it agreed with the approach, rejecting the claims of some intervenors that different treatments for DG and non-DG customers were discriminatory, saying “sending correct price signals to customers, avoiding misaligned subsidies and incentivizing efficiencies and innovation are critical. ... requiring the purchase of excess solar DG power whether it is actually needed and compensating excess solar at the retail rate no matter when excess power is received, or treating [kilowatt-hours] delivered during a system peak may not represent efficient use of system resources or an equitable long-term solution for all ratepayers.” The commission also ruled, effective September 1, 2016, that new DG customers must pay a monthly charge of \$1.58 to reflect the costs of a secondary meter. Possible additional charges will be considered in Phase 2 of the case.

The commission said it had concerns about the company using a single purchased power agreement as a basis for determining a market price for solar. Further, the commission rejected the June 1, 2015 date for grandfathering, saying it would not allow any date that preceded

the date of the commission’s order in phase two of the proceeding. The order implements a system benefits rider, to be charged to all customers, designed to collect funds for crediting DG customers for energy exports. The company says it intends to contest the charge and offer an alternative in phase two.

The commission approved the company’s request to increase the \$10 residential customer charge and the \$11.50 residential time-of-use customer charge each to \$15 and the \$14.50 small general service customer charge and the \$16.50 small general service time-of-use customer service charge each to \$25. At the conclusion of phase 2 of the proceeding, customers choosing time-of-use or three-part rates will have a lower customer charge of \$12. The order also requires the company to increase the customer charges for its larger customers and to consider demand charges for some larger customers who do not currently pay them.

The commission denied the company’s request to raise the cap on its large fixed-cost recovery mechanism; it said the company had not met the burden of proving the change was warranted.

The company had proposed an economic development rate, saying shareholders would bear lost non-fuel revenues. The commission adopted the unopposed proposal, saying “If this program is successful, the Company and its ratepayers should benefit from adding high load factor, low-cost customers.”

One of the commission’s conditions for approving Fortis, Inc.’s

purchase of UNS was that UNS implement a pilot tariff allowing large power service customers to select a wholesale generation service provider, limited to a total of ten megawatts of peak load. However in this proceeding the company opposed the proposed tariff. The commission ultimately agreed and did not adopt the proposal, saying “Because of UNSE’s small number of large commercial and industrial end users, [this program] may not be appropriate for this utility. ... a buy-through tariff may adversely impact [UNS’s] other customers by increasing the cost of power. ... We understand that the industrial users are frustrated with paying rates that provide subsidies to the Residential Class, but we are taking an incremental step to reducing inter-class subsidies in this case.”

#### *Emera Maine*

In Emera Maine’s case, the company filed for a 10.25% ROE and the commission allowed a 9% ROE, which incorporated a 50-basis-point penalty for management inefficiencies. Part of the reason for Emera’s filing was to recognize in rates a customer billing information system that was initially expected to cost \$17 million and be implemented by May 2014. The system ultimately cost \$31 million and the company did not implement it until June 2015. The commission said the system also generated many billing errors. The commission expressed concern about customer service, saying the company failed to issue refunds to certain customers, and was unable to respond to commission requests for information on the refunds. The



commission also expressed concern about transmission and distribution system reliability. In deciding on a 50-basis-point return on equity penalty, the commission apparently accepted the decision by the hearing examiners in the case, who said “there is strong Commission precedent for applying a cost of equity adjustment to penalize a utility for not operating efficiently. When the effect of the inefficient behavior has been difficult to specifically quantify, the Commission has used an adjustment to the allowed equity return as the best ratemaking remedy to protect ratepayers from the inefficiency [in accordance with state law].” The hearing examiners said, “because of the inadequacies identified and the prolonged inability of the company to resolve these issues, we find it proper to impose a management efficiency adjustment. ... until management practices and efficiencies, particularly in the areas of customer service and with respect to the Company’s system maintenance practices have improved and have provided real benefits to ratepayers.” Further, the examiners said the company’s call center performance “has substantially departed from regular and accepted practices and has resulted in inadequate service when considering the number of customers affected by the departure from accepted and reasonably achievable service standards.” The examiners also said the company failed to regularly inspect roadsides and right-of-way transmission and distribution lines.

#### *El Paso Electric New Mexico*

In El Paso Electric’s case in New Mexico, the commission authorized a 9.48% ROE based on its preferred constant-growth discounted cash flow analysis. This differed from the company’s proposed 9.95% ROE. The commission eliminated three companies from El Paso’s proposed proxy group because the companies were in merger proceedings; this accounted for the difference.

The commission disallowed from inclusion in rate base El Paso’s proposed pension-liability-related accumulated deferred income taxes (\$12.6 million), saying “Because EPE is not out of pocket any money with respect to its post-employment benefits liabilities, allowing EPE to include its ADIT in rate base would give EPE an undeserved windfall at the expense of ratepayers.” The commission also disallowed \$0.4 million of the company’s proposed revenue requirement attributable to short-term incentive plan expenses. The commission adopted a three-year average of the expenses rather than the full amount as proposed by the company. The commission disallowed \$0.1 million in revenue requirement associated with the company’s long-term incentive plan and restricted stock and another \$0.1 million associated with incentive payments related to a nuclear plant, saying the company did not provide sufficient evidence that these programs benefitted ratepayers. The commission also disallowed the company’s benefit plan for “highly paid” employees, among other miscellaneous items.

The commission allocated the rate increase entirely to the residential customer class in an effort to move “the rates of each customer class closer to a relative return of 1.00.” The commission rejected the company’s request to increase the residential customer charge, saying such a rate design change “hurts low income and average volume users [and] ... discourages conservation, which can ultimately, and unnecessarily, lead to the need for additional generation and higher rates.”

#### *Georgia Power*

Georgia Power’s case resulted in a settlement stipulating that none of the \$3.3 billion in costs incurred through the end of 2015 for construction of nuclear facilities are to be disallowed for imprudence. The settlement revised the in-service capital cost forecast up from \$4.418 billion to \$5.68 billion. The settlement also stipulated that the costs between \$3.3 billion and \$5.68 billion are prudent, with the burden of proving imprudence falling on parties challenging such costs. The burden of proving prudence falls on the company for any costs above \$5.68 billion. The company can earn a cash return on construction work-in-progress costs up to \$4.418 billion and can accrue an allowance for funds used in construction of costs above that amount. The settlement decreased the return on equity for the project from 10.95%, the amount the commission approved in Georgia Power’s most recent rate case, to 10%. If the project is not operational by the end of 2020, the ROE falls to 7%, until the project is operational. This rate settlement

follows a settlement with the project contractor, Westinghouse, which in turn follows a \$900 million federal lawsuit addressing cost overruns at the project. The settlement with Westinghouse limits the contractor's ability to seek further increases in the contract price.

#### *Avista Washington*

The Washington state commission rejected Avista's proposed rate increase, with one commissioner, Philip Jones, dissenting. The commission said the company did not meet the burden of proof that current rates are insufficient to meet its needs and that it should moderate capital expenditures and expenses. The commission directed staff to initiate a collaborative process with stakeholders "to more clearly define the scope and expected outcomes of, as well as a reasonable procedural schedule for, generic cost of service proceedings that will provide an opportunity to establish greater clarity and some degree of uniformity in cost of service studies going forward." The company responded that the outcome of the case will prevent it from recovering costs necessary for safe and reliable service and prevent it from earning its allowed return. Further, the company noted that the decision will "likely raise serious concerns from financial stakeholders and the rating agencies regarding the level of support from the Washington jurisdiction." The company intends to file a petition for reconsideration, and if that petition is rejected, may file an appeal with the Thurston County Superior Court.

#### *Indianapolis Power & Light*

In the course of Indianapolis Power & Light's rate case, the company experienced underground explosions that resulted in power outages. In deciding the case in Q1, the commission said it could support a 10% ROE, but lowered it to 9.85% to relate the commission's concern about the explosions and outages. The commission also instituted a collaborative process to address the company's asset management program, certain operating performance measures, and the company's commitment to infrastructure improvements. The commission also suggested that "additional written processes may be appropriate."

The commission determined that the company's prepaid pension asset "represents a component of working capital" and consequently should be in rate base. However, the commission said that laws mandating a minimum funding of the pension asset prevent those funds from being available for other uses by shareholders. Consequently, the commission would not award the company a return on the minimum pension funding. However, the commission found the additional discretionary prepaid pension asset was prudently incurred and therefore is eligible for inclusion in rate base.

#### *New York State Electric & Gas and Rochester Gas & Electric*

The New York commission approved joint proposals (JPs) for both New York State Electric & Gas (NYSEG) and Rochester Gas & Electric (RG&E). Both JPs incorporate a rate adjustment mechanism that will collect from or return

to customers the costs associated with New York's Reforming the Energy Vision (REV) initiative that are not recovered elsewhere, along with a number of other miscellaneous costs. The REV is a state program that seeks to allow electric competition at the distribution level of the business (competition was already a part of the electric utilities' generation business) largely to take advantage of customer-owned generation. The JPs limit recovery through the rate adjustment mechanism to \$19.3 million per year for NYSEG and \$11.4 million per year for RG&E. The JPs also allow the companies to recover \$262 million of deferred costs associated with Hurricane Irene, Superstorm Sandy and Tropical Storm Lee.

#### *Florida Power & Light*

Florida Power & Light's case in Q4 resulted in a settlement stipulating a three-step rate increase and allows the company to rate base up to 300 MW of solar generation each year from 2017-2020, with the possibility of retaining rights for any unused capacity under the program. The company must demonstrate solar facilities are cost effective, and the facilities are capped at \$1,750/kW. The company can recover storm restoration costs on an interim basis 60 days from the filing of a cost recovery request, but can increase charges no more than \$4 per 1000 kilowatt-hours of residential usage in the first year. The company can recover additional costs in future years. However, if storm restoration costs exceed \$800 million in a year, the company can request an increase to the \$4 cap.

***Jersey Central Power & Light***

Jersey Central Power & Light's case resulted in a settlement that is silent on many rate case parameters but allows the company to accelerate amortization and recovery of major storm expenses incurred in 2012

“to improve JCP&L's Funds from Operations to Debt credit metric.” Further, the company must submit a report to the commission by June 30, 2017 containing a plan to improve its standalone credit rating by strengthening the company's Funds

from Operations to Debt credit metric so that it qualifies for a Standard & Poor's BBB credit rating. The company cannot issue a dividend to its parent until it achieves a 45% equity capital structure, which the company must do by 2020.

# Business Strategies

## Business Segmentation

Revenue declined in 2016 for four of the industry's five primary business segments, rising only for Natural Gas Distribution. The industry's total 2016 revenue was \$350.6 billion, down \$2.9 billion, or 0.8%, from 2015's \$353.5 billion. Regulated Electric revenue, at \$253.2 billion, edged down only slightly, falling \$209 million or 0.1%. Nationwide electric output increased for a fourth straight year, yet only by a minimal 0.2%. The year's main theme

in terms of segmentation of the industry's business mix was a continued expansion into Natural Gas Distribution and Natural Gas Pipeline businesses, as several natural gas-related acquisitions closed during the year. The industry's regulated asset base expanded 8.3%, extending a multi-year trend and driving most of the year's \$107.4 billion, or 7.6%, increase in total industry assets, although the industry's four largest business segments all grew assets in 2016. Regulated assets rose to a 79.3% share of total assets at yearend, up from 78.5% at the start of the year; the gas acquisitions, a record-high \$112.5 billion of

capital expenditures, and a generally constructive regulatory environment all supported the percentage increase. The Competitive Energy segment showed a decline in revenue (-11.4%) and an increase in assets (+3.8%).

## 2016 Revenue by Segment

Regulated Electric revenue was essentially flat in 2016, declining by \$209 million, or 0.1%, to \$253.2 billion from \$253.5 billion in 2015. Despite the incremental decline, the segment's share of total industry revenue grew slightly, to 70.1% from 69.5% in 2015, remaining well above the 52.1% level of 2005.

## Business Segmentation—Revenues

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Millions)	2016	2015r	Difference	% Change
<b>Regulated Electric</b>	253,248	253,458	(209)	(0.1%)
<b>Competitive Energy</b>	53,373	60,239	(6,866)	(11.4%)
<b>Natural Gas Distribution</b>	36,302	33,346	2,957	8.9%
<b>Natural Gas Pipeline</b>	3,945	4,488	(543)	(12.1%)
<b>Natural Gas and Oil Exploration &amp; Production</b>	34	222	(187)	(84.6%)
<b>Other</b>	14,141	13,144	997	7.6%
<b>Discontinued Operations</b>	(2)	—		
<b>Eliminations/Reconciling Items</b>	(10,412)	(11,380)	969	(8.5%)
<b>Total Revenues</b>	<b>350,630</b>	<b>353,514</b>	<b>(2,884)</b>	<b>(0.8%)</b>

r = revised

Note: Difference and Percent Change columns may reflect rounding. Totals may reflect rounding.



## Business Segmentation—Assets

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Millions)	12/31/2016	12/31/2015r	Difference	% Change
<b>Regulated Electric</b>	1,085,881	1,031,154	54,727	5.3%
<b>Competitive Energy</b>	196,143	188,959	7,184	3.8%
<b>Natural Gas Distribution</b>	171,552	130,085	41,468	31.9%
<b>Natural Gas Pipeline</b>	28,581	23,107	5,475	23.7%
<b>Natural Gas and Oil Exploration &amp; Production</b>	1,022	1,527	(505)	(33.1%)
<b>Other</b>	101,390	104,308	(2,917)	(2.8%)
<b>Discontinued Operations</b>	211	191		
<b>Eliminations/Reconciling Items</b>	(62,418)	(64,365)	1,947	(3.0%)
<b>Total Assets</b>	<b>1,522,363</b>	<b>1,414,966</b>	<b>107,397</b>	<b>7.6%</b>

r = revised

Note: Difference and Percent Change columns may reflect rounding. Totals may reflect rounding.

Natural Gas Distribution revenue rose by \$3.0 billion, or 8.9%, to \$36.3 billion from \$33.3 billion in 2015. This followed a 19.2% drop in 2015 and double-digit percentage increases during the three previous years (up 10.8% in 2014, 12.2% in 2013, and 15.6% in 2012). The growth in 2016 was due to the completion of four acquisitions of natural gas distribution businesses.

Total regulated revenue — the sum of the Regulated Electric and Natural Gas Distribution segments — increased by \$2.7 billion, or 1.0%, to \$289.6 billion. The year-to-year change for this metric has fluctuated up and down in recent years within a range of about 7%. Despite these year-to-year variations, revenue from regulated operations has steadily grown as a percentage of total industry revenue. Regulated revenue accounted for 80.2% of total industry revenue in 2016, extending a steady

upward trend from 65.3% in 2005. The *Business Segmentation—Revenues* table presents the industry's revenue breakdown by business segment. Eliminations and reconciling items are added back to total revenue to arrive at the denominator for the segment percentage calculations shown in the graphs *Revenue Breakdown 2016 and 2015*.

### 2016 Assets by Segment

Regulated Electric assets decreased from 69.7% of total industry assets at December 31, 2015 to 68.5% at December 31, 2016, despite rising by \$54.7 billion, or 5.3%, over the yearend 2015 level. Competitive Energy assets increased by \$7.2 billion, or 3.8%, from the prior year. Natural Gas Distribution assets showed the highest percent growth, jumping \$41.5 billion, or 31.9%. Natural Gas Pipeline assets also experienced significant growth of \$5.5 billion, or 23.7%, although

from a relatively small base of \$23.1 billion. The asset total in the very small Natural Gas and Oil Exploration & Production category fell 33.1%, to \$1.0 billion.

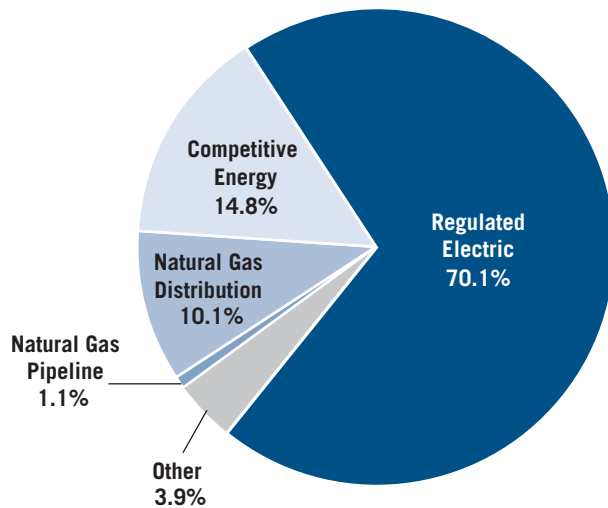
Total regulated assets (Regulated Electric plus Natural Gas Distribution) accounted for 79.3% of total industry assets at yearend 2016, up from 78.5% on December 31, 2015. This aggregate measure has grown steadily from 61.6% at yearend 2002, underscoring the industry's significant regulated rate base growth in recent years and the fact that several companies sold off non-core businesses during the period. During 2016, 60% of companies increased regulated assets as a percent of total assets (or maintained a 100% regulated structure).

### Regulated Electric

Regulated Electric segment operations include the generation, transmission and distribution of electricity

## Revenue Breakdown 2016

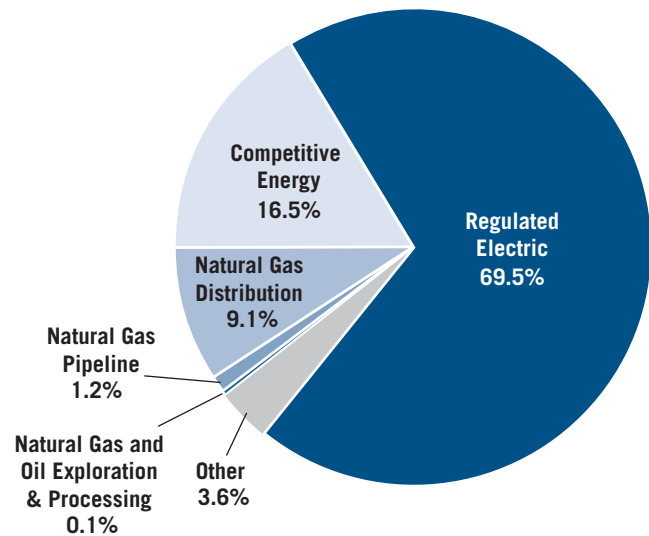
U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Source: EEI Finance Department and company annual reports.

## Revenue Breakdown 2015r

U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Source: EEI Finance Department and company annual reports.

under state regulation for residential, commercial and industrial customers. A majority of companies experienced an increase in Regulated Electric revenue in 2016 despite the industry's overall \$209 million, or 0.1%, decrease. Twenty-eight of 50 companies (56%) had higher revenues for this segment. Four companies (8%) reported a double-digit percentage increase.

2016 was the second straight year in which Regulated Electric revenue decreased slightly. It fell 2.6% in 2015 after showing solid gains of 4.9% in 2014 and 4.7% in 2013, although it also declined in the two preceding years, falling 2.8% in 2012 and 0.6% in 2011. U.S. electric output increased by 0.2% in 2016, the fourth consecutive year with only a marginal increase (output grew 0.1% in 2015, 0.5% in 2014 and 0.1% in 2013). Output has been largely flat over the past decade, al-

though with some year-to-year variation; it declined 1.8% in 2012 and 0.6% in 2011, grew 3.7% in 2010, and decreased 3.7% in 2009 and 0.9% in 2008. Until recent years, year-to-year output declines were rare events in an industry that typically experienced low-single-digit percent gains. Energy efficiency initiatives, demand-side management programs and the off-shoring of formerly U.S.-based manufacturing and heavy industry continue to constrain growth in electricity demand.

### Competitive Energy

Competitive Energy segment revenue decreased by 11.4% in 2016, falling \$6.9 billion to \$53.4 billion from \$60.2 billion in 2015. This marked the second straight double-digit percent decline as revenue fell by \$7.4 billion (-10.3%) in 2015 after rising \$1.6 billion (+2.3%) and \$984 million (+1.5%) in 2014 and 2013, respectively. The segment's 2016 reve-

nue was its lowest annual total to date, based on data going back to 2000. The segment's peak annual revenue over the last decade was \$113.2 billion in 2008. Competitive Energy covers the generation and/or sale of electricity in competitive markets, including both wholesale and retail transactions. Wholesale buyers are typically regional power pools, large industrial customers, and electric utilities seeking to supplement generation capacity. Competitive Energy also includes the trading and marketing of natural gas. Of the 24 companies that have Competitive Energy operations, just over half (13 companies, or 54%) grew these assets during 2016. Only 28% had revenue gains.

### Natural Gas Distribution

Natural Gas Distribution was the only primary business segment in which revenue grew in 2016, rising \$3.0 billion, or 8.9%, to \$36.3 billion from \$33.3 billion. This followed

a decline of \$7.8 billion (-19.2%) in 2015 and increases of \$4.0 billion (+10.8%) in 2014 and \$3.9 billion (+12.2%) in 2013, which reversed the declining trend of the previous four years. Large gas acquisitions drove the 2016 increase. Southern Company's purchase on July 1 of AGL Resources had the biggest impact; AGL is an Atlanta-based gas company with operations in natural gas distribution, retail operations, wholesale services and midstream operations. The Southern deal alone produced \$1.7 billion in additional revenue from natural gas assets valued at \$21.9 billion at year end 2016. Other notable deals that closed in 2016 include Black Hills' acquisition of SourceGas Holdings (completed February 12), Dominion Resources' purchase of Questar (completed September 16) and Duke Energy's acquisition of Piedmont Natural Gas (completed October 3). These transactions more than offset the

revenue impacts of a 6.5% decrease in heating degree days and continued low natural gas prices. Spot natural gas averaged about \$2.50/MMBtu at the national benchmark Henry Hub; this was the lowest annual average price since 1999. Overall, 17 of the 28 companies (61%) that report gas distribution revenue showed a year-to-year decrease in 2016, following a decrease for 90% of companies in 2015 and increases for 91% of companies in 2014 and 88% in 2013, respectively. The majority of companies also showed year-to-year revenue declines from 2009 through 2012, while 89% experienced gains in 2008.

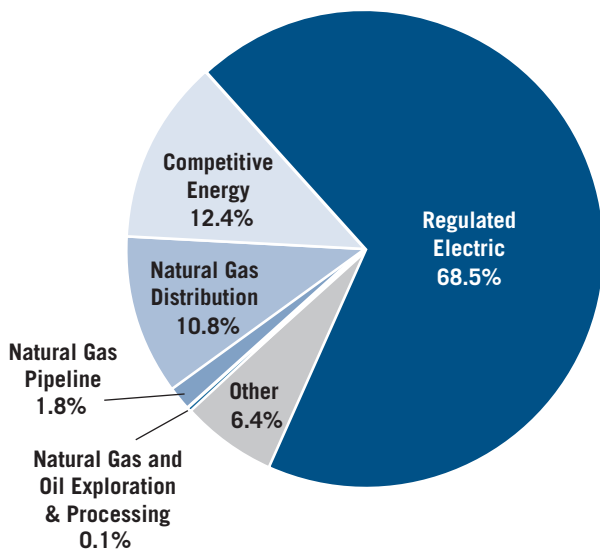
Natural Gas Distribution includes the delivery of natural gas to homes, businesses and industrial customers throughout the United States. The Natural Gas Pipeline business concentrates on the transmission and storage of natural gas for local dis-

tribution companies, marketers and traders, electric power generators and natural gas producers. Added together, Natural Gas Distribution, Natural Gas Pipeline and Exploration & Production (E&P) activities produced \$40.3 billion of the industry's revenue in 2016, up from \$38.0 billion in 2015. In percentage terms, the revenue contribution from natural gas activities increased to 12.7% in 2016 from 10.5% in 2015.

Natural Gas Pipeline assets rose by \$5.5 billion, or 23.7%, while the segment's revenue fell by \$543 million, or 12.1%. The largest dollar increase in assets was realized by Dominion Resources, which grew gas pipeline assets by \$2.5 billion, or 27.3%, with its acquisition of Questar. DTE Energy's purchase of several Appalachian-region midstream natural gas assets also played a significant part in the industry's increase as DTE's gas

**Asset Breakdown  
As of December 31, 2016**

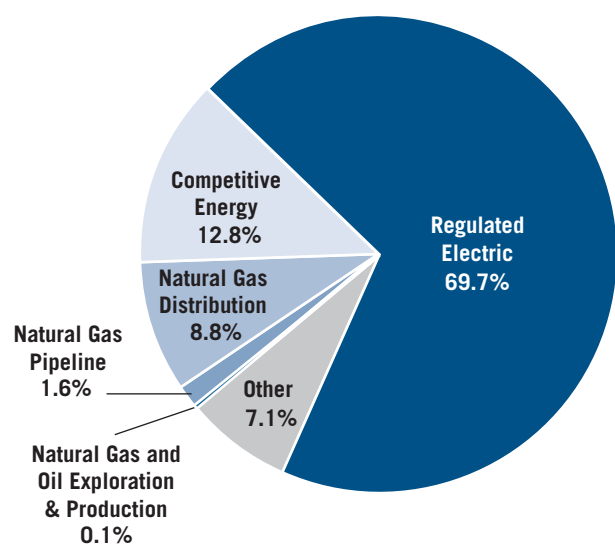
U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Source: EEI Finance Department and company annual reports.

**Asset Breakdown  
As of December 31, 2015r**

U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Source: EEI Finance Department and company annual reports.

pipeline assets grew by \$1.4 billion, or 131%, in 2016.

Prior to the significant growth in Pipeline assets in 2016, the Pipeline and E&P segments had jointly accounted for a declining share of total industry assets. This was due to growth in the other business segments and divestitures within these two. Natural Gas Pipeline and Natural Gas E&P fell from 3.7% and 2.1% shares of total assets on December 31, 2004 to 1.8% and 0.1% on December 31, 2016. Their combined total assets fell by \$25.1 billion, or 46%, over this 12-year time frame.

### 2016 Year-End List of Companies by Category

Early each calendar year EEI updates our list of shareholder-owned electric utility holding companies organized by business category; the list is based on previous year-end business segmentation data presented in 10Ks and supplemented by discussions with parent companies. Our categories have been defined as follows: Regulated (80% or more of holding company assets are regulated); Mostly Regulated (50% -79% of holding company assets are regulated); Diversified (less than 50% of holding company assets are regulated). Starting January 1, 2017, the Diversified Category will no longer exist due to its dwindling number of companies. The business segmentation breakdown will consist of two categories: Regulated (80% or more of total assets are regulated) and Mostly Regulated (less than 80% of total assets are regulated).

We use assets rather than revenue for determining categories because

we think assets provide a clearer picture of strategic trends. Fluctuating natural gas and power prices can impact revenue so greatly that the analysis of companies' strategic approach to business segmentation is distorted by a reliance on revenue data alone. Comparing the list of companies from year to year reveals company migrations between categories and indicates the general trend in industry business models. We also base our quarterly category financial data during the year on this list.

The Regulated category decreased by two companies during 2016, to 36, due to the net effect of the loss of Pepco Holdings and TECO Energy by acquisition, the addition of Energy Future Holdings and FirstEnergy, and the migration of DPL and DTE Energy to the Mostly Regulated category. Energy Future Holdings Corp.

(EFH) was moved to the Regulated Category because we only capture their ownership in Oncor Electric Delivery in our data set; Oncor is a Texas electricity distribution utility.

The Mostly Regulated category had a net increase of three companies, rising from 11 to 14. Exelon and Hawaiian Electric moved to the Mostly Regulated category from the Diversified category, which will no longer exist.

The total number of companies in the EEI universe fell from 52 at yearend 2015 to 50 at yearend 2016 as a result of two completed mergers. Pepco was acquired by Exelon in March and TECO Energy was purchased by Emera in July. Beginning in 2017, there are 36 Regulated and 14 Mostly Regulated companies (*see List of Companies by Category at December 31, 2016*).

### List of Companies by Category at December 31, 2016

#### Regulated (36)

Alliant Energy Corporation	Empire District Electric Company	Pinnacle West Capital Corporation
Ameren Corporation	<i>Energy Future Holdings Corp.*</i>	PNM Resources, Inc.
American Electric Power Company, Inc.	Energy Corporation	Portland General Electric Company
Avista Corporation	Eversource Energy	PPL Corporation
<i>Berkshire Hathaway Energy*</i>	FirstEnergy Corp.	<i>Puget Energy, Inc.*</i>
Black Hills Corporation	Great Plains Energy Inc.	Southern Company
<i>Cleco Corporation*</i>	IDACORP, Inc.	Unitil Corporation
CMS Energy Corporation	<i>IPALCO Enterprises, Inc.*</i>	Vectren Corporation
Consolidated Edison, Inc.	NiSource Inc.	WEC Energy Group, Inc.
Duke Energy Corporation	NorthWestern Corporation	Westar Energy, Inc.
Edison International	OGE Energy Corp.	Xcel Energy Inc.
El Paso Electric Company	Otter Tail Corporation	
	PG&E Corporation	

#### Mostly Regulated (14)

ALLETE, Inc.	DTE Energy Company	NextEra Energy, Inc.
AVANGRID, Inc.	Exelon Corporation	Public Service Enterprise Group Incorporated
CenterPoint Energy, Inc.	Hawaiian Electric Industries, Inc.	SCANA Corporation
Dominion Resources, Inc.	MDU Resources Group, Inc.	Sempra Energy
<i>DPL Inc.*</i>	MGE Energy, Inc.	

Note: \* Non-publicly traded companies.

## Mergers and Acquisitions

Not much has changed from 2015. That was one analyst's verdict on the M&A landscape early in 2016 and events of the year largely bore it out — both in terms of deal motivations and deal activity, which again was pretty fast paced. There were six announced whole company deals: i) Dominion's purchase of gas distributor Questar, ii) Canadian utility Algonquin's acquisition of Empire District Electric, iii) Canadian utility Fortis' successful bid for transmission utility ITC Holdings, iv) Great Plains move to acquire neighboring utility Westar, v) NextEra Energy's offer to buy Texas' Oncor, and vi) DTE's acquisition of several Appalachian mid-stream natural gas assets. Nine deals closed, including three listed above (Dominion/Questar, Fortis/ITC, and DTE/Appalachian-region midstream natural gas assets) that were announced and completed in 2016. In addition: i) Black Hills acquired SourceGas, ii) Exelon successfully completed its two-year effort to acquire Pepco, iii) Macquarie found success after a year-and-a-half long navigation in Louisiana and purchased Cleco, iv) Emera acquired TECO Energy, v) Southern Company successfully closed its purchase of gas distributor AGL, and vi) Duke Energy acquired Piedmont Natural Gas. One previously announced deal was withdrawn as NextEra abandoned its 18-month effort to buy Hawaiian Electric.

A range of inter-related themes that shaped M&A in 2015 persisted in 2016; these include:

- the trend of slowing power demand growth throughout the industry;
- the ongoing desire across the industry to grow regulated assets, earnings and cash flows and de-emphasize competitive generation businesses;
- use of synergies from buyouts of similar and neighboring utilities to gain incremental earnings growth;
- the appeal of acquiring regulated natural gas pipelines and distribution assets that benefit from rising gas demand as the nation's migration from coal to natural gas and renewable generation continues;
- the desire of small- to mid-size utilities to reward shareholders with buyout premiums while joining up with larger companies to lower capital costs and position themselves to better contend with the changes sweeping the industry;
- the growth potential offered by the nation's need for transmission infrastructure investment; and
- very low global interest rates and wide-open capital markets offering low cost financing.

The low cost of natural gas and wind generation along with state renewable power mandates are shaping coal's future far more than the uncertain outlook for national-level carbon standards.

Another familiar theme that continued in 2016 was Canadian utili-

ties' interest in U.S. utilities; analysts noted that Canadian utilities see the U.S. as a market with considerable capital investment opportunities and appealing geographical diversification given Canada's oil and natural-gas dependent economy. Canadian shareholders also have a reputation as more patient and tolerant than U.S. investors of long-term shareholder value creation strategies, giving Canadian buyers the time to let their acquisition visions bear fruit.

The year also provided more evidence of the challenges consummating M&A, which requires the blessings of state regulatory commissions and broad support from a wide range of local stakeholders. This was evident in Exelon's two-year struggle to close the proposed acquisition of Pepco, the success of which surprised skeptics who thought the deal was dead. It was also evident in NextEra's termination of its effort to acquire Hawaiian Electric, which was finally canned by local power politics, and in the resistance Macquarie faced in its move to acquire Louisiana's Cleco, which like the Exelon/Pepco deal was completed in defiance of what seemed to be daunting odds against it. Viewed from an opposite perspective, both the successful Exelon/Pepco and Macquarie/Cleco deals received some analytic commentary that said states and regulators were reluctant to kill deals that demonstrated a range of benefits as long as the acquired utility's local presence was supported and respected, less the state gain a reputation as a hard place to do good business. Job losses and erosion of local political power are each radioactive and the



sluggish U.S. economy may offer not only a motivation for M&A but a constraint on too much emotional stakeholder resistance to deals that otherwise seem to offer benefits to ratepayers, shareholders and local economies.

## Announced Deals in 2016

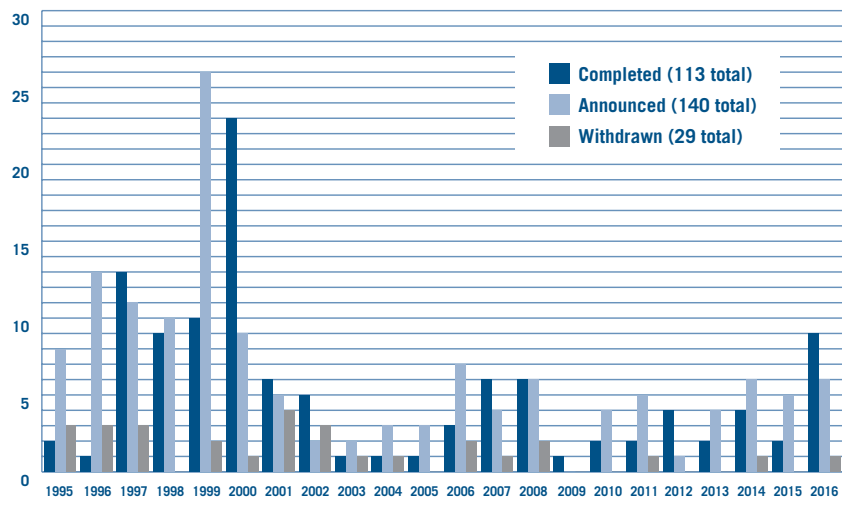
### *Dominion Buys Questar*

On February 1, Dominion Resources announced its intent to buy integrated natural gas energy company Questar in a cash offer of \$25 per share (a 30% premium to the pre-announcement price, or about \$4.4 billion) and also assume \$1.5 billion in Questar debt. Questar distributes natural gas to retail customers in Utah, Wyoming and Idaho; operates interstate natural gas pipelines and storage facilities in the western U.S.; and develops and produces natural gas in Wyoming, Colorado and Utah. On the announcement date, Questar had about \$4.2 billion in assets, including gas distribution pipelines, gas transmission pipelines and working gas storage facilities. Dominion said the acquisition supports its strategic focus on core regulated energy operations, improves its balance between electric and gas operations, and provides it with enhanced scale and diversification into Questar's regulatory jurisdictions, which Dominion noted have strong pro-business credentials and constructive regulatory environments. Dominion operates in the mid-Atlantic region while Questar is a principal source of gas supply to Western states. Dominion said it expects the value of Questar's pipeline system will rise as Utah and other Western states migrate from coal to

## Status of Mergers & Acquisitions 1995–2016

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(Number of Mergers & Acquisitions)



Source: EEI Finance Department.

low-carbon, natural gas-fired generation to comply with federal clean air requirements and state renewable standards. Questar's gas distribution operations will also benefit from being located in one of the country's fastest growing regions.

Dominion said the transaction would be accretive and that it would finance the transaction in a manner that supports the company's existing credit ratings targets. Dominion also expects the acquisition will support 2017 earnings growth and allow it to reach the top of or exceed its 2018 growth targets. Dominion made special note that Dominion Midstream Partners, LP — of which Dominion is general partner and the majority holder of limited partner units — will benefit from the acquisition; Questar will contribute more than \$425 million of EBITDA to Dominion's inventory of MLP-eligible assets, supporting Dominion Midstream's targeted annual cash distribution growth rate of 22 percent.

The transaction received approval from the FTC and Wyoming and Utah regulators and closed on September 16, 2016.

### *Algonquin Acquires Empire District Electric*

In the first of two acquisitions U.S. utilities by Canadian utilities announced on February 9, Ontario-based Algonquin Power and Utilities Corp. (APUC) said it intended to buy U.S. utility Empire District Electric (EDE) for \$34.00 per share, implying a purchase price of approximately \$2.3 billion including the assumption of approximately \$0.8 billion of EDE debt. The offer represented a 21% premium to Empire District's closing price on February 8, 2016 and a 50% premium to its price in December, before news emerged that the utility was interested in being acquired. The Canadian acquirer said that acquisition represents a continuation of its growth strategy, which seeks to strengthen

and diversify its existing businesses and strategically expand its regulated utility footprint in the mid-west United States, boost its total asset base 87% to \$8.9 billion (Canadian), and increase EBITDA from regulated utility operations increasing from 51% to 72% of the total on a pro forma basis. APUC expected the deal at closing to be immediately accretive to earnings per share and funds from operations per share and generate average annual accretion of approximately 7% to 9% and 12% to 14%, respectively, for the three year period following completion. Algonquin said the transaction would provide additional support to its annual dividend growth target of 10% and that it expected to finance the transaction in a way that maintains its credit profile and strong investment grade credit ratings.

Empire District Electric is a regulated utility with approximately 90% of its on-system revenue from Missouri and Arkansas, regulatory jurisdictions that Algonquin (through its Liberty Utilities subsidiary) has operated in for many years. APUC said the Transaction further diversifies Liberty Utilities' electric, gas, and water utility operations and provides an entry into two new markets in Oklahoma and Kansas. The deal closed in January 2017 when EDE became a member of Liberty Utilities. Algonquin Power & Utilities Corp. is a North American diversified generation, transmission and distribution utility with \$10 billion in total assets at yearend 2016. Liberty Utilities provides rate regulated natural gas, water and electricity generation, transmission and distribu-

tion utility services to over 782,000 customers in the United States.

#### ***Fortis Acquires ITC Holdings***

Also on February 9, Canadian utility Fortis said it had reached an agreement to acquire independent electric transmission company ITC Holdings in a transaction valued at approximately \$11.3 billion, including \$6.9 billion in stock and cash along with assumption of \$4.4 billion of ITC debt. In the transaction, which closed successfully in October 2016, ITC shareholders received \$22.57 in cash and 0.752 Fortis shares for each ITC share, represent-

ing a 33% premium over ITC's pre-announcement price. Fortis called the acquisition of transmission utility ITC a continuation of Fortis' growth-by-acquisition strategy that strengthens and diversifies its business and accelerates its growth. Fortis cited in particular the long-term growth opportunities associated with the need for new transmission to improve grid reliability, support grid access for new renewable generation and reduce the cost of delivered energy. Fortis also noted that the predictable returns of the transmission business, which avoids commodity or fuel exposure, are very at-

## Status of Announced Mergers & Acquisitions 1995–2016

### U.S. INVESTOR-OWNED ELECTRIC UTILITIES

Year	Completed	Announced	Withdrawn
1995	2	8	3
1996	1	13	3
1997	13	11	3
1998	9	10	–
1999	10	26	2
2000	23	9	1
2001	6	5	4
2002	5	2	3
2003	1	2	1
2004	1	3	1
2005	1	3	–
2006	3	7	2
2007	6	4	1
2008	6	6	2
2009	1	–	–
2010	2	4	–
2011	2	5	1
2012	4	1	–
2013	2	4	–
2014	4	6	1
2015	2	5	–
2016	9	6	1
<b>Totals</b>	<b>113</b>	<b>140</b>	<b>29</b>

Source: EEI Finance Department.

tractive. Among other motivations for the acquisitions, Fortis cited the diversification of its regulatory jurisdictions, business risk profile and regional economic mix by adding eight additional U.S. states to its territories; the appeal of FERC's supportive transmission regulation with reasonable returns and equity ratios; and ITC management's strong operational and earnings growth track record. Fortis said it expects approximately 5% earnings per share accretion in the first full year after closing, excluding one-time acquisition costs

ITC owns and operates high-voltage transmission lines in Michigan, Iowa, Minnesota, Illinois, Missouri, Kansas and Oklahoma, serving a combined peak load exceeding 26,000 megawatts. It has grown average rate base at a compounded rate of 16% annually over the last three years and reported assets of \$7.4 billion as of September 30, 2016. Based on ITC's planned capital expenditure program, the company said it expects average rate base and construction work in progress to grow at a compound average annual rate of 7.5% through 2018. ITC said the Fortis offer provided an attractive premium for its shareholders, who will benefit from future value creation as part of a larger company with greater diversification and scale and a growing dividend program. According to news reports, the agreement with Fortis occurred two months after ITC disclosed it retained advisers to help arrange a sale of the company. Fortis continues to target 6% average annual dividend growth through 2020. Including ITC, Fortis has assets of approximately \$48 billion and

2016 revenue of \$6.8 billion serving utility customers in five Canadian provinces, nine U.S. states and three Caribbean countries.

#### *Great Plains Seeks to Acquire Westar*

On May 31, Kansas-based Great Plains Energy announced it had reached an agreement to purchase neighboring utility Westar Energy in a combined cash and stock transaction with an enterprise value of approximately \$12.2 billion, including \$8.6 billion in stock and cash and the assumption of approximately \$3.6 billion in Westar's debt. If the transaction is approved by regulators, Westar shareholders will receive \$51.00 in cash and \$9.00 in Great Plains Energy common stock for each Westar share. Upon closing, Westar will become a wholly owned subsidiary of Great Plains Energy. Previous to the May 31 announcement, Westar shares had already climbed to \$53 from \$43 in early March, when news reports said Westar was exploring strategic options that included sale of the company. The two companies also noted their similar cultures and the maintenance of local ownership inherent in the merger, calling each other trusted neighbors that have worked together for generations in Kansas. The two utilities jointly own and operate the Wolf Creek Nuclear Generating Station as well as the La Cygne and Jeffrey power plants.

As motivations for the deal, Great Plains noted that the utility industry is facing rising customer expectations, increasing environmental standards, emerging cyber security threats and slower demand growth, all of which are driving costs and rates higher. The

company said the acquisition of Westar will create operational efficiencies and cost savings that will help reduce future rate increase requests. The companies noted that with the addition of Westar's generation fleet Great Plains will have a more diverse and sustainable generation portfolio and one of the largest portfolios of wind generation in the country among U.S. investor-owned utilities. The combined utility would have more than 1.5 million customers in Kansas and Missouri, nearly 13,000 megawatts of generation capacity, almost 10,000 miles of transmission lines and over 51,000 miles of distribution lines. In addition, more than 45 percent of the combined utility's retail customer demand can be met with emission-free energy.

In 2008, Great Plains bought neighboring Missouri utility Aquila in a deal reviewed and approved by the Missouri and Kansas commissions and which Great Plains said has generated greater-than-expected savings for customers. The proposed Westar acquisition requires approval from Kansas regulators as well as FERC and the Nuclear Regulatory Commission.

Great Plains said it plans to issue a long-term financing package consisting of a combination of equity, equity-linked securities and debt prior to closing of the transaction, and said it intends to maintain its investment grade credit rating. Great Plains expects the acquisition to be neutral to earnings-per-share in the first full calendar year of operations and significantly accretive thereafter. It said the long-term earnings growth target for the combined company is



expected to grow to six to eight percent—better than either company on a standalone basis.

### *NextEra Energy Bids for Texas' Oncor*

The year's largest proposed deal came on July 29 when Florida's NextEra Energy said it reached agreement to acquire 100 percent of the equity of Energy Future Holdings Corp. (EFH) and EFH's approximately 80 percent indirect interest in Texas electricity distribution utility Oncor Electric Delivery for a total enterprise value of \$18.4 billion. The move followed a May 2016 decision by Texas' Hunt family to terminate its plan to buy Oncor and turn it into a Real Estate Investment Trust (REIT) after the Texas Public Utility Commission imposed conditions on the purchase that the Hunts said were too onerous. The agreement with NextEra is part of reorganization plan designed to allow EFH to emerge from Chapter 11 bankruptcy. NextEra has for years been a suitor, along with the Hunt family, seeking to acquire and bring EFH and Oncor out of bankruptcy. NextEra noted in the deal announcement that it has had a significant presence in Texas since 1999 through its Lone Star Transmission subsidiary and over \$8 billion in overall transmission, power generation, gas pipelines and other operational assets in Texas. If the transaction is completed, Oncor will become a principal business of NextEra Energy together with Florida Power & Light Company (FPL) and NextEra Energy Resources.

NextEra enumerated a wide range of benefits to Oncor and its cus-

tomers if the deal closes, including: the transaction will extinguish all EFH-related debt that currently exists above Oncor; NextEra's strong balance sheet and credit rating will support Oncor's five-year capital investment plan and improve its credit rating post-closing, generating savings for customers in terms of lower borrowing costs; the transaction is a straightforward, traditional acquisition by a utility holding company and will employ a traditional utility company structure; and Oncor can benefit from NextEra's expertise and best practices that have resulted in comparatively low rates, demonstrated operational efficiency, strong customer satisfaction and high reliability ratings.

NextEra also said it expects the transaction to be meaningfully accretive to earnings, helping it achieve the top end of its targeted 6% to 8% adjusted earnings per share growth rate through 2018 off a 2014 rate base. It noted the transaction is consistent with its focus on regulated and long-term contracted assets and that it remains committed to maintaining its strong balance sheet. It expects that its credit ratings and its subsidiaries' credit ratings will be maintained post-closing. NextEra said it would maintain Oncor's local management, Dallas headquarters and Oncor name with no involuntary workforce reductions for at least two years after closing. Finally, NextEra pitched the deal to creditors, saying the transaction payment would be composed primarily of cash and NextEra common stock, delivering a high degree of certainty of value to the EFH bankruptcy estate.

The transaction is subject to bankruptcy court confirmation of EFH's plan of reorganization, approval by the Public Utility Commission of Texas, the expiration or termination of the waiting period under the Hart-Scott-Rodino Act, and the Federal Energy Regulatory Commission. NextEra said it hopes the transaction can be completed in early 2017.

### *DTE Acquires Appalachian Mid-Stream Natural Gas Assets*

On September 26, DTE Energy announced its intent to purchase several Appalachian-region mid-stream natural gas assets including Appalachia Gathering System (AGS), located in Pennsylvania and West Virginia, and a 55% interest in Stonewall Gas Gathering (SGG) in West Virginia. The combined purchase price for the assets \$1.3 billion. When the deal closed less than a month later, on October 20, the assets became part of DTE's non-utility gas storage and pipeline business, which owns and manages a network of natural gas gathering, transmission and storage facilities serving the Midwest, Ontario and Northeast markets. The acquired assets gather natural gas produced in the Appalachia region and provide access to multiple markets, including the Great Lakes region. DTE noted that demand for natural gas in the Great Lakes region is expected to increase significantly, driven both by coal-to-gas conversions for electricity generation and by economic growth. The low-cost natural gas supply from the Marcellus/Utica region is expected to serve this growth and displace higher cost alternatives.

DTE said the transactions will significantly increase its midstream presence in the Appalachian basin and said the deal would complement its existing gas midstream business, provide a foundation for new value creation with significant growth potential, expand the company's footprint in the most prolific natural gas production region in the country spanning the heart of the SW Marcellus and Dry Utica shale plays, and provide solid economics underpinned by long-term contracts and high quality reserves.

DTE Energy is a Detroit-based diversified energy company that develops and manages energy-related businesses and services nationwide. It operates an electric utility serving 2.2 million customers in Southeastern Michigan and a natural gas utility serving 1.2 million customers in Michigan. DTE's portfolio includes non-utility energy businesses focused on power and industrial projects, natural gas pipelines, gathering and storage, and energy marketing and trading.

## Completed Transactions

### ***Black Hills Acquires SourceGas***

On February 12, 2016 Black Hills completed its move to buy SourceGas Holdings. The deal, announced in July 2015, was the first of 2015's flurry of five deals driven by utilities' desire to buy natural gas distribution assets. SourceGas operates four regulated natural gas utilities serving approximately 425,000 customers in Arkansas, Colorado, Nebraska and Wyoming and a 512-mile regulated intrastate natural gas transmission pipeline in Colorado. Black Hills said the combination delivers on its commitment to grow earnings and create long-term shareholder value, citing the two utilities complementary geographic footprints, capital investment opportunities in growing service territories, and the ability to share best practices in support of organic growth initiatives. Black Hills' also said the acquisition would increase its regulatory and geographic diversity, strengthen its "excellent" business risk profile and support its investment-grade credit ratings. Over the last decade, the company has acquired 19 electric and natural gas systems in support of its growth strategy.

### ***Exelon Closes Pepco Acquisition***

Opposition from Washington, D.C. stakeholders threatened to scuttle the Exelon/Pepco deal, announced on April 30, 2014. The transaction was approved by the FERC and Virginia regulators in late 2014 and by New Jersey regulators in February 2015. In March 2015, the companies increased proposed benefits in Maryland – a state where regulatory opposition scuttled several large merger proposals during the previ-

## Merger Impacts 1995–2016

### U.S. INVESTOR-OWNED ELECTRIC UTILITIES

Date	No. of Utilities	Change
12/31/95	98	–
12/31/96	98	–
12/31/97	91	(7.14%)
12/31/98	86	(5.49%)
12/31/99	83	(8.79%)
12/31/00	71	(14.46%)
12/31/01	69	(2.82%)
12/31/02	65	(5.80%)
12/31/03	65	–
12/31/04	65	–
12/31/05	65	–
12/31/06	64	(1.54%)
12/31/07	61	(4.69%)
12/31/08	59	(3.28%)
12/31/09	58	(1.69%)
12/31/10	56	(3.45%)
12/31/11	55	(1.79%)
12/31/12	51	(7.27%)
12/31/13	49	(3.92%)
12/31/14	48	(2.04%)
12/31/15	47	(2.08%)
12/31/16	44	(6.38%)

### Number of Companies Declined by 55% since Dec.'95

Note: Based on completed mergers in the EEI Index group of electric utilities.

Source: EEI Finance Department.

# Mergers & Acquisitions Announcements Updated through December 31, 2016

U.S. INVESTOR-OWNED ELECTRIC UTILITIES

Ann'd	Buyer	Seller/Acquired/Merged	Status	New Company	Completed Date	Months to complete	Bus.	Terms	Est. Trans Value (\$MM)
9/28/16	DTE Energy	Appalachia Gathering System / Stonewall Gas Gathering	C		10/20/2016	1	EG	Undisclosed	1,300.0
7/29/16	NextEra Energy	Oncor Electric Delivery Company	PN					\$9.5B debt + additional cash and common stock	18,400.0
5/31/16	Great Plains Energy	Westar Resources	PN					\$3.6B debt + \$8.6 stock and cash (per share value of \$60.00)	12,200.0
2/9/16	Fortis Inc.	ITC Holdings Corp.	C		10/14/2016	8	EE	\$4.4B debt + \$6.9B common shares and cash (per share value of \$44.90, roughly 33% premium)	11,300.0
2/9/16	Algonquin Power & Utilities	Empire District Electric Company	C		1/1/2017	11	EE	\$1.6B debt + additional debt and equity (per share value of \$34.00, roughly 21% premium)	2,400.0
2/1/16	Dominion Resources	Questar Corporation	C		9/16/2016	8	EG	\$1.5B debt + \$2.4B cash + \$500M equity (per share value of \$25.00, roughly 30% premium)	4,400.0
10/26/2015	Duke Energy	Piedmont Natural Gas	C		10/3/2016	12	EG	\$3.3B debt + \$1.0B cash + \$625M equity (per share value of \$60.00, roughly 40% premium)	4,900.0
9/4/2015	Emera	TECO Energy, Inc.	C		7/1/2016	10	EE	\$6.5B debt + \$3.9B equity (per share value of \$27.55, roughly 48% premium)	10,400.0
8/24/2015	Southern Company	AGL Resources	C		7/1/2016	10	EG	\$4.1B debt + \$8.0B equity (per share value of \$66.00, roughly 36% premium)	12,060.4
7/12/2015	Black Hills Corporation	SourceGas Holdings	C		2/12/2016	10	GG	\$760M debt + \$1.13B cash	1,890.0
2/25/2015	Iberdrola USA	UIL	C	AVANGRID, Inc.	12/16/2015	10	EE	\$1.8B debt + \$0.6B cash + \$2.4B equity (per share value of \$52.75, roughly 25% premium, of which \$10.50 will be cash)	4,756.0
12/3/2014	NextEra Energy	Hawaiian Electric	W		7/18/2016			NEE to acquire HE for \$2.6B equity + \$1.4B debt (fixed exchange ratio of 0.2413 NEE shares)	3,963.0
10/20/2014	Macquarie-led Consortium	Cleco	C		4/13/2016	18	EE	\$3.4B equity (all Cleco shares at \$55.37 / share in cash (~15% premium)) + \$1.3 debt	4,700.0
6/23/2014	Winsconsin Energy	Integrus	C	WEC Energy Group, Inc.	6/30/2015	12	EE	WEC to acquire TEG for \$5.758B equity + \$3.374B debt (fixed exchange ratio of 1.128 WEC shares + \$18.58)	9,100.0
5/1/2014	Berkshire Hathaway Energy	Altalink (Canadian)	C		12/1/2014	7	ET	BHE to acquire AL for \$3.2B cash + \$2.7B debt	5,927.0
4/30/2014	Exelon	Peppo	C		3/23/2016	24	EE	EXC to acquire POM for \$6.8B in cash (\$27.25 per POM share)	12,337.0
3/3/2014	UIL Holdings	Philadelphia Gas Works	W		12/4/2014			UIL to acquire assets & liabilities of PGW from city of Philadelphia for \$1.86 billion in cash	1,860.0
12/12/2013	Fortis Inc.	UNS Energy	C		8/15/2014	8	EE	Fortis pays \$60.25 / share (31% premium to announcement day's close) + \$1.8B in debt	4,578.1
11/4/2013	Avista	Alaska Energy & Resources Company	C		7/1/2014	8	EE	AVA to acquire Alaska Energy & Resources Company for \$145MM equity + \$24.5MM debt	169,500.0
5/29/2013	MidAmerican Energy Holdings Co.	NV Energy	C		12/19/2013	7	EE	MidAmerican pays \$23.75 / share + assume \$4.8 billion debt	10,494.3
5/25/2013	TECO Energy, Inc.	New Mexico Gas Intermedate, Inc.	C		9/2/2014			TECO will pay \$950 million, including assume \$200 million debt to Continental Energy Systems LLC	950.0
2/20/2012	Fortis Inc.	CH Energy Group	C		6/27/2013	16	EE	Fortis pays \$65.00/share cash & assumes approx. \$687.37 MM debt.	1,609.7
5/27/2011	Fortis Inc.	Central Vermont Public Service Corp	W		7/11/2011			Fortis pays approx. \$35.10/share cash & assumes approx. \$226.4 mill in debt.	701.6
1/8/2011	Duke Energy	Progress Energy	C		7/3/2012	18	EE	0.87083 Duke shares (after 1-3 reverse split) for each Progress share + assume \$12.1 billion net debt.	32,000.0
7/11/2011	Gaz Metro LP	Central Vermont Public Service Corp	C		6/27/2012	12	GE	Gaz Metro pays \$35.25/share for each CVPS share & assumes \$226 million debt.	704.2
10/16/2010	Northeast Utilities	NSTAR	C		4/10/2012	18	EE	1.312 NU shares for each NSTAR shr, plus \$3.36 bill assume debt	7,566.7
4/28/2011	Exelon Corp.	Constellation Energy Group Inc.	C		3/12/2012	11	EE	CEG receive 0.93 shares of EXC for each CEG share. EXC assumes approx. \$2.9 bill net debt	10,623.2
4/19/2011	AES Corporation	DPL Inc.	C		11/28/2011	7	EE	AES pays 30.00/share cash & assumes approx \$1.1 billion of net debt	4,613.2
4/28/2010	PPL Corp.	E.ON U.S.	C		11/1/2010	6	EE	\$6.83 billion cash + \$764.0 million in assumed debt	7,625.0
3/12/2010	Emera Inc	Maine & Maritimes	C		12/21/2010	9	EE	\$76 mm cash + \$28.6 mm debt + \$13.8mm postretirement benefits	117.4

2/10/2010	FirstEnergy	Allegheny Energy	C	2/25/2011	12	EE	\$4.3 billion in equity + \$4.7 billion in assumed debt	9,273.2
9/17/2008	Berkshire Hathaway	Constellation Energy Group Inc.	W	12/17/2008		PE	\$4.7 bill cash + \$4.4 bill net debt and adjustments	9,152.5
7/25/2008	Sempra Energy	EnergySouth Inc.	C	10/1/2008	3	EG	\$499 million cash + 283 million debt	771.9
7/1/2008	MDU Resources Group, Inc.	Intermountain Gas Co.	C	10/1/2008	3	EG	\$245 million cash + \$82 million debt	327.0
6/25/2008	Duke Energy	Catamount Energy Corp.	C	9/15/2008	3	EP	\$240 million cash + \$80 million assumed debt	320.0
2/15/2008	Unitil Corp.	Northern Utilities / Granite State Gas Transmission	C	12/1/2008	10	EG	\$160 million cash	160.0
1/12/2008	PNM Resources, Inc.	Cap Rock Holding Corp.	W	7/22/2008		EE	\$202.5 million	202.5
10/26/2007	Macquarie Consortium	Puget Energy	C	2/6/2009	16	EE	\$3.5 billion cash + \$3.02 billion net debt	6,520.2
6/25/2007	Iberdrola S.A.	Energy East Corp.	C	9/16/2008	15	EE	\$4.5 billion cash + \$4.1 billion net debt	8,600.0
2/26/2007	KKR & Texas Pacific Group	TXU Corp. <sup>1</sup>	C	10/10/2007	8	PE	\$31.8 billion cash + \$12.1 billion net debt	43,882.0
2/7/2007	Black Hills Corp. / Great Plains Energy Inc. <sup>2</sup>	Aquila Inc. (CO elec. util. + CO, KS, NE, IA gas utils. )	C	7/14/2008	17	EG	\$940 million cash + working capital and other adjustments	940.0
7/8/2006	MDU Resources Group, Inc.	Cascade Natural Gas Corporation	C	7/2/2007	12	EG	\$305.2mm in cash + (\$173.6 in debt - \$13.0 in cash equivalents)	465.8
7/8/2006	WPS Resources Corporation	Peoples Energy Corporation	C	2/21/2007	7	EG	\$2.47 billion	2,472.4
7/5/2006	Macquarie Consortium	Duquesne Light Holdings	C	5/31/2007	10	EE	\$1.59 billion cash + \$1.09 billion total debt	2,674.4
6/22/2006	Gaz Metro LP	Green Mountain Power Corp.	C	4/12/2007	10	EE	\$187 million in cash + (\$100.8 debt - \$9.1mm in cash equivalents)	279.5
5/11/2006	ITC Holdings Corp	Michigan Electric Transmission Co.	C	10/10/2006	5	EE	\$485.6mm cash + \$70mm common stock + \$311mm assumed debt	866.6
4/25/2006	Babcock and Brown Infrastructure	NorthWestern Corp.	W	7/24/2007		EE	\$2.2 billion cash	2,200.0
2/27/2006	National Grid	KeySpan Corp.	C	8/24/2007	18	EE	\$7.4 billion cash + \$4.5 billion long-term debt	11,877.5
12/19/2005	FPL Group Inc.	Constellation Energy Inc.	W	10/25/2006		EE	\$11.3 billion equity + \$4.1 billion net debt and pension liabilities	15,311.5
5/24/2005	MidAmerican Energy Holdings Co.	Pacificorp	C	3/21/2006	10	EE	\$5.1 billion cash + \$4.3 billion in net debt and preferred stock	9,300.0
5/9/2005	Duke Energy Corp.	Cinergy Corp.	C	4/3/2006	11	EE	\$9.1 billion equity + \$5.5 billion net debt and pension liabilities	14,600.0
12/20/2004	Exelon Corp.	Public Service Enterprise Group	W	9/14/2006		EE	\$12.3 billion in equity + \$13.4 billion in net debt and pension liabilities	25,700.0
7/25/2004	PNM Resources	TNP Enterprises	C	6/6/2005	12	EE	\$189 million in stock and cash and \$835 million in debt	1,024.0
2/3/2004	Ameren Corp	Illinois Power <sup>3</sup>	C	10/1/2004	8	EE	\$1.9 billion in debt, pref stock, & other liab + \$400 million in cash	2,300.0
11/24/2003	Saguaro Utility Group L.P.	UniSource Energy	W	12/30/2004		PE	\$850 million cash + \$2 billion in debt	2,850.0
11/3/2003	Exelon Corp.	Illinois Power	W	11/22/2003		EE	\$275 million cash + \$1.8 billion in debt + \$150 million promissory note	2,225.0
4/30/2002	Aquila Inc	Cogentrix Energy Inc	W	8/2/2002		EIPP	\$415 million cash + \$1.125 billion in assumed debt	1,540.0
4/29/2002	Ameren Corp	CILCORP <sup>4</sup>	C	1/31/2003	9	EE	\$541 million cash + \$781 in assumed debt + \$41 million in pref stock	1,400.0
10/8/2001	Northwest Natural Gas	Portland General	W	5/16/2002		GE	\$1.55 billion cash + \$250mm in stock	1,800.0
9/20/2001	Duke Energy	Westcoast Energy	C	3/14/2002	6	EG	Equity + cash valued at \$27.90 per Westcoast share	8,500.0
9/10/2001	Dominion Resources	Louis Dreyfus Natural Gas	C	11/1/2001	2	EG	\$890mm cash + \$900mm stock + \$505mm debt	2,295.0
2/20/2001	Energy East	RGS Energy	C	6/28/2002	16	EE	\$1.4 bill. cash & equity + \$1.0 bill. net debt	2,400.0
2/12/2001	PEPCO	Connectiv	C	8/1/2002	18	EE	\$2.2 bill cash & equity + \$2.8 bill. net debt	5,000.0
11/9/2000	PNM	Western Resources <sup>5</sup>	W	1/8/2002		EE	Stock transfer	4,442.0
10/2/2000	NorthWestern	Montana Power <sup>6</sup>	C	2/15/2002	16	EE	\$1.1 billion in cash	1,100.0
9/5/2000	National Grid Group	Niagara Mohawk	C	1/31/2002	16	EE	\$19 per share	8,900.0
8/8/2000	FirstEnergy	GPU Inc.	C	11/7/2001	15	EE	\$35.60 per share	12,000.0
7/31/2000	FPL Group	Entergy	W	4/2/2001		EE	1/1 - FPL, 0.585/1 - ETR	27,000.0
7/17/2000	AES Corporation	IPALCO	C	3/27/2001	8	IPPE	\$25 per share	3,040.0
6/30/2000	NS Power	Bangor Hydro	C	10/10/2001	16	EE	\$26.50 per share	206.0

C = Completed  
W = Withdrawn  
PN = Pending  
E = Electric  
G = Gas  
O = Oil  
IPP = Independent Power Producer  
P = Privatized

<sup>1</sup> TXU (now Energy Future Holdings Corp.) was acquired by the Texas Energy Future Holdings Limited Partnership (TEF) on 10/10/2007.  
TEF was formed by a group of investors led by Kohlberg Kravis Roberts and Texas Pacific Group to facilitate the merger.  
<sup>2</sup> Aquila was divided with Black Hills Corp. acquiring the electric utility in Colorado and NG utilities in CO, IA, KS, and NE. Great Plains Energy Inc. acquired the MI electric utility, stock, and other corporate assets.  
<sup>3</sup> Ameren purchased Illinois Power from Dynegy Corporation. Dynegy Corp acquired Illinois Power in February 2000.  
<sup>4</sup> Ameren purchased CILCORP from AES Corporation. AES Corp acquired CILCORP in October 1999.  
<sup>5</sup> PNM purchased Western Resources' electric operations including generation, transmission, and distribution.  
<sup>6</sup> NorthWestern Corporation purchased Montana Power's electric and natural gas transmission and distribution assets.  
Source: EEI Finance Department, S&P Global Market Intelligence.

ous decade. Maryland regulators approved the merger in May 2015 after the companies expanded the scope of benefits to ratepayers. Delaware likewise approved the merger in May 2015. The companies had hoped to close the transaction in mid-2015 but protracted negotiations with and among Washington D.C. regulators, business leaders and local politicians created uncertainty over the deal's ultimate fate; D.C. regulators blocked the merger twice, most recently in February 2016, casting considerable pessimism on prospects for the deal's success. However, the merger was in fact completed on March 23, 2016 after D.C. regulators finally gave it their approval. The \$7 billion merger brings together Exelon's three electric and gas utilities — BGE, ComEd and PECO — and Pepco Holdings' three electric and gas utilities — Atlantic City Electric, Delmarva Power and Pepco — to create a leading mid-Atlantic electric and gas utility company. The combined Exelon utility businesses serve approximately 10 million customers with a rate base of approximately \$30 billion.

#### *Macquarie Completes Purchase of Cleco*

Local opposition almost nixed the proposed acquisition of Louisiana regulated utility Cleco by Macquarie and a group of infrastructure investors, announced in October 2014. Macquarie manages more than \$100 billion in infrastructure assets worldwide; its North American infrastructure businesses include utilities Puget Energy, Aquarion Water and Duquesne Light. Macquarie said Cleco is a well-run utility with growth opportunities that can be

supported by Macquarie's expertise and experience with other portfolio utility companies, and that Cleco would complement Macquarie's existing infrastructure portfolio assets. The companies originally had hoped to close the deal in the second half of 2015, but revised the proposed transaction in October 2015 to address concerns by Louisiana regulators. On February 24, 2016, Louisiana regulators rejected the merger, citing concerns about leverage used to finance the deal, questions about tax consequences for customers, and concerns about foreign ownership (Macquarie is based in Australia and a second prominent investment partner is Canadian). However, the Louisiana commission approved the deal in March 2016 after the companies agreed to freeze rates until June 2019 and committed to \$136 million in rate credits. The transaction was completed on April 13, 2016. The buyer's commitment to maintain Cleco's local presence was instrumental in gaining approval. Cleco retained its Pineville, Louisiana headquarters; the new owners will continue the company's local charitable giving, investments in economic development and staffing levels; and salaries and benefits will be maintained for 10 years.

#### *Emera Acquires TECO*

On July 1, 2016, Canadian utility Emera successfully closed its acquisition of Tampa, Florida-based TECO Energy. The deal, announced in September 2015, was motivated by Emera's desire for regulated earnings, increased scale and geographical diversification. The companies noted the combina-

tion would make a top-20 North American regulated utility with approximately \$20 billion of assets and more than 2.4 million electric and gas customers. Emera called TECO an ideal strategic fit due to its regulated business and generation mix, U.S. presence, constructive regulatory jurisdictions and growth markets offering opportunities to supply customers with cleaner generation. TECO cited the appeal of increased scale that results from being part of a larger, more diverse organization. Emera noted the deal would include a regulated natural gas local distribution business, which shares many of the key competencies of its regulated electric utilities. It also said it expected pro-forma regulated earnings would be more than 80% of total earnings and that it planned to maintain a strong investment-grade credit profile. The companies said they expect the deal to be accretive to Emera's earnings per share in the first full year of operations (2017), growing to more than 10 percent by the third full year (2019), and that the deal would support Emera's 8% dividend growth target through 2019. Emera said it would preserve and further invest in TECO's employee base and local presence as it has in other Emera acquisitions.

#### *Southern Closes AGL Acquisition*

Also on July 1, 2016, Southern Company closed its acquisition of AGL Resources; the proposed acquisition was announced in August 2015 and was the largest of 2015's five natural gas deals. Atlanta-based AGL is an energy services holding company with operations in natural



gas distribution, retail operations, wholesale services and midstream operations, and serves approximately 4.5 million utility customers through its regulated distribution subsidiaries in seven states. Southern said the acquisition would support its long-term desire to participate in natural gas infrastructure development, citing AGL's experienced team, premier natural gas utilities and investments in several major infrastructure projects. Southern also said the acquisition is expected to be accretive to earnings per share in the first full year after, accelerate its expected long-term EPS growth to 4-5%, preserve its strong financial profile, further support investment in its diversified energy platform, and enhance its ability to increase the growth rate of its dividend.

#### *Duke Energy Acquires Piedmont Natural Gas*

On October 3, 2016, Duke Energy successfully completed its acquisition of Piedmont Natural Gas Company, a Charlotte, N.C. based energy services company primarily engaged in the distribution of natural gas to residential, commercial, industrial and power-generation utility customers. Duke Energy paid \$60 per share in cash to acquire each outstanding share of Piedmont, and also assumed approximately \$2 billion of Piedmont's net debt. The acquisition will add Piedmont's one million natural gas customers to Duke Energy's existing customer base of 525,000 natural gas customers and 7.4 million electric customers. Piedmont Natural Gas will retain its operating name and operate as a business unit of Duke Energy.

## **Withdrawn Deals**

### *NextEra Abandons Effort to Buy Hawaiian Electric*

On July 18, NextEra Energy cancelled its proposed merger with Hawaiian Electric (HEI). The deal was announced on December 3, 2014 and encountered considerable local opposition due to varying views among stakeholders as to how Hawaii should meet its aggressive renewable energy goals. The companies had viewed NextEra's expertise in renewables and financial strength as supportive of HEI's need to implement a clean-energy transformation plan that involves modernizing its grid, reducing Hawaii's dependence on imported oil, and integrating more rooftop solar energy. In June 2015, after the deal was proposed, Hawaii accelerated its planned renewables timeline, becoming the first state to pass a 100% renewable energy goal. The new goal set targets of 30% by 2020, 40% by 2030, and 70% by 2040 with a final target of 100% by 2045. The companies originally hoped to close the deal within a year, but in December 2015 extended the target date by six months to June 2016. The companies cancelled the deal after the Hawaiian Public Utilities Commission voted on July 15, 2016 against the transaction, arguing it did not offer adequate benefits to ratepayers, it lacked sufficient ring-fencing measures, it lacked assurances that Hawaiian Electric would remain locally governed and controlled, and that NextEra lacked specific experience with renewable energy issues facing Hawaii (integration of rooftop solar distributed generation in particular).

## **Construction**

### **Generation**

#### *New Capacity*

The electric utility industry brought 33,177 MW of new capacity online in 2016, almost 60% more than in 2015. Solar (including private solar) was the dominant contributor with 12,843 MW of new capacity (39% of the total). Wind followed with 9,182 MW (28%) and natural gas with 9,093 MW (27%). NextEra Energy (4,181 MW), Southern Co. (1,665 MW), Dominion Resources (1,476 MW) and Berkshire Hathaway (1,226 MW) were the investor-owned electric utilities that brought the most new capacity online.

Solar, for the first time, was the year's leading source of new generation capacity, and 2016 was yet another record year for solar with capacity additions more than double 2015's total. The continued decline in photovoltaic (PV) system costs and the continued availability of federal and state incentives — such as the federal investment tax credit (ITC), state renewable portfolio standards (RPS) and net metering — are enabling solar's rapid growth. Solar capacity additions also benefitted from a large pipeline of universal solar projects that began construction in 2015 in anticipation of a year-end 2016 expiration and non-extension of the 30% ITC. At the end of 2015, however, the solar ITC was extended until 2021, with declining rates after 2019.

All new solar capacity added in 2016 used PV technology given its cost advantage over solar thermal. NextEra and Southern Co were

<b>New Capacity Online (MW) 2012–2016</b>	
<b>2016</b>	<b>Entire Industry</b>
New Plant	25,127
Plant Expansions	8,050
<b>Total</b>	<b>33,177</b>
<b>2015</b>	
New Plant	14,917
Plant Expansions	6,108
<b>Total</b>	<b>21,025</b>
<b>2014</b>	
New Plant	12,719
Plant Expansions	8,130
<b>Total</b>	<b>20,849</b>
<b>2013</b>	
New Plant	9,920
Plant Expansions	7,243
<b>Total</b>	<b>17,163</b>
<b>2012</b>	
New Plant	17,962
Plant Expansions	13,540
<b>Total</b>	<b>31,503</b>

Note: Includes all new capacity placed on the grid by investor-owned utilities, independent power producers, municipals, co-ops, government authorities and corporations. Totals may reflect rounding.

Source: Velocity Suite, ABB Enterprise Software; EEI Finance Department.

stall PV panels on rooftops and utilities explore ways to use distributed solar to relieve congestion during peak hours and provide customers with additional energy solutions.

Wind continued to rebound after a few lackluster years and was the second-largest source of new capacity. While below 2012’s record 12,327 MW, new wind capacity added in 2016 rose 12% from 2015’s level and, as in 2015, exceeded 2013’s and 2014’s capacity additions combined. NextEra Energy (1,353 MW) and Berkshire Hathaway (1,226 MW) were the investor-owned electric utilities that brought the most new wind capacity online. Duke, Xcel Energy and Exelon also brought online significant amounts of wind capacity. NextEra Energy completed a total of seven wind farms in North Dakota, Oklahoma, Texas, Kansas and Missouri. Berkshire Hathaway completed three projects in Iowa totaling 751 MW, one 400 MW project in Nebraska, and a 75 MW project in Kansas.

the investor-owned utilities that brought online the most universal solar, at 1,089 MW and 878 MW, respectively.

Among the largest solar projects brought online by investor-owned utilities in 2016 were:

- Southern Co.’s RE Roserock Solar project in Texas, Desert Stateline Solar project in California, and Taylor County Solar and Buttler Solar projects in Georgia (these four installations range from 103 MW to 158 MW);

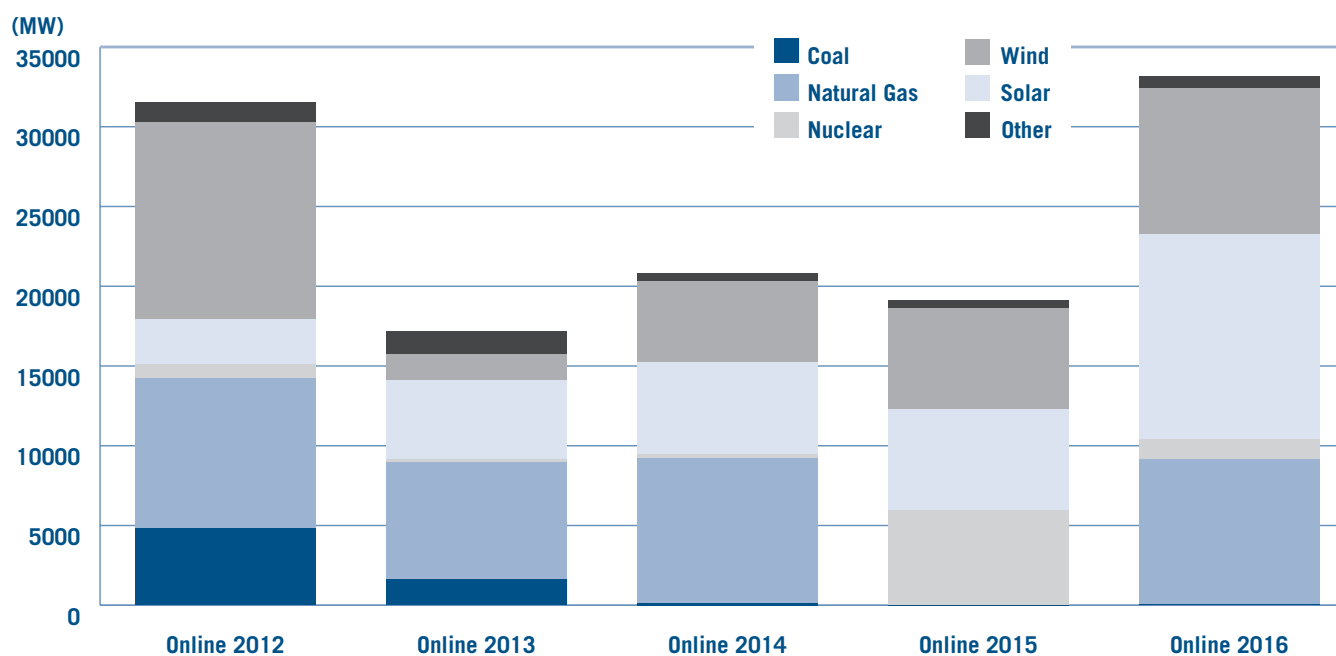
- NextEra’s 101 MW White Pine Solar project in Georgia;
- Sempra’s 100 MW Mesquite Solar project in Arizona and 93.5 MW Copper Mountain Solar project in Nevada.

In total in 2016 there were 54 solar projects over 50 MW, 112 between 10 MW and 49.9 MW, and almost 300 between 1MW and 9.9 MW. In addition to these large projects, many more small private solar projects were added to the grid during the year. Private solar generation continues to grow rapidly as homeowners and businesses in-

New natural gas capacity added to the grid grew by 50% in 2016 after falling significantly in 2015; the 9,093 MW added in 2016 brought natural gas capacity additions back to levels consistent with previous years (the 2012-2014 average was 8,600 MW). Combined-cycle projects accounted for 5,767 MW while simple-cycle turbines contributed 3,326 MW.

Dominion Resources and NextEra were among the investor-owned electric utilities that added new combined-cycle capacity. Dominion built a new 1,358 MW NGCC plant in

## New Capacity Online by Fuel Type 2012–2016



Fuel Type	2012	2013	2014	2015	2016
Coal	4,823	1,618	136	3	45
Natural Gas	9,395	7,370	9,081	5,971	9,093
Nuclear	875	172	227	0	1,270
Solar	2,882	4,936	5,808	6,316	12,843
Wind	12,327	1,646	5,041	8,179	9,182
Other	1,200	1,421	557	556	744
<b>Total</b>	<b>31,503</b>	<b>17,163</b>	<b>20,849</b>	<b>21,025</b>	<b>33,177</b>

Note: Includes all new capacity placed on the grid by investor-owned utilities, independent power producers, municipals, co-ops, government authorities and corporations. Other includes biomass, diesel/fuel oil, fuel cells, geothermal, landfill gas, pet coke, waste heat, water, wood, and energy storage. Totals may reflect rounding.

Source: Velocity Suite, ABB Enterprise Software; EEI Finance Department.



Virginia and NextEra added 1,277 MW through an expansion at its Port Everglades power plant in Florida.

Although not counted towards net capacity additions, fuel conversions amounted to 4,312 MW; these included conversions from coal to natural gas at AEP's Clinch River in Virginia (475 MW), AES's Harding Street in Indiana (463 MW) and Ameren's Meramec plant in Missouri (275 MW).

The only new coal capacity added to the grid in 2016 was a 45 MW rerate at the Columbia coal power plant in Wisconsin.

### Cancelations

Capacity canceled or postponed totaled 49,044 MW, 81% more than in 2015. However, 2015's total was unusually small and the 2016 amount is in line with prior years; the year-to-year jump was mostly due to an increase in cancellations of renewable projects. Compared to 2015, renewable project cancellations grew 70% as wind's doubled and solar's share grew by 36%. As a result, wind accounted for most project cancellations, with 41% of the total, followed by natural gas (17%) and solar (16%).

### Announcements

The electric utility industry in 2016 announced plans for 46,693 MW in new capacity, 17% more than in 2015 and largely in line with the five-year average. New wind capacity led announcements (16,650 MW), followed by natural gas (15,817 MW) and solar (12,986 MW). Natural gas and renewables (wind and solar in particular) continue to be the favored choices for new generation.

The planned new capacity is fairly evenly distributed around the country, although there are regional differences regarding generation type.

Almost half of the announced capacity is located in the Southeast Reliability Council-SERC and Reliability First-RF regions (25% and 20% respectively), followed by Northeast Power Coordinating Council-NPCC (15%), Western Electricity Coordinating Council-WECC (14%), Midwest Reliability Organization-MRO (10%), Electric Reliability Council of Texas-ERCOT (6%), Southwest Power Pool-SPP (5%), and Florida Reliability Coordinating Council-FRCC (2%).

Solar accounts for 77% of the planned capacity in WECC and represents 35% of planned capacity additions in SERC. Solar is rapidly expanding beyond the desert southwest with plans announced for new capacity in virtually all states.

Natural gas is the primary resource planned in SERC (50%) and RF (73%), whereas wind dominates in SPP (99.6%), MRO (90%) and NPCC (58%).

## New Capacity Online by Region 2016

Region	Online	Canceled
ASCC	70	2,388
FRCC	1,409	599
HCC	21	258
MRO	593	5,671
NPCC	734	1,792
RFC	2,307	7,286
SERC	3,632	6,874
SPP	1,181	785
TRE	1,541	4,256
WECC	2,795	19,135
NA	6,898	
<b>Total</b>	<b>21,180</b>	<b>49,044</b>

Note: Data includes new plants and expansions of existing plants, including nuclear uprates. Totals may reflect rounding.

NA: Not available. Includes private, residential solar.

Source: Velocity Suite, ABB Enterprise Software; EEI Finance Department.

## New vs. Canceled Capacity by Fuel Type (MW)

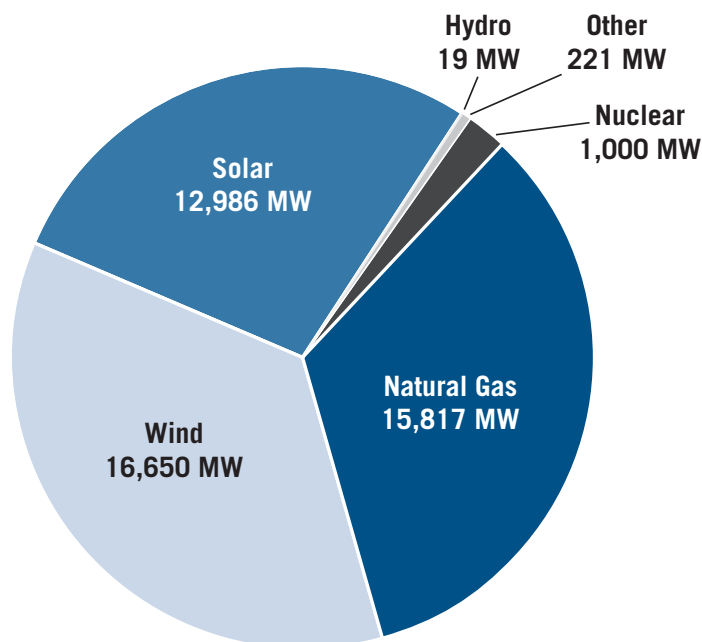
Fuel Type	Online 2012	Canceled 2012	Online 2013	Canceled 2013	Online 2014	Canceled 2014	Online 2015	Canceled 2015	Online 2016	Canceled 2016
Coal	4,823	5,362	1,618	4,645	136	279	3	100	45	3,866
Natural Gas	9,395	12,064	7,370	4,278	9,081	3,549	5,971	9,090	9,093	8,337
Nuclear	875	3,036	172	10,813	227	3,583	0	0	1,270	1,600
Solar	2,882	19,604	4,936	6,651	5,808	11,741	6,316	5,800	12,843	7,895
Wind	12,327	22,195	1,646	16,497	5,041	21,414	8,179	10,212	9,182	20,301
Other	1,200	17,244	1,421	9,974	557	4,850	556	1,946	744	7,045
<b>Total</b>	<b>31,503</b>	<b>79,503</b>	<b>17,163</b>	<b>52,858</b>	<b>20,849</b>	<b>45,415</b>	<b>21,025</b>	<b>27,148</b>	<b>33,177</b>	<b>49,044</b>

Note: Data includes new plants and expansions of existing plants, including nuclear uprates. Totals may reflect rounding. Other includes biomass, diesel/fuel oil, fuel cells, geothermal, landfill gas, pet coke, waste heat, water, wood, and energy storage.

Source: Velocity Suite, ABB Enterprise Software; EEI Finance Department.

## 2016 New Capacity Announcements by Fuel Type

U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Note: Other includes biomass, diesel/fuel oil, energy storage, fuel cells, geothermal, landfill gas, pet coke, solar/PV, waste heat, water, and wood. Totals may reflect rounding.

Source: Velocity Suite, ABB Enterprise Software; EEI Finance Department.

While not all announced projects will be built, more than 34,000 MW of announced new capacity is already under construction and expected to come online in 2017 or 2018. This includes several large natural gas combined cycle plants and a large number of wind and solar facilities ranging from 1 MW to 300 MW.

There are a few previously announced coal plants that remain officially on the books and it is unclear whether they will be built. These were proposed as long as 13 years ago and none have progressed beyond the permit stage. There are no new coal

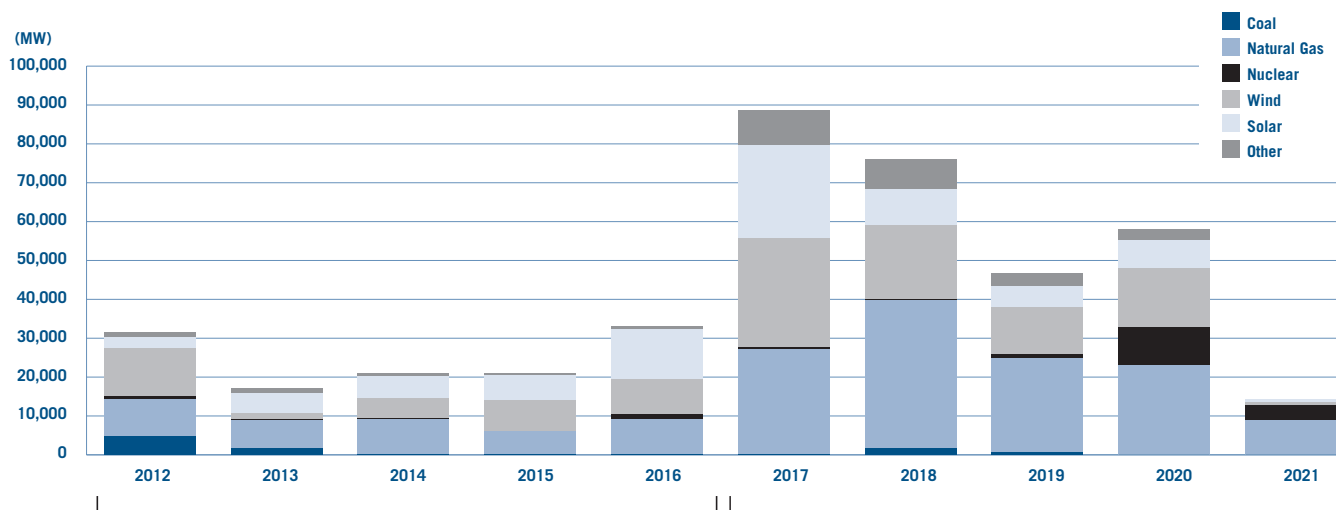
plants under construction in the U.S. and any coal capacity added in coming years will likely be small expansions at existing facilities.

**Retirements**

Almost 16,000 MW of capacity was retired in 2016; just over 9,500 MW (60%) was coal. A record 15,380 MW of coal was retired in 2015, therefore about 10% of the existing coal fleet was retired in the last two years alone. In fact, since 2010, the industry has retired 50,667 MW of coal capacity (about 15% of the 2010 coal fleet).

More coal plant retirements are expected in coming years due to economic and regulatory pressures. The low price of natural gas continues to make the competitive environment difficult for coal generation. In addition, EPA’s Mercury and Air Toxics Standard (MATS) went into effect in 2015 and EPA’s Clean Power Plan requirements go into effect in 2022, provided the rule is upheld in the courts. The electric power industry has already announced plans to retire another 20,760 MW of coal generation between 2017 and 2021.

**Actual and Projected Capacity Additions 2012–2021**



	Actual					Projected				
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>Coal</b>	4,823	1,618	136	3	45	245	1,687	590	0	0
<b>Natural Gas</b>	9,395	7,370	9,081	5,971	9,093	26,929	38,181	24,196	23,060	8,969
<b>Nuclear</b>	875	172	227	0	1,270	505	99	1,100	9,697	3,838
<b>Wind</b>	12,327	1,646	5,041	8,179	9,182	28,050	19,106	12,037	15,180	691
<b>Solar</b>	2,882	4,936	5,808	6,316	12,843	24,019	9,312	5,558	7,452	735
<b>Other</b>	1,200	1,421	557	556	744	9,003	7,601	3,213	2,615	146
<b>Total</b>	<b>31,503</b>	<b>17,163</b>	<b>20,849</b>	<b>21,025</b>	<b>33,177</b>	<b>88,751</b>	<b>75,986</b>	<b>46,693</b>	<b>58,003</b>	<b>14,379</b>

Notes: Data includes new plants and expansions of existing plants, including nuclear uprates. Data does not include projects with an expected online date beyond 2021. Other includes biomass, diesel/fuel oil, fuel cells, geothermal, landfill gas, pet coke, waste heat, water, wood, and energy storage. Totals may reflect rounding. 2012-2016 is actual plants brought online. 2017-2021 is projected based on projects announced as of March 2017. Source: Velocity Suite, ABB Enterprise Software; EEI Finance Department.

## Stage of Projected Capacity Additions (MW)

Fuel	Proposed	Feasibility	Application		Site Prep	Under		Total
			Pending	Permitted		Construction	Testing	
Coal	–	17	200	2,260	–	45	–	2,522
Natural Gas	36,463	2,201	28,950	21,263	1,438	27,625	1,285	119,225
Nuclear	1,699	2,185	4,619	2,200	–	4,434	–	15,137
Wind	40,544	3,870	10,657	11,879	536	6,521	379	74,387
Solar	30,775	306	8,604	3,721	28	2,775	213	46,421
Other	5,302	10,083	4,883	1,645	8	646	4	22,569
<b>Total</b>	<b>114,782</b>	<b>18,661</b>	<b>57,912</b>	<b>42,968</b>	<b>2,011</b>	<b>42,046</b>	<b>1,881</b>	<b>280,260</b>

Notes: Other includes biomass, diesel/fuel oil, fuel cells, geothermal, landfill gas, pet coke, waste heat, water, wood, and energy storage. Totals may reflect rounding. Data includes new plants and expansions of existing plants, including nuclear uprates. Data does not include projects with an expected online date beyond 2021.

Source: Velocity Suite, ABB Enterprise Software; EEI Finance Department.

## Proposed New Nuclear Plants

### U.S. INVESTOR-OWNED ELECTRIC UTILITIES

Company	Site (State)	Early Site Permit	Design (# of units)	Construction & Operating License	# Units	Status
Tennessee Valley Authority	Watts Bar (TN)	–	Gen II PWR	Operating License Issued Oct. 2015	1	Operational in October 2016
SCANA Corp.	V.C. Summer (SC)	–	AP1000	Approved March 2012	2	Under Construction
Southern Co.	Vogtle (GA)	Approved August 2009	AP1000	Approved February 2012	2	Under Construction
DTE Energy Co.	Fermi (MI)	–	ESBWR	Approved May 2015	1	COL Issued
Nuclear Innovation North America	Matorga County (TX)	–	ABWR	Approved February 2016	2	COL Issued
Duke Energy Corp.	Levy County (FL)	–	AP1000	Approved October 2016	2	COL Issued
Duke Energy Corp.	William States Lee (SC)	–	AP1000	Approved December 2016	2	COL Issued
Dominion Resources Inc.	North Anna (VA)	Approved November 2007	ESBWR	Submitted November 2007	1	Under Active NRC Review
Florida Power & Light	Turkey Point (FL)	–	AP1000	Submitted June 2009	2	Under Active NRC Review
Exelon Corp.	Clinton (IL)	Approved March 2007	TBD	TBD		Early Site Permit
PSEG	Lower Alloways Creek (NJ)	Approved May 2016 2007	TBD	TBD		Early Site Permit

Legend:

**TBD:** To Be Determined

**ABWR:** Advanced Boiling Water Reactor

**AP1000:** Reactor designed by Westinghouse

**APWR:** Advanced Pressurized Water Reactor

**EPR:** Pressurized Water Reactor designed by Framatome

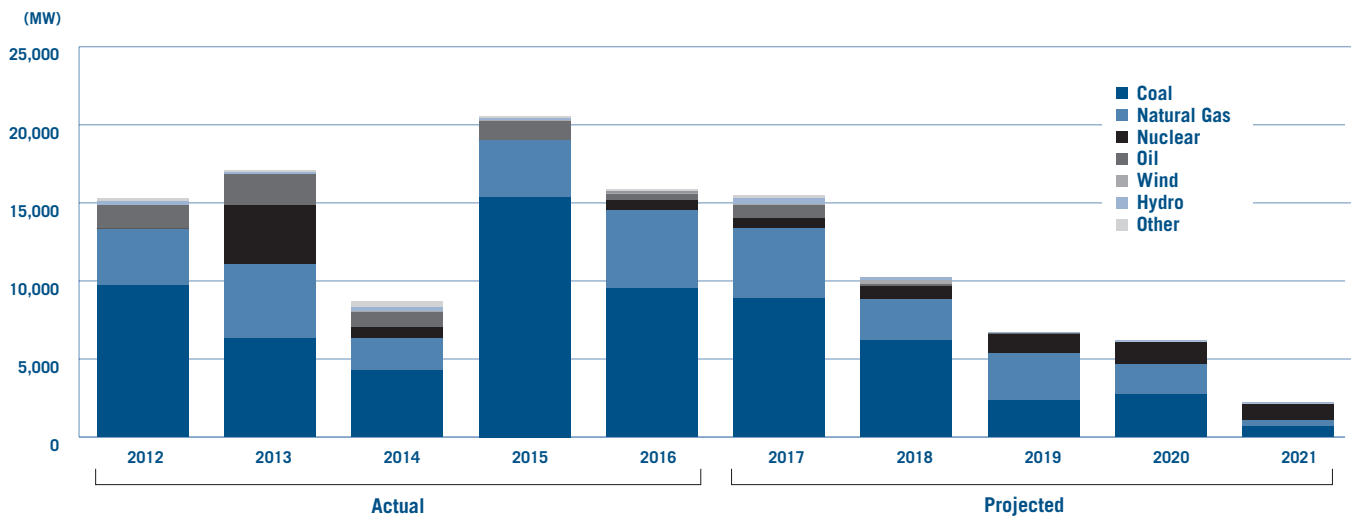
**ESBWR:** Economic Simplified Boiling Water Reactor

**Gen II PWR:** Generation II Pressurized Water Reactor

Source: Nuclear Energy Institute, EEI Finance Department. Last updated March 2017.

For updates, please visit: <http://www.nei.org/Knowledge-Center/Nuclear-Statistics/US-Nuclear-Power-Plants/New-Nuclear-Plant-Status>.

## Actual and Projected Retirements 2012–2021



	Actual					Projected				
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>Coal</b>	9,700	6,333	4,259	15,380	9,503	8,849	6,185	2,344	2,729	653
<b>Gas</b>	3,636	4,747	2,071	3,647	5,055	4,544	2,659	3,038	1,957	405
<b>Nuclear</b>	0	3,781	676	0	577	605	823	1,215	1,371	1,074
<b>Oil</b>	1,512	1,954	997	1,215	447	846	108	11	50	0
<b>Solar</b>	0	0	5	0	30	0	0	0	0	0
<b>Wind</b>	14	0	64	37	49	54	256	0	0	0
<b>Hydro</b>	227	165	270	138	126	425	213	95	95	95
<b>Other</b>	236	79	330	160	128	169	10	1	1	2
<b>Total</b>	<b>15,326</b>	<b>17,058</b>	<b>8,672</b>	<b>20,576</b>	<b>15,915</b>	<b>15,492</b>	<b>10,254</b>	<b>6,704</b>	<b>6,203</b>	<b>2,229</b>

Notes: Data includes new plants and expansions of existing plants. Data does not include projects with an expected online date beyond 2021.  
 Notes: Other includes biomass, diesel/fuel oil, fuel cells, geothermal, landfill gas, pet coke, waste heat, water, wood, and energy storage. Totals may reflect rounding.  
 2012-2016 is actual plants retired. 2017-2021 is projected based on announced retirements.  
 Source: Velocity Suite, ABB Enterprise Software; EEI Finance Department.

Natural gas retirements totaled 5,055 MW, or nearly one-third of the total. Retirements of all the other technologies amounted to 1,357 MW, accounting for about 9% of total retirements.

### Transmission

According to EEI’s latest *Annual Property & Plant Capital Investment Survey*, investor-owned electric utilities and stand-alone transmission companies invested a record \$20.1 billion in transmission infrastruc-

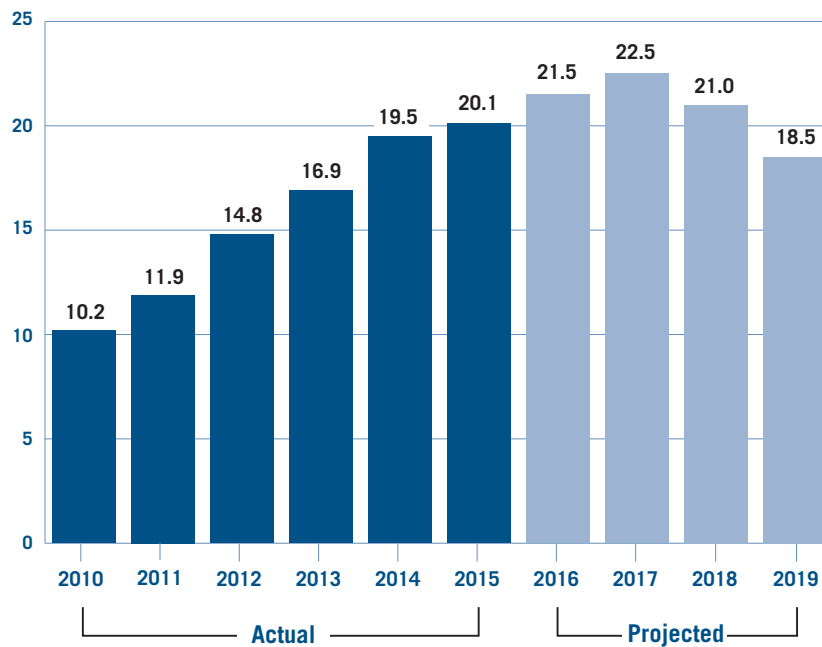
ture in 2015. This represents a 3% increase over the \$19.5 billion that the industry invested in 2014. Electric utilities attribute the increased transmission investment to several key factors, including transmission reliability improvements; transmission infrastructure to accommodate increased shale oil and gas development; new infrastructure to ease congestion; replacement of outdated transmission lines; transmission system expansion projects; storm hardening activities; interconnec-

tion of new sources of generation (including renewables); and accommodating retirements of inefficient or uneconomic generation. Given the large amount of coal capacity that will be retired over the next few years, transmission system upgrades can help preserve reliability in areas where plants are shutting down.

EEI members are projected to spend a total of \$84 billion (nominal dollars) over the 2016-2019 fore-

## Actual and Planned Transmission Investment\* 2010–2019

(\$ Billions)



\*Investment of investor-owned electric utilities and stand-alone transmission companies. Actual Investment figures were obtained from the EEI Property & Plant Capital Investment Survey supplemented with FERC Form 1 data. Projected investment figures were obtained from the EEI Transmission Capital Budget & Forecast Survey supplemented with data obtained from company 10-K reports and investor presentations. Please note that the investment totals are shown in nominal dollars and are not wholly comparable with previous versions of this chart which showed investment in Real dollars.

Source: Edison Electric Institute, Business Information Group.

Updated November 2016.

cast period. Investment spending is projected to peak in 2017, then moderate due to the cyclical nature of transmission planning and development, expanded demand-side resources (including demand response, energy efficiency and distributed generation) and the uncertainty of project selection under FERC Order 1000 planning processes.

The growing use of distributed generation makes transmission investment critical to system-wide reliability by enabling access to reliable power sources when intermittent distributed generation is unavailable. Large concentrations of distributed generation also increase the need for

the transmission system to detect and quickly react to supply/demand imbalances when distributed sources go offline or cannot meet 100% of customer demand.

### Distribution

EEI's latest *Annual Property & Plant Capital Investment Survey* showed that investment in electric distribution infrastructure in 2015 totaled \$25.8 billion, a 14.7% increase over the \$22.5 billion invested in 2014. The increased spending was primarily attributed to infrastructure improvements that enhanced general system reliability; improvements that enhanced storm harden-

ing and the resiliency of the distribution network; additional investment required to accommodate customer projects; additions of new distribution infrastructure, including substations and replacement of aging distribution lines; and an increase in smart grid investments.

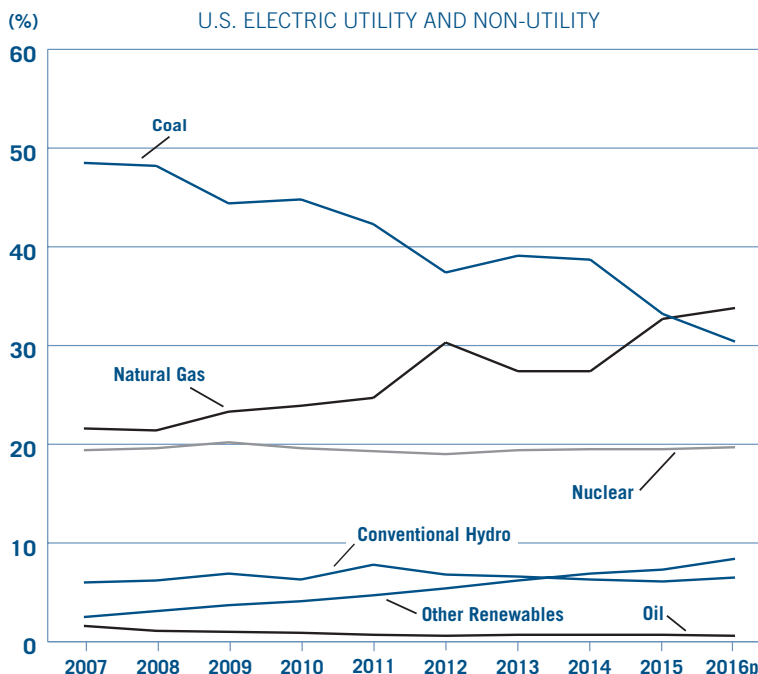
In general, investments in the distribution sector are primarily driven by the ongoing need to replace assets that have lived out their useful lives, serve new load, preserve reliability, improve system resiliency and restoration capabilities, and increasingly, accommodate distributed resources. Investment in utility infrastructure tends to be cyclical; large investments are made to support major development projects, investment levels off as focus shifts to maintenance and incremental upgrades, and investment then rises again to support load growth and/or adoption of new technologies.

The electric power industry is facing significant distribution-related capital spending needs to address the normal replacement cycle for aging infrastructure, to harden the grid and improve storm restoration response, and to expand the grid's ability to support growing use of distributed resources. These investments will improve reliability and enable customers to adopt new technologies such as rooftop solar and electric vehicles. They will also allow utilities to operate the grid more efficiently by providing more detailed information about grid conditions so that resources can be used more effectively.

### Fuel Sources

The primary trends that have impacted fuel use for power generation over the past few years continued in 2016; these are flat power demand, low natural gas prices and the continued growth of renewable energy production. Electric generation declined by 0.2% in 2016 and has fallen in six of the last ten years, resulting in a 10-year average demand growth rate of only 0.1%. In fact, electricity generation in 2016 was only about equal to the level a decade earlier, in 2006. Sluggish demand growth has resulted from declining consumption by the industrial sector and reduced demand growth from the residential and commercial sectors. Newer and more energy efficient equipment, energy efficiency standards, slower population growth and a shift towards a less energy intensive economy have also contributed to the trend.

### Fuel Sources for Electric Generation 2007–2016



p = preliminary

**U.S. Electric Utility:** Owns and/or operates facilities within the United States, its territories, or Puerto Rico for the generation, transmission, distribution, or sale of electric energy primarily for use by the public. This includes investor-owned utilities, public power, and cooperatives.

**Non-Utility Power Producer:** Non-utility power producers include qualifying cogenerators, qualifying small power producers, and other non-utility generators (including independent power producers) without a designated franchised service area.

Source: U.S. Department of Energy, Energy Information Administration (EIA).

### Fuel Sources for Net Electric Generation

U.S. ELECTRIC UTILITY AND NON-UTILITY

	2016p	2015
<b>Coal</b>	30.4%	33.2%
<b>Gas</b>	33.8%	32.7%
<b>Nuclear</b>	19.7%	19.5%
<b>Oil</b>	0.6%	0.7%
<b>Hydro</b>	6.5%	6.1%
<b>Renewables</b>	8.4%	7.3%
<b>Biomass</b>	1.5%	1.6%
<b>Geothermal</b>	0.4%	0.4%
<b>Solar</b>	0.9%	0.6%
<b>Wind</b>	5.6%	4.7%
<b>Other fuels</b>	0.5%	0.5%
<b>Total</b>	100%	100%

Note: Totals may not equal 100.0% due to rounding.  
p: preliminary

**U.S. Electric Utility:** Owns and/or operates facilities within the United States, its territories, or Puerto Rico for the generation, transmission, distribution, or sale of electric energy primarily for use by the public. This includes investor-owned utilities, public power, and cooperatives.

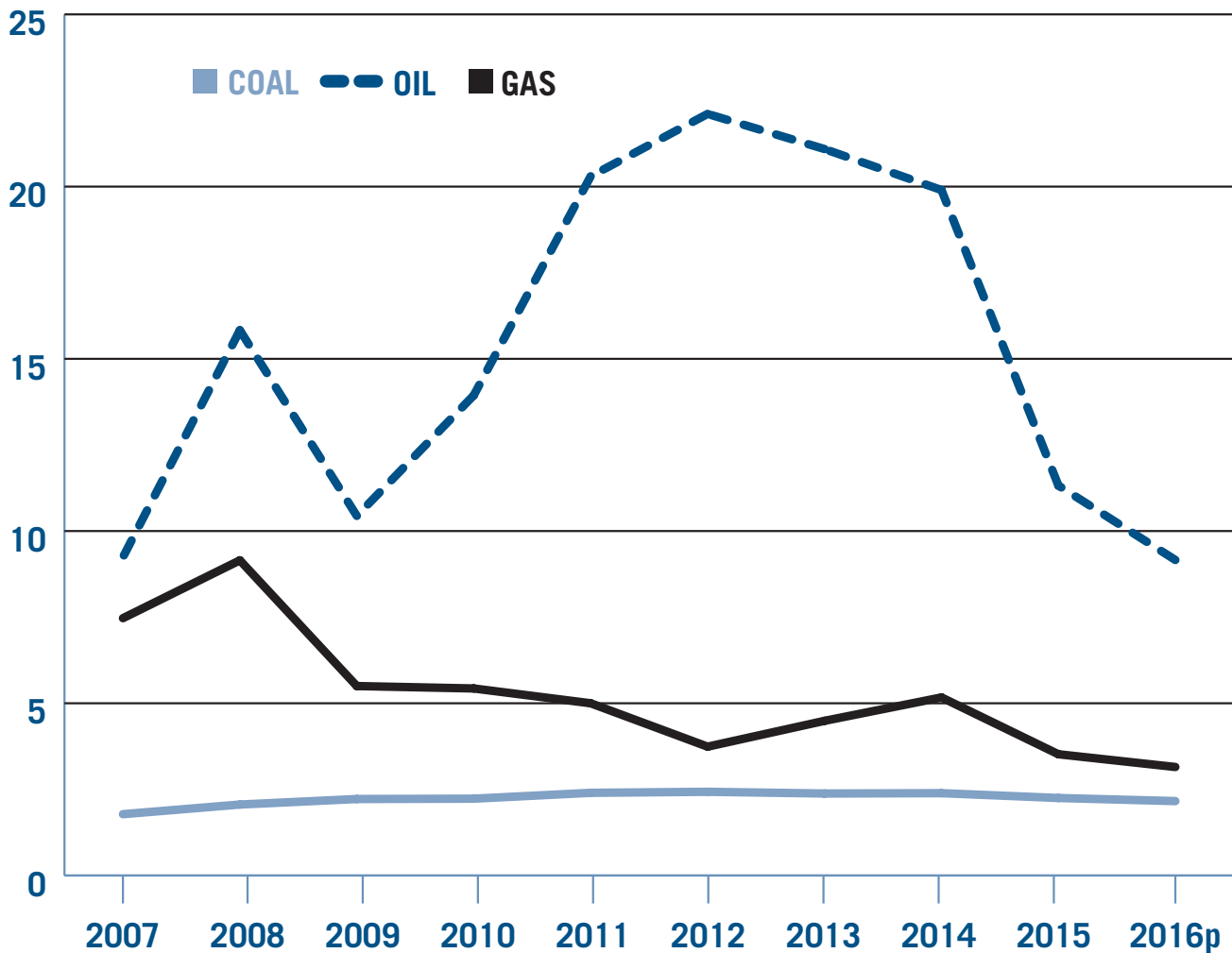
**Non-Utility Power Producer:** Non-utility power producers include qualifying cogenerators, qualifying small power producers, and other non-utility generators (including independent power producers) without a designated franchised service area.

Source: U.S. Department of Energy, Energy Information Administration (EIA).

# Average Cost of Fossil Fuels 2007–2016

U.S. ELECTRIC UTILITIES

(\$/mmBTU)



p = preliminary

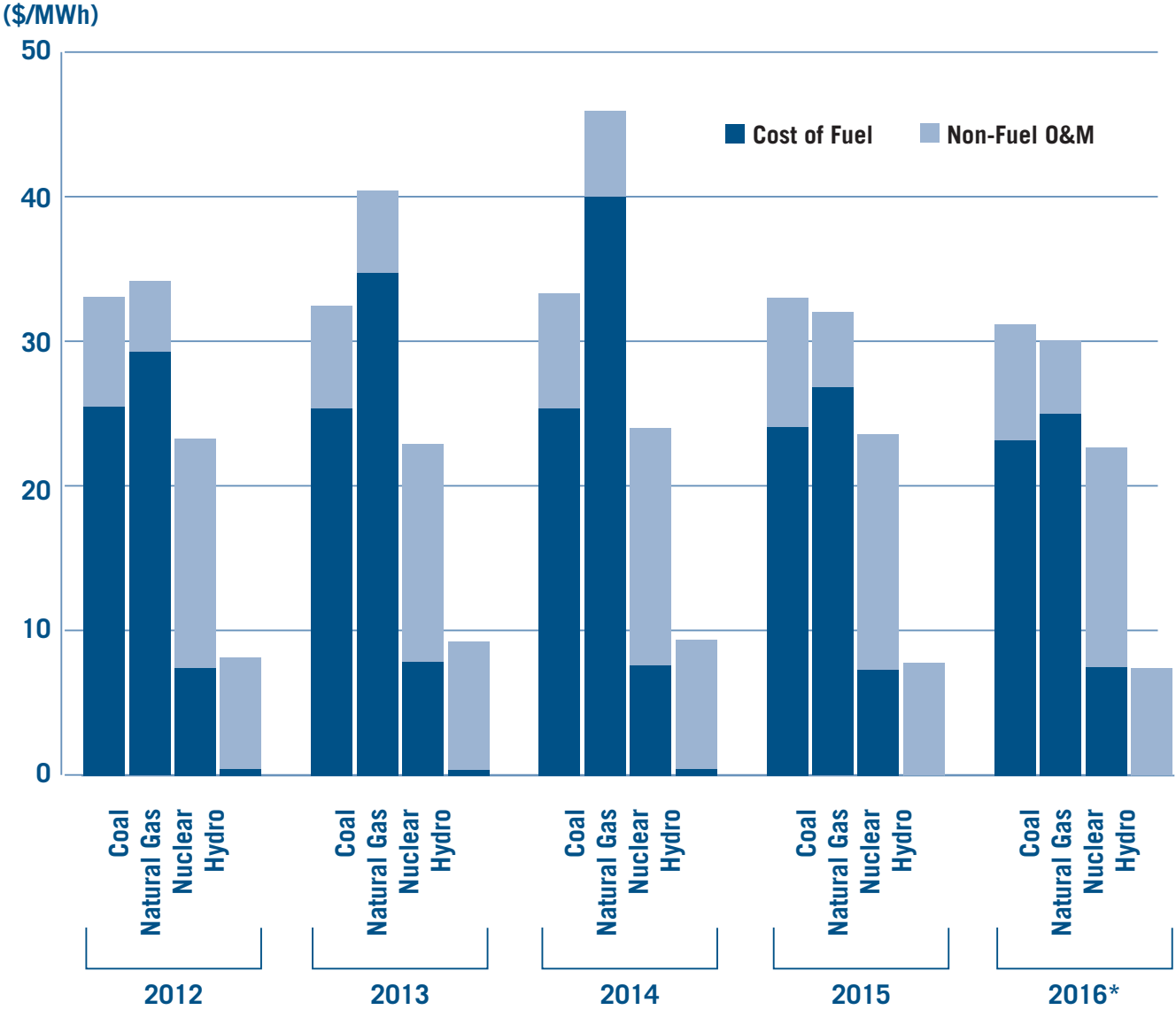
**U.S. Electric Utility:** Owns and/or operates facilities within the United States, its territories, or Puerto Rico for the generation, transmission, distribution, or sale of electric energy primarily for use by the public. This includes investor-owned utilities, public power, and cooperatives.

Source: U.S. Department of Energy, Energy Information Administration (EIA).



# Average Cost to Produce Electricity 2012–2016

U.S. ELECTRIC UTILITY AND NON-UTILITY



**U.S. Electric Utility:** Owns and/or operates facilities within the United States, its territories, or Puerto Rico for the generation, transmission, distribution, or sale of electric energy primarily for use by the public. This includes investor-owned utilities, public power, and cooperatives.

**Non-Utility Power Producer:** Non-utility power producers include qualifying cogenerators, qualifying small power producers, and other non-utility generators (including independent power producers) without a designated franchised service area.

\* 2016 results are preliminary and based on modeled data from ABB’s Velocity Suite.

Source: Velocity Suite, ABB Enterprise Software.

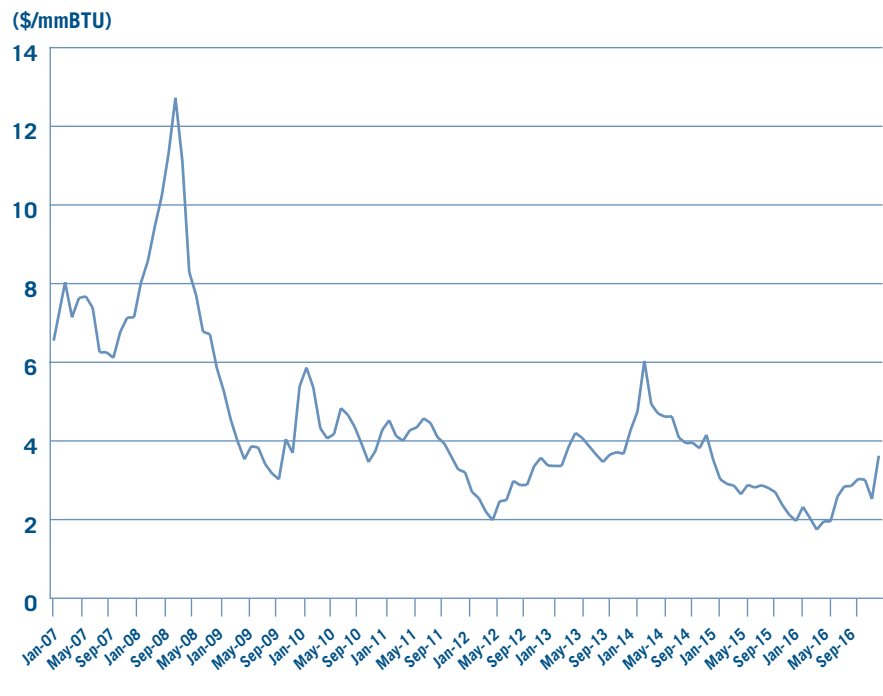
Fuel price dynamics caused natural gas in 2016 to overtake coal as the primary source of power generation for the first time in U.S. history. And at 8.4% of the energy mix, generation from non-hydro renewable resources achieved yet another record. It is worth noting that over one-third (34.7%) of U.S. electric generation in 2016 came from zero-carbon-emission sources (nuclear, hydropower and other renewables). Another one-third (33.8%) came from low-emissions natural gas, while oil and coal accounted for only 31% of total generation, down from 52.1% a decade earlier.

### Coal

In 2016, coal lost its long-standing role as the primary fuel used to produce electricity in the U.S. Coal generation declined by 8.5% year-year and its share of the generation mix declined from 33.2% in 2015 to 30.4%. At 33.8% of the mix, natural gas became the leading resource for power generation.

The long-term decline in coal-fired generation has been evident for a number of years. One factor driving the trend in recent years is the shrinking fuel price differential between coal and natural gas. Up until 2008, coal enjoyed a significant cost advantage over natural gas and other fuels used for power generation. The “shale revolution” that started in 2008-09, however, caused a rapid rise in production of unconventional natural gas, which dramatically reduced prices and narrowed the cost gap between nat-

## NYMEX-Henry Hub Natural Gas Close Prices 2007–2016



Source: U.S. Department of Energy, Energy Information Administration (EIA).

ural gas and coal generation. In addition, the impact of environmental regulations has forced the coal fleet to shrink in favor of natural gas and renewable plants. Although the new Trump administration’s policy direction may try to preserve fossil fuel generation, zero-marginal-cost renewable power and low-cost, flexible and cleaner natural gas generation will likely continue to erode coal’s market share for economic reasons.

In 2016, reduced demand for coal brought coal prices and production down from 2015 levels and some coal producing regions experienced the lowest prices of the

decade. The average spot price for Central Appalachian coal in 2016 was \$46.04 per ton compared to \$53.37 per ton in 2015 (a reduction of 13.7%). Northern Appalachian coal prices fell from \$58.15 in 2015 to \$48.94 in 2016, a decline of 15.8%. Prices in the Powder River Basin declined 15.8%, from \$10.09 per ton to \$8.49 per ton. Over the 2015-2016 period, coal spot price declines ranged from -20% in PRB to -31% in the Northern Appalachian region. As a result, the total cost to produce electricity from coal fell about 6% year-to-year, from \$33.20 per MWh in 2015 to \$31.20 per MWh in 2016.

## Natural Gas

The share of total electricity generation fueled by natural gas rose to 33.8% in 2016, making natural gas for the first time the primary fuel for power generation. Production and consumption of natural gas increased continually from 2010 to 2015, and, while consumption broke yet another record in 2016 (27,497 Bcf) production declined by 2.0% to 28,296 Bcf.

The increase in natural gas demand was small (0.7%) and driven almost exclusively by a rise in demand from power generation and industrial users. Natural gas use for power generation grew 3.2% in 2016 and now accounts for over 36% of total U.S. natural gas consumption. Demand from the industrial sector also increased (+2.5%) although a mild winter caused residential and commercial sector demand to fall by 4.7% and 2.3%, respectively.

The average Henry Hub spot price in 2016 was \$2.51 per mil-

lion BTU, down from \$2.63 in 2015; this was the lowest average price since the 1990s when the annual average ranged between \$1.50 and \$3.00 per million BTU. The decline in spot prices also contributed to a decrease in the cost to produce electricity from natural gas, which declined from \$31.97 per MWh in 2015 to \$30.09 per MWh in 2016, less than the cost of producing electricity from coal (\$31.20 per MWh).

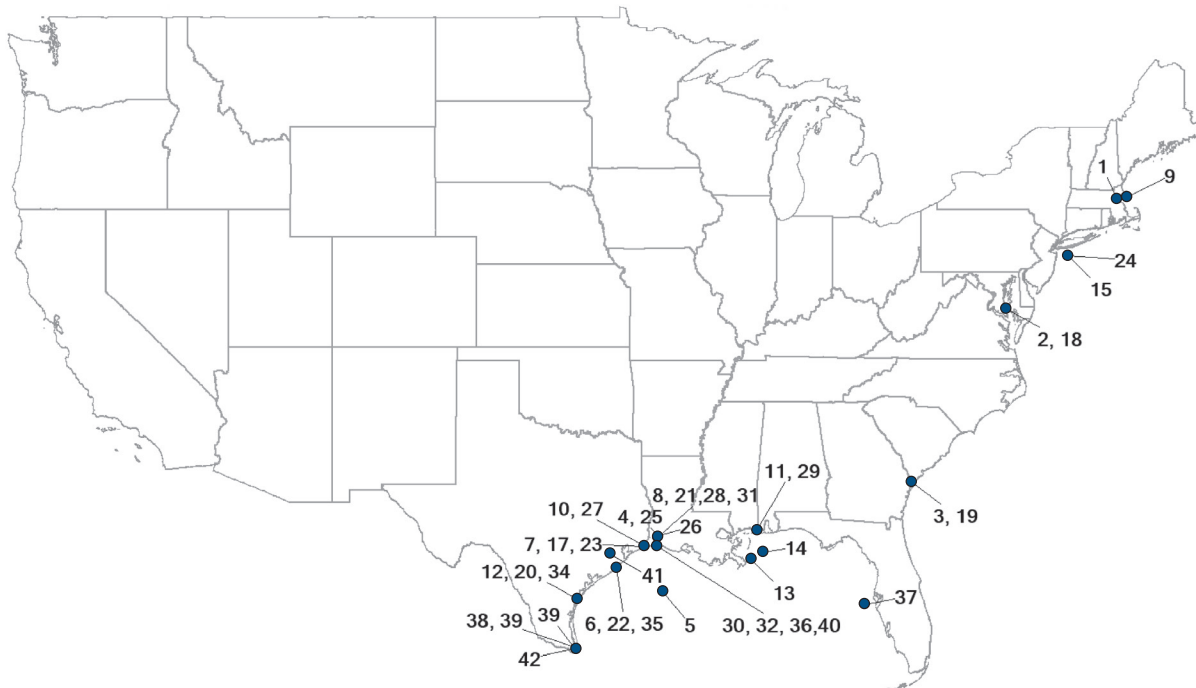
The natural gas domestic energy balance influences natural gas imports and exports. After a sharp and steady decline in imports from 2008 to 2014, the import market seemed to rebound. In 2016, overall imports grew 10%, driven by a strong increase in imports from Canada. Canada continued to account for nearly all imported natural gas (at 97% of the total). Liquefied natural gas (LNG) imports declined by 3% in 2016. Exports of natural gas continued to increase rapidly, growing by 31% in 2016 due mostly to an increase in exports to Canada

(+12.4%) and Mexico (+28.7%). These two countries account for 92% of U.S. exports of natural gas. In 2015, exports to Mexico exceeded those to Canada for the first time and now account for almost 60% of all U.S. exports. LNG exports grew in percentage terms by 558%, but overall volume remained relatively modest and accounted for only 8% of total exports, up from 2% in 2015.

LNG export growth in recent years has resulted from the growth of natural gas reserves and high levels of domestic production, which have caused LNG developers to cancel some import projects and consider options for re-exporting and/or expanding terminals to add liquefaction, storage and export facilities. FERC has authorized facilities in Texas, Louisiana and Maryland to re-export LNG. DOE has approved multiple applications for terminals to liquefy and export domestically produced gas to countries with which the U.S has signed a free trade agreement.

# Existing and Proposed U.S. LNG Terminals

## As of December 31, 2016



### Import terminals

#### Constructed

1. Everett, MA: 1.035 Bcfd (Distrigas of Massachusetts)
2. Cove Point, MD: 1.8 Bcfd (Dominion -Cove Point LNG)
3. Elba Island, GA: 1.6 Bcfd (El Paso -Southern LNG)
4. Lake Charles, LA: 2.1 Bcfd (Southern Union -Trunkline LNG)
5. Offshore Boston, MA: 0.8 Bcfd (Northeast Gateway -ExceleerateEnergy)
6. Freeport, TX: 1.5 Bcfd (Freeport LNG Dev.) (a)
7. Sabine Pass, LA: 4 Bcfd (Sabine Pass Cheniere LNG) (a)
8. Hackberry, LA: 1.8 Bcfd (Cameron LNG -Sempra Energy) (a)
9. Offshore Boston, MA: 0.4 Bcfd (Neptune LNG)
10. Golden Pass, TX: 2.0 Bcfd (Golden Pass -ExxonMobil)
11. Pascagoula, MS: 1.5 Bcfd (Gulf LNG Energy LLC, TRC Companies)

#### Under Construction

12. Corpus Christi, TX: 0.4 Bcfd (Cheniere – Corpus Christi LNG)

#### Approved by MARAD/Coast Guard

13. Main Pass, LA: 1.0 Bcfd (Main Pass McMoRanExp.)
14. TORP LNG, AL: 1.4 Bcfd (Bienville Offshore Energy Terminal – TORP)

#### Proposed to FERC/MARAD

15. Offshore, NY: 0.4 Bcfd (Liberty Natural – Port Ambrose)

(a) Authorized to re-export

(b) Approved by DOE to export to FTA countries

(c) Approved by DOE to export to non-FTA countries

(d) Under DOE review for exports to non-FTA countries

Sources: U.S. Department of Energy, Office of Fossil Energy; Federal Energy Regulatory Commission; Velocity Suite, ABB Enterprise Software.

### Export terminals

#### Constructed

16. Kenai, AK: 0.2 Bcfd (ConocoPhillips) (b) (c)
17. Sabine Pass, LA: 2.76 Bcfd (Sabine Pass Cheniere LNG) (b) (c)

#### Under Construction

18. Cove Point, MD: 1.0 Bcfd FTA & 0.77 Bcfd non-FTA (Dominion -Cove Point LNG) (b) (c)
19. Elba Island, GA: 0.35 Bcfd (Southern LNG) (b) (d)
20. Corpus Christi, TX: 2.1 Bcfd (Cheniere - Corpus Christi LNG) (b) (c)
21. Hackberry, LA: 2.1 Bcfd (Cameron LNG -Sempra Energy) (b) (c)
22. Freeport, TX: 2.14 Bcfd FTA & 0.4 Bcfd non-FTA (Freeport LNG Dev./FLNG Liquefaction) (b) (c)
23. Sabine Pass, LA: 1.4 Bcfd (Cheniere/Sabine Pass Liquefaction) (b) (c)
24. Sabine Pass, LA: 1.4 Bcfd (Sabine Pass Liquefaction) (b) (c)

#### Approved by FERC

25. Lake Charles, LA: 2.0 Bcfd (Trunkline LNG) (b) (d)
26. Lake Charles, LA: 1.07 Bcfd (Magnolia LNG) (b) (d)
27. Golden Pass, TX: 2.1 Bcfd (Golden Pass -ExxonMobil) (b) (d)
28. Hackberry, LA: 1.3 Bcfd (Cameron LNG -Sempra Energy) (b) (d)

#### Proposed to FERC/MARAD

29. Pascagoula, MS: 1.5 Bcfd (Gulf LNG Liquefaction) (b) (d)
30. Plaquemines Parish, LA: 0.30 Bcfd (Louisiana LNG)
31. Cameron Parish, LA: 1.84 Bcfd (G2 LNG)
32. Calcasieu Parish, LA: 4.0 Bcfd (Driftwood LNG)
33. Nikiski, AK: 2.55 Bcfd (ExxonMobil, ConocoPhillips, BP, TransCanada and Alaska Gasline)
34. Corpus Christi, TX: 1.4 Bcfd (Cheniere – Corpus Christi LNG)
35. Freeport, TX: 0.72 Bcfd (Freeport LNG Dev)
36. Cameron Parish, LA: 1.84 Bcfd (Venture Global) (b) (d)
37. Jacksonville, FL: 0.075 Bcfd (Eagle LNG Partners) (d)
38. Brownsville, TX: 0.55 Bcfd (Texas LNG Brownsville) (b) (d)
39. Brownsville, TX: 0.9 Bcfd (Annova LNG Brownsville) (b)
40. Gulf of Mexico, Cameron Parish, LA: 1.8 Bcfd (Delfin LNG) (b) (d)
41. Port Arthur, TX: 1.86 Bcfd (Port Arthur LNG) (b) (d)
42. Brownsville, TX: 3.6 Bcfd (Rio Grande LNG – NextDecade)

## Nuclear

The U.S. continues to produce more electricity using nuclear power than any other nation. With 99 electricity-generating nuclear reactors, the U.S. accounts for more than 30% of worldwide nuclear generation output. Total nuclear generation grew slightly (+1%) in 2016 versus 2015 and its share of the total U.S. electric generation mix grew accordingly, from 19.5% to 19.7%.

Given the cost structure of nuclear power, changes in total nuclear output are mostly driven by the number of plants operating rather than fuel price differentials relative to other resources. In early 2012, the Nuclear Regulatory Commission (NRC) approved Southern Company's two new nuclear reactors at its Vogtle plant in Georgia and SCANA's Virgil C. Summer Nuclear Station's two reactors in South Carolina. These were the first nuclear reactors approved in decades. In May 2016, after 44 years of construction, TVA's Watts Bar 2 came online; this is the first new reactor in the U.S. in 20 years, although many nuclear reactors have been granted 20-year license extensions during the last few years.

Despite these indications of growth potential, nuclear output has not been immune to the broader developments impacting U.S. energy markets. Since 2013, six reactors with more than 5,000 MW of combined total capacity have been decommissioned and electric companies have announced plans to retire another eight (7,500 MW) between 2017 and 2025.

In 2013, for the first time since 1998, four nuclear reactors were retired and another (Vermont Yankee) was decommissioned in 2014. Weak pricing conditions in wholesale power markets and declining profitability caused Dominion Power to close the Kewaunee plant in Wisconsin. Concerns about maintenance and high repair costs drove Duke Energy to retire the Crystal River plant in Florida, which had been out of service for repairs since 2009, and caused Edison International to permanently close the San Onofre Nuclear Generating Station (SONGS), which had been shut down since January 2012. Low profitability was also the reason cited for the announced retirement of Entergy's Vermont Yankee at the end of 2014. In the fall of 2015, Entergy announced the planned closure of two more nuclear plants, Pilgrim in Massachusetts and James A. Fitzpatrick in New York. In June 2016, Exelon Corp. announced that it would close its Clinton and Quad Cities nuclear plants in 2017 and 2018, respectively, after the Illinois legislature failed to pass legislation supporting zero-emissions power.

While declining prices in wholesale power markets and declining profitability for competitive generation are casting doubt on the long-term viability of nuclear power in organized markets, these are not the only reasons nuclear power is being decommissioned. In 2016, under pressure to build a more flexible power grid, PG&E announced it would not seek to relicense the two units in Diablo Canyon and that it would phase out the plant by 2025. Diablo Canyon supplies around 6%

of the state's electricity; PG&E plans to replace it with energy efficiency, renewables and energy storage.

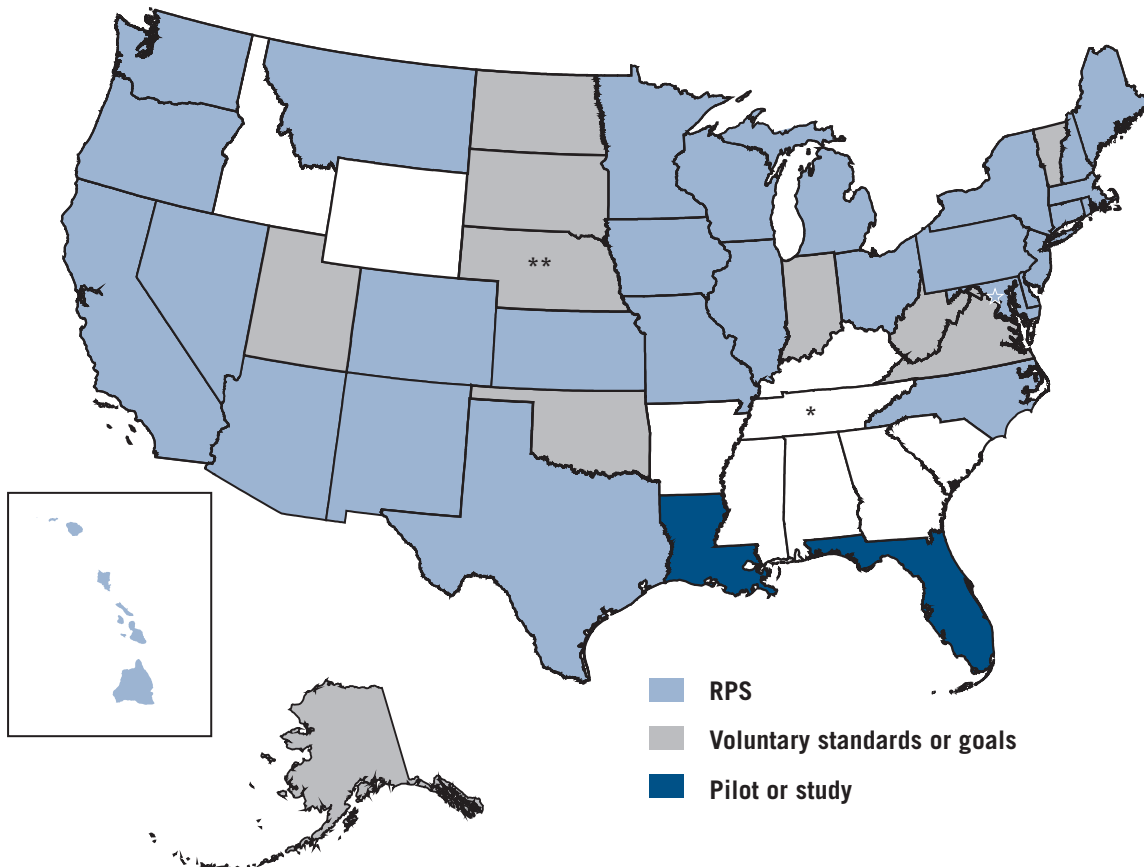
## Renewable Energy

Renewable fuel sources, including hydro, achieved yet another record at 14.9% of total U.S. electric generation in 2016. Non-hydro generation likewise hit a new record, at 8.4% of the generation mix (up from 7.3% in 2015). This growth was primarily due to an 18.6% increase in wind output. Wind generation is the largest source of non-hydro renewable power in the country and accounted for 66% of all non-hydro renewable electricity production in 2016.

Solar generation is the fastest growing source of electricity in percentage terms; however its share of total nationwide output remains modest. Solar output grew 39% in 2016, although this was less than its growth rate in both 2015 and 2014. Solar generation represented 10.7% of non-hydro renewable generation (up from 8.2% in 2015) and only 0.9% of total electric output. Biomass and geothermal continued to make a small but steady contribution to the nation's energy mix; in 2016, biomass accounted for 1.5% of total output and geothermal 0.4%. Their shares of the total have remained steady over the years, accomplished through steady increases in production roughly equivalent to the growth of the whole renewable sector.

Renewable energy generation is growing not only at the bulk power level but also (and perhaps more visibly) at the distribution system

**29 States and D.C. have Renewable Electricity Portfolio Standards (RES)**



- AZ:** 15% by 2025; 4.5% DG
- CA:** 33% by 2020
- CO:** 30% by 2020 (10% co-ops, munis), 3% DG and 1.5% customer sited.
- CT:** 27% by 2020
- DC:** 20% by 2020, 2.5% solar by 2023
- DE:** 25% by 2026, 3.5% PV. Triple credit for PV
- HI:** 40% by 2030
- IA:** 105 MW; 1 GW wind goal by 2010
- IL:** 25% by 2026; wind 75%, 1.5% PV and 0.25% DG
- IN:** 15% by 2025 (goal)
- KS:** 20% by 2020
- MA:** 22.1% by 2020, then 1% annually; 2 GW wind and 400 MW PV by 2020
- MD:** 20% by 2022, 2% solar by 2020
- ME:** 10% new by 2017; 8 GW wind goal by 2030
- MI:** 10% by 2015. 3.2 multiplier for solar electric
- MN:** 26.5% by 2025 (31.5% by 2020 Xcel). 1.5% solar and 0.15% PV DG by 2020.
- MO:** 15% by 2021, 0.3% solar
- MT:** 15% by 2015
- NC:** 12.5% by 2021, 0.2% solar by 2018. (10% by 2018 co-ops, munis)
- ND:** 10% by 2015 (goal)
- NH:** 24.8% by 2025. 0.3% solar electric by 2014
- NJ:** 20.38% by 2021 and 4.1% solar by 2028
- NM:** 20% by 2020 (10% - co-ops), 4% solar electric, 0.6% DG.
- NV:** 25% by 2025, 1.5% solar by 2025. 2.4 multiplier for PV
- NY:** 29% by 2015, 0.58% customer sited by 2015
- OH:** 12.5% by 2026, 0.5% solar electric
- OK:** 15% by 2015 (goal)
- OR:** 25% by 2025 (5-10% - smaller utilities). 20 MW PV by 2020. Double credit for PV
- PA:** 18% by 2021, 0.5% PV by 2021
- RI:** 16% by end 2020
- SC:** 2% by 2021. 0.25 % DG by 2021 (goal).
- SD:** 10% by 2015 (goal)
- TX:** 5,880 MW by 2015, 500 MW non-wind goal, double credit for non wind
- UT:** 20% by 2025, 2.4 multiplier for solar electric (goal)
- VA:** 15% by 2025 (goal)
- VT:** 20% by 2017; 1% DG by 2017 + 3/5 of 1% per year until 10% by 2032
- WA:** 15% by 2020, double credit for DG
- WI:** 10% by 2015
- WV:** 25% by 2025, various multipliers (goal)

Updated March 2016

Abbreviations: EE - Energy Efficiency; RE - Renewable Energy

Notes: An RPS requires a percent of an electric provider's energy sales (MWh) or installed capacity (MW) to come from renewable resources. Most specify sales (MWh). Map percents are final years' targets. \* TVA's goal is not state policy; it calls for 50% zero- or low-carbon generation by 2020. \*\* Nebraska's two largest public power districts have renewable goals.

Source: Database of State Incentives for Renewables and Efficiency, <http://www.dsireusa.org>



level through residential rooftop solar installations. Lower costs, net metering and other state policies are supporting deployment of distributed energy technologies, solar rooftop photovoltaics in particular. Yet these policies were not designed to promote deployment of a maturing technology and are being revised to reduce unnecessary costs to consumers and unfair cost-shifts between customer types. Many state public utility commissions are working with stakeholders to revise rate designs and other rules so that solar power can continue to thrive while unfair cost-shifts among customers are reduced or eliminated.

## Oil

Oil fueled only 0.6% of U.S. electric output in 2016, down from 0.7% the previous year. Hawaii has the largest share of oil-powered generation (at 70-80%) of all states, followed by Alaska (at 10-15%). These two states account for about 30% of all oil used for power generation nationwide. The remainder is used by Louisiana, Florida and several other states (mostly in the Northeast) that are heavily dependent on natural gas plants, some of which have dual-fuel units.

Oil has played a diminishing role in the U.S. electric fuel portfolio

since 2006, when it accounted for about 3% of generation. High oil prices contributed to the decline in oil use. While crude oil prices averaged \$15 to \$25/barrel in the mid-1990s, the price of oil began an upward climb at the beginning of the 2000s. West Texas Intermediate crude spot prices peaked at over \$145/barrel in July 2008, before the onset of the 2008/2009 financial crisis and recession. Prices fluctuated in a range of \$85-105/barrel from early 2011 through the summer of 2014. Crude oil prices then began a precipitous decline after Saudi Arabia's decision not to reduce production in the hope of driving higher-cost producers (shale oil producers in particular) out of the market. Crude oil prices fell from \$105.79/barrel in July 2014 to \$47.82/barrel in March 2015 and closed the year at \$37.19/barrel. By February 2016, the price of crude oil had fallen to just over \$30/barrel. Starting in March 2016, however, crude oil prices began rising and ended 2016 at \$53.75/barrel.

While dramatic, these price moves should not have a meaningful impact on the power sector's consumption of oil for generation. The state most dependent on oil, Hawaii, has aggressive plans to

move away from this resource, including increased use of LNG and a significant build-out of renewable energy facilities. In May 2015, Hawaii's legislature passed a mandate to generate 100% of the state's electricity from renewables by 2045, the first state to embrace a 100% renewable power policy.

As has historically been the case, crude oil prices in the U.S. will remain subject to the dynamics of the international oil market, itself driven by changes in global demand, supply constraints in oil producing regions, the levels of stocks and spare capacity in industrialized countries, geopolitical risks, and the relative strength of the U.S. dollar versus other currencies. However, these dynamics may evolve as the U.S. role in international oil markets changes. In 2013, for the first time since the 1990s, the U.S. produced more oil than it imported. In 2015, the U.S. became the world's leading producer of oil and natural gas, surpassing energy giants Russia and Saudi Arabia. At the end of the year, a decades-old export ban on crude oil was lifted, showing the profound historical change in sentiment surrounding the energy situation in the U.S.

# Capital Markets

## Stock Performance

The EEI Index returned a strong 17.4% in 2016, just ahead of the Dow Jones Industrial Average's 16.5% return and well ahead of both the S&P 500's 11.96% return and the Nasdaq Composite's 7.5% gain. But the full-year was very much a tale of two halves. Rarely, in fact, does a full-year pattern of stock market return bisect itself precisely at the mid-year point, but that was the case for electric utilities as a group in 2016. Moreover, the year offered a showcase in the way fast-changing global macroeconomic trends, rather than the industry's very slow-changing fundamentals, tend to drive the industry's stock performance over shorter-term time frames.

### A Tale of Two Halves

The first half of the year was the strongest for utility stocks in a quarter century, both in absolute terms and relative to the broad market averages. The EEI Index jumped 23.5% through June 30, while the Dow Jones Industrials Average and S&P 500 each returned about 4% and the Nasdaq declined 3.3%. Utility shares peaked for the year in early July, then declined about 5% in Q3 and were flat in Q4, while the Dow and S&P 500 gained 8% to 10%, respectively, in the year's second half. Trends in interest rates and global economic data largely produced these moves.

## 2016 Index Comparison

<b>EEI Index</b>	<b>17.44</b>
Dow Jones Industrials	16.50
S&P 500	11.96
Nasdaq Composite Index*	7.50

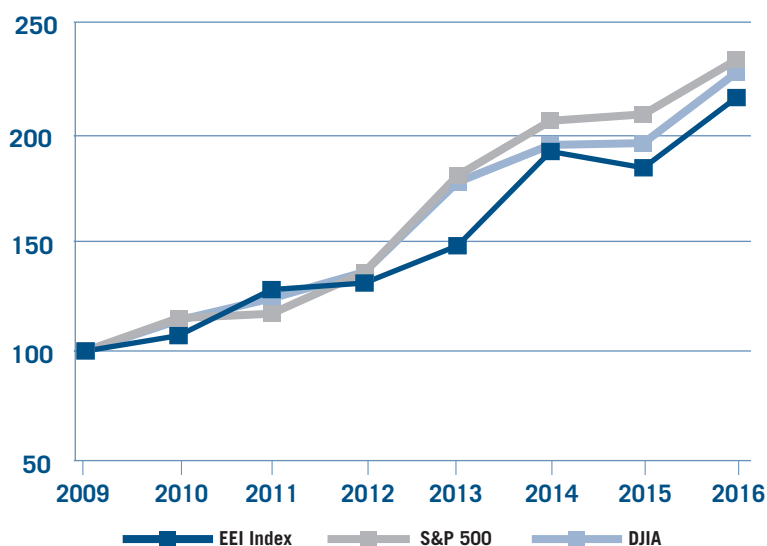
\* Price gain/(loss) only. Other indices show total return.

Source: EEI Finance Department and S&P Global Market Intelligence.

## Comparison of the EEI Index, S&P 500, and DJIA Total Return 1/1/10–12/31/16

REFLECTS REINVESTED DIVIDENDS

(Dollars)



All returns are annual.

Note: Assumes \$100 invested at closing prices December 31, 2009.

Source: EEI Finance Department and S&P Global Market Intelligence.



## 2016 Returns By Quarter

Index	Q1	Q2	Q3	Q4
EI Index	15.6	6.9	(5.4)	0.5
Dow Jones Industrial Average	2.2	2.1	2.8	8.7
S&P 500	1.4	2.5	3.9	3.8
Nasdaq Composite*	(2.8)	(0.6)	9.7	1.3
Category	Q1	Q2	Q3	Q4
All Companies	15.5	7.7	(4.3)	2.7
Regulated	15.9	7.2	(4.3)	1.9
Mostly Regulated	13.2	10.1	(3.7)	3.8
Diversified	21.6	2.2	(7.8)	9.5

\* Price gain/loss only. Other indices show total return.

For the Category comparison, straight, equal-weight averages are used (i.e., not market-cap-weighted).

Source: EEI Finance Department, S&P Global Market Intelligence.

## 10-Year Treasury Yield 1/1/07 through 12/31/16

(Percent)



Source: U.S. Federal Reserve.

### First Half: Weak GDP and Falling Yields

The broad market began 2016 with one of its worst starts in history, falling about 10% through mid-February as concern over weakening Chinese economic data and sharply falling oil prices were compounded by worries about already sluggish global economic growth. The U.S. 10-year Treasury yield slid from 2.3% to 1.7% by late February, then drifted sideways with a downward bias through Q2, falling to 1.4% by early July. U.S. real gross domestic product (GDP) data gave substance to slowdown fears; real GDP grew only 0.8% quarter-to-quarter in Q1 after rising only 0.9% in Q4 2015, while Q2 GDP grew only 1.4%. Slow growth was a global phenomenon as well. European continent-wide real GDP growth was mired at a 0.4% quarter-to-quarter pace in the first half, while Japan was also under stuck 1% annualized. Global interest rates declined as well. By late June, an astonishing range of European government debt yields were in negative territory. Swiss government yields were negative out to the 20-year maturity, German bunds out to the nine-year point, Austrian sovereign debt to the eight-year point and France to seven years. Japan's sovereign yields were negative out to 15 years. Fully twelve European nations, as well as Japan, had negative yields on two-year sovereign debt. Low to negative global interest rates forced yield hungry overseas investors into positive yielding U.S. bonds and into dividend paying U.S. equities. This flood of global capital contributed to utilities' first half strength.

### Second Half: Stronger GDP and Rising Yields

The 10-year U.S. Treasury yield bottomed for the year on July 8 at 1.37% and it was up from there; utility stocks peaked for the year on July 6 and then declined. The 10-year yield climbed to 1.6% by September 30 and — sparked by the prospect of aggressive fiscal stimulus and tax cuts created by Donald Trump's unexpected presidential election victory — to 2.5% at yearend. Stronger U.S. economic data was a key reason for the rate rise. Strength in consumer spending helped the U.S. economy grow 3.5% in Q3, its fastest quarterly growth rate in two years. The outlook for corporate profits also strengthened. After a four quarter stretch of year-to-year declines in S&P 500 aggregate earnings (due in part to weak energy sector results from the two year fall in oil prices) corporate earnings growth turned positive in Q3. Analysts expect S&P 500 earnings to rise 11% to 12% in both 2017 and 2018, according to consensus esti-

mates at yearend. Corporate earnings in Europe were forecast to be up 15% in 2017 and 10% in 2018.

The jump in interest rates and stronger profit outlook caused utilities to lag more cyclical and economically sensitive market sectors. In Q4, for example, the EEI Index gained 0.5% while the oil & gas, industrials and basic materials sectors showed 6% to 7% gains while financials jumped over 13% on hopes for a profit recovery from better net interest margins and potential for easier regulation in a Trump administration.

### **Industry Fundamentals Remain Stable**

There was little meaningful change in the industry's fundamental picture during 2016. Electricity demand remained virtually flat; total electric output rose only 0.2% over the level in 2015 in the lower 48 states. Nationwide power demand has, in fact, been about flat for a decade; EIA net generation data shows 2007 generation at 4,064,702

thousand megawatthours and 2015 generation at 4,077,601 thousand megawatthours. Output notched up in 2007 to 4,156,745 thousand megawatthours but fell during the subsequent recession and has yet to reach the 2007 level. Yet the pattern is not a new trend or a surprise; the impact of energy efficiency programs and the changing economic landscape (away from energy-intensive industry and manufacturing and toward services) has been well recognized in the industry for several years. In response, a number of state utility commissions have adopted rate designs that help utilities cope with flat demand while still enabling investment required to comply with environmental regulations, grid modernization and upgrades to vital infrastructure. Nevertheless, the outlook for flat demand is a "new normal" that represents a departure from the consistent demand growth that characterized the industry's experience for more than a century.

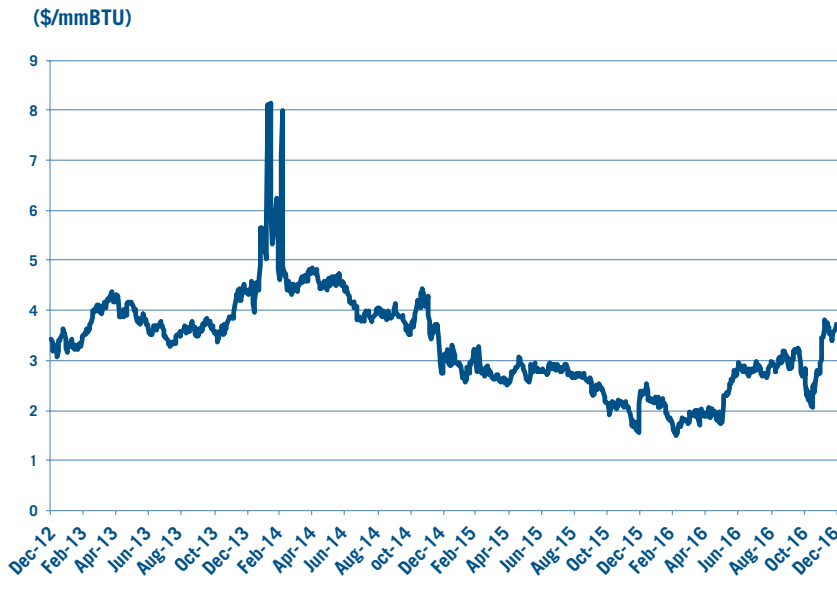
While the industry has reduced its exposure to the merchant generation business, several large utilities maintain competitive subsidiaries and influence EEI Index performance. Natural gas generation sets power prices in many competitive market areas. Natural gas spot prices in 2016 averaged about \$2.50/MMBtu at the national benchmark Henry Hub, the lowest annual average price since 1999. The monthly average price fell below \$2.00/MMBtu from February through May, but later increased, holding through most of December above \$3.50/MMBtu. Analyst outlooks at yearend generally did not foresee anything that would produce

## Sector Comparison 2016 Total Shareholder Return

Sector	Total Return %
Oil & Gas	26.3%
Telecommunications	24.0%
Basic Materials	20.3%
Industrials	19.5%
<b>EEI Index</b>	<b>17.4%</b>
Financials	17.3%
Utilities	17.1%
Technology	14.2%
Consumer Services	6.0%
Consumer Goods	5.3%
Healthcare	-2.4%

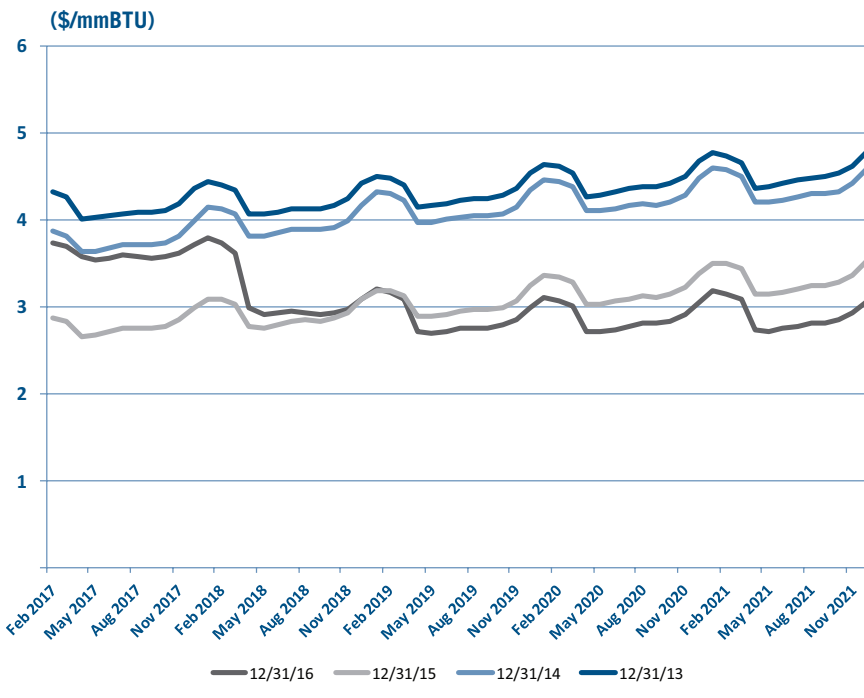
Source: EEI Finance Dept., Dow Jones & Company, Yahoo! Finance.

## Natural Gas Spot Prices - Henry Hub 12/31/12 through 12/31/16



Source: S&P Global Market Intelligence.

## NYMEX Natural Gas Futures February 2017 through December 2021



Source: S&P Global Market Intelligence.

a sustained up move in natural gas; the potential reserve supply from the shale gas revolution is simply too great and many expect spot gas to remain below \$3.50/MMBtu over the next year or two. The magnitude of the multi-year decline in natural gas prices has both crushed competitive power prices and also supported the industry’s ongoing migration away from coal generation to much cleaner natural gas generation. As recently as 2010, gas futures showed market expectations for \$6.00/MMBtu gas.

While utility regulation largely occurs at the state level and must be analyzed state by state, industry analysts at yearend generally viewed regulation as largely fair and balanced overall for the industry taken as a whole. While allowed return on equity has come down in recent years so have interest rates. Moody’s in early 2017 called the industry’s credit outlook “stable” based on expectation that utilities will continue to recover costs in a timely manner and maintain stable cash flows.

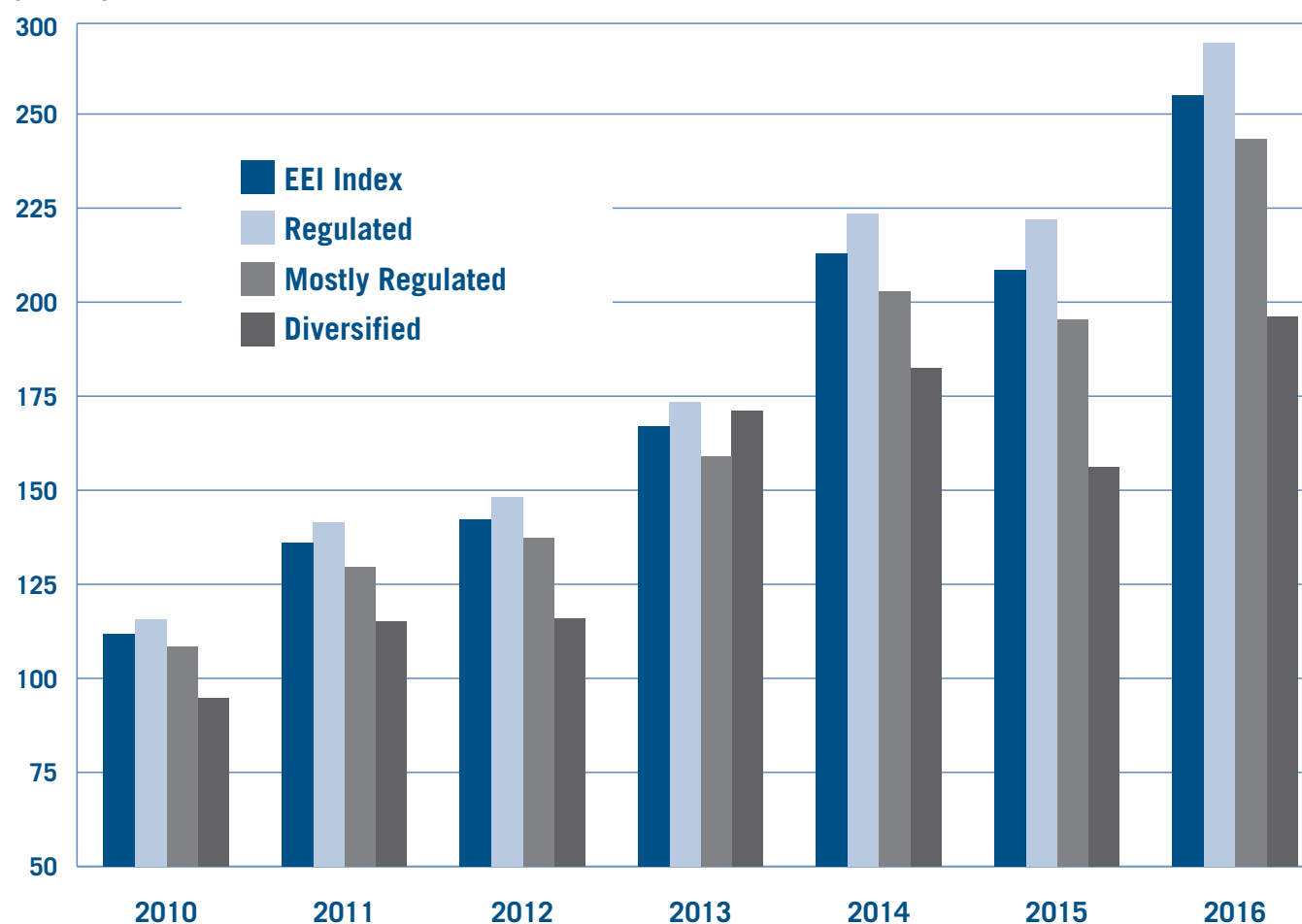
### Slow Growth and Dividends

Flat demand “growth” is posing a challenge to utilities seeking to maintain mid-single-digit earnings growth with stable or slowly growing dividends. Several companies have acquired gas distribution utilities and invested in natural gas infrastructure in search of growth. Other smaller utilities have agreed to be acquired in order to give shareholders a boost and enhance financial and operation strength as part of a larger company. The industry’s earnings growth outlook has also been challenged somewhat by a flattening in industry capex spending, since ca-

## Comparative Category Total Annual Returns 2010–2016

U.S. INVESTOR-OWNED ELECTRIC UTILITIES,  
VALUE OF \$100 INVESTED AT CLOSE ON 12/31/2009

(Dollars)



	2010	2011	2012	2013	2014	2015	2016
EEI Index Annual Return (%)	11.87	21.39	4.82	17.27	27.63	(2.05)	22.21
EEI Index Cumulative Return (\$)	111.87	135.79	142.34	166.92	213.04	208.66	255.01
Regulated EEI Index Annual Return	15.75	22.30	4.72	16.97	28.92	(0.67)	21.16
Regulated EEI Index Cumulative Return	115.75	141.56	148.24	173.40	223.55	222.04	269.02
Mostly Regulated EEI Index Annual Return	8.51	19.52	5.81	15.97	27.46	(3.67)	24.57
Mostly Regulated EEI Index Cumulative Return	108.51	129.68	137.21	159.13	202.82	195.37	243.37
Diversified EEI Index Annual Return	(5.16)	21.36	0.78	47.54	6.61	(14.43)	25.59
Diversified EEI Index Cumulative Return	94.84	115.09	115.98	171.12	182.43	156.11	196.06

- For the Category Comparison, straight, equal-weight averages are used (i.e., not market-cap-weighted).
- Cumulative Return assumes \$100 invested at closing prices on December 31, 2009.

Source: EEI Finance Dept., S&P Global Market Intelligence.

## 2016 Category Comparison

Category	Return (%)
<b>EI Index</b>	<b>22.21</b>
Regulated	21.16
Mostly Regulated	24.57
Diversified	25.59

\* Returns shown here are unweighted averages of constituent company returns. The EI Index return shown in the 2016 Index Comparison table is cap-weighted.

Source: EI Finance Department, S&P Global Market Intelligence, and company annual reports.

## EI Index Top 10 Performers Twelve-month period ending 12/31/2016

Company	Total Return %	Category
MDU Resources Group, Inc.	62.0	MR
Otter Tail Corporation	58.9	R
MGE Energy, Inc.	43.7	MR
CenterPoint Energy, Inc.	40.3	MR
Westar Energy, Inc.	36.6	R
Black Hills Corporation	35.8	R
Exelon Corporation	32.5	D
OGE Energy Corp.	32.0	R
Unitil Corporation	30.7	R
ALLETE, Inc.	30.7	MR

Note: Return figures include capital gains and dividends.

Source: EI Finance Department and S&P Global Market Intelligence.

## Market Capitalization at December 31, 2016 (in \$MM)

### U.S. INVESTOR-OWNED ELECTRIC UTILITIES

Company Name	Symbol	Market Cap.	% of Total	Company Name	Symbol	Market Cap.	% of Total
NextEra Energy, Inc.	NEE	55,346	8.39%	Pinnacle West Capital Corporation	PNW	8,694	1.32%
Duke Energy Corporation	DUK	53,480	8.10%	Alliant Energy Corporation	LNT	8,609	1.30%
Dominion Resources, Inc.	D	47,938	7.26%	Westar Energy, Inc.	WR	8,007	1.21%
Southern Company	SO	47,616	7.22%	NiSource Inc.	NI	7,136	1.08%
Exelon Corporation	EXC	32,828	4.98%	OGE Energy Corp.	OGE	6,680	1.01%
American Electric Power Company, Inc.	AEP	30,957	4.69%	MDU Resources Group, Inc.	MDU	5,619	0.85%
PG&E Corporation	PCG	30,446	4.61%	Vectren Corporation	VVC	4,318	0.65%
Sempra Energy	SRE	25,199	3.82%	Great Plains Energy Inc.	GXP	4,228	0.64%
Edison International	EIX	23,469	3.56%	IDACORP, Inc.	IDA	4,051	0.61%
PPL Corporation	PPL	23,090	3.50%	Portland General Electric Company	POR	3,853	0.58%
Consolidated Edison, Inc.	ED	22,436	3.40%	Hawaiian Electric Industries, Inc.	HE	3,580	0.54%
Public Service Enterprise Group Incorporated	PEG	22,159	3.36%	Black Hills Corporation	BKH	3,201	0.49%
Xcel Energy Inc.	XEL	20,714	3.14%	ALLETE, Inc.	ALE	3,171	0.48%
WEC Energy Group, Inc.	WEC	18,510	2.81%	NorthWestern Corporation	NWE	2,748	0.42%
DTE Energy Company	DTE	17,633	2.67%	PNM Resources, Inc.	PNM	2,735	0.41%
Eversource Energy	ES	17,552	2.66%	Avista Corporation	AVA	2,554	0.39%
FirstEnergy Corp.	FE	13,162	1.99%	MGE Energy, Inc.	MGEE	2,264	0.34%
Entergy Corporation	ETR	13,153	1.99%	El Paso Electric Company	EE	1,877	0.28%
Ameren Corporation	AEE	12,727	1.93%	Otter Tail Corporation	OTTR	1,584	0.24%
AVANGRID, Inc.	AGR	11,724	1.78%	Empire District Electric Company	EDE	1,502	0.23%
CMS Energy Corporation	CMS	11,579	1.75%	Unitil Corporation	UTL	634	0.10%
CenterPoint Energy, Inc.	CNP	10,612	1.61%				
SCANA Corporation	SCG	10,472	1.59%				
<b>Total Industry</b>						<b>659,845</b>	<b>100.00%</b>

Source: EEI Finance Department and S&P Global Market Intelligence.

pex translates into rate base growth and non-rate base investments that can produce earnings growth. But companies have also responded to growth challenges with increasingly stringent operations and maintenance (O&M) cost containment.

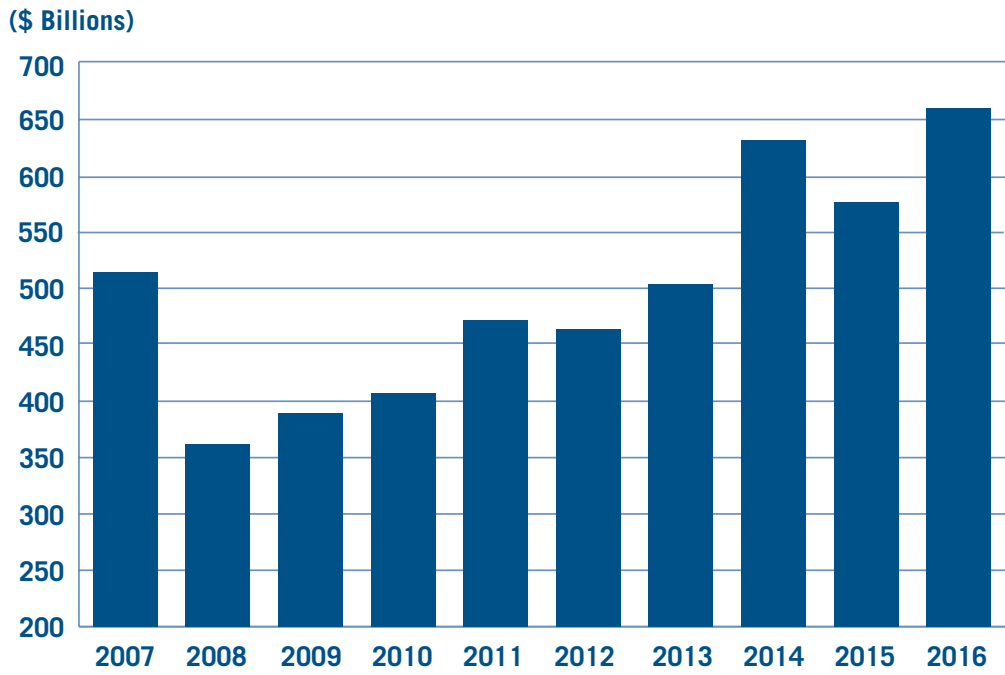
Nevertheless, capex-related growth opportunities continue to result from the nation's ongoing move to cleaner generation, from building transmission necessary to move power from plants to load centers, updating and modernizing the grid, enhancing grid reliability and from distribution

system upgrades and maintenance. The industry's total capital expenditures have doubled in the last decade and nearly tripled since 2004. EEI estimates 2017 capex at about \$120 billion, up from \$113 billion in 2016 and \$104 billion in 2015. These estimates are based on publicly available disclosure in 10-K's and company reports and have tended to be conservative in relation to subsequent actual spending.

The industry is now focused largely on regulated businesses with a strong 3.4% dividend yield (at

December 31, 2016), healthy balance sheets and the chance to drive the nation's ongoing transition to cleaner energy and a modernized grid. The classic 20th century utility formula — slow earnings and dividend growth — should continue to attract investors. Provided inflation doesn't surge and produce sharply higher interest rates, utility shares should continue to do well on a relative (and possibly absolute) basis when bearish sentiment dominates the broader stock market.

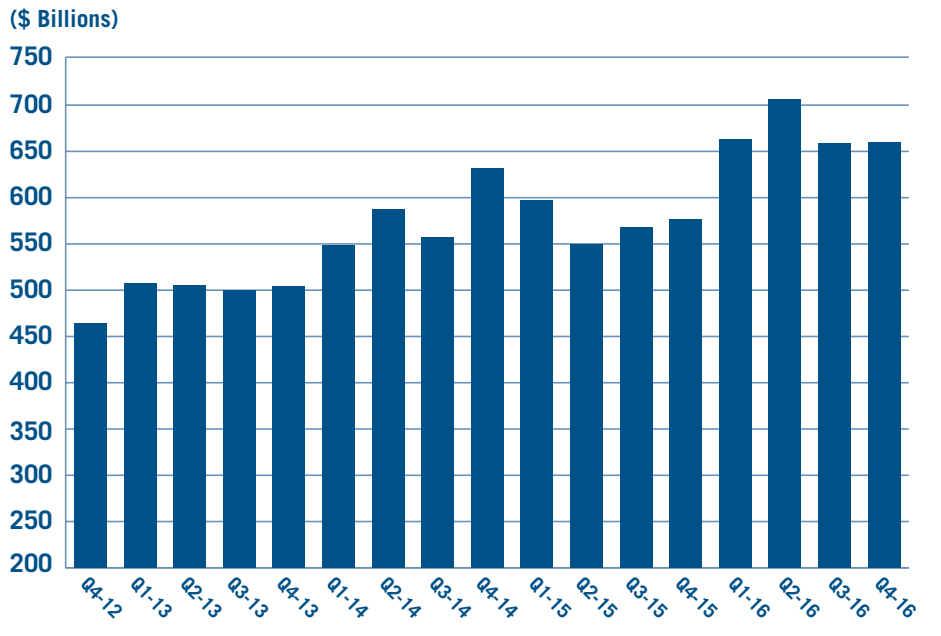
## EEI Index Market Capitalization 2007–2016



Note: Results are as of December 31 of each year.

Source: EEI Finance Department and S&P Global Market Intelligence.

## EEI Index Market Capitalization December 31, 2012–December 31, 2016



Source: EEI Finance Department and S&P Global Market Intelligence.

## Credit Ratings

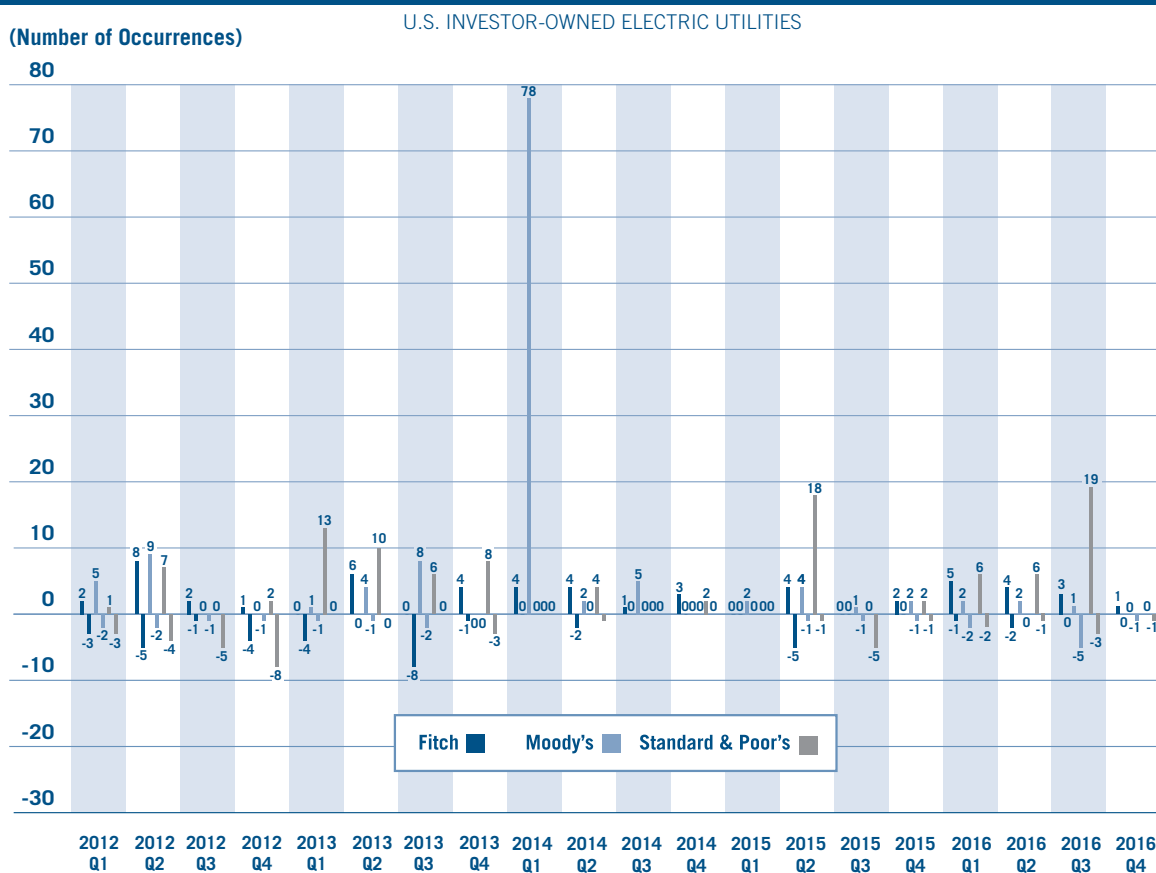
The industry's average credit rating was BBB+ in 2016, remaining for a third straight year above the BBB average that has held since 2004. Ratings activity, at 67 changes, was in line with the industry's annual average of 70 changes per year since 2008. Upgrades were 73.1% of total actions, the third-highest annual figure for upgrades in our dataset. In fact, the last four years have produced the four highest annual upgrade percentages in our historical data. EEI captures

upgrades and downgrades at the subsidiary level; multiple actions within a parent holding company are included in the upgrade/downgrade totals. The industry's average credit rating and outlook are based on the unweighted averages of all Standard & Poor's (S&P) parent company ratings and outlooks.

While the industry's average rating was unchanged at BBB+, the underlying data show a modest strengthening. Six companies received upgrades at the parent level while only two were downgraded. Our universe of U.S. "parent" com-

pany electric utilities includes a few that are either a subsidiary of an independent power producer, a subsidiary of a foreign-owned company, or that have been acquired by an investment firm; three of the year's upgrades focused on a relationship with that ultimate parent company. Two other upgrades cited a reduced focus on merchant generation and an improved business risk profile. At January 1, 2017, 74.0% of ratings outlooks were "stable", 18.0% were "negative" or "watch-negative", 6.0% were "positive" or "watch-positive", and 2.0% were "developing".

### Credit Rating Agency Upgrades and Downgrades 2012 Q1–2016 Q4



Source: Fitch Ratings, Moody's, and Standard & Poor's.



### Credit Rating Agency Upgrades and Downgrades 2012 Q1–2016 Q4

	2012		2013		2014		2015		2016	
	Total Upgrades	Total Downgrades	Total Upgrades	Total Downgrades	Total Upgrades	Total Downgrades	Total Upgrades	Total Downgrades	Total Upgrades	Total Downgrades
<b>Fitch</b>										
Q1	2	(3)	0	(4)	4	0	0	0	5	(1)
Q2	8	(5)	6	0	4	(2)	4	(5)	4	(2)
Q3	2	(1)	0	(8)	1	0	0	0	3	0
Q4	1	(4)	4	(1)	3	0	2	0	1	0
<b>Total</b>	<b>13</b>	<b>(13)</b>	<b>10</b>	<b>(13)</b>	<b>12</b>	<b>(2)</b>	<b>6</b>	<b>(5)</b>	<b>13</b>	<b>(3)</b>
<b>Moody's</b>										
Q1	5	(2)	1	(1)	78	0	2	0	2	(2)
Q2	9	(2)	4	(1)	2	0	4	(1)	2	0
Q3	0	(1)	8	(2)	5	0	1	(1)	1	(5)
Q4	0	(1)	0	0	0	0	2	(1)	0	(1)
<b>Total</b>	<b>14</b>	<b>(6)</b>	<b>13</b>	<b>(4)</b>	<b>85</b>	<b>0</b>	<b>9</b>	<b>(3)</b>	<b>5</b>	<b>(8)</b>
<b>S&amp;P</b>										
Q1	1	(3)	13	0	0	0	0	0	6	(2)
Q2	7	(4)	10	0	4	(1)	18	(1)	6	(1)
Q3	0	(5)	6	0	0	0	0	(5)	19	(3)
Q4	2	(8)	8	(3)	2	0	2	(1)	0	(1)
<b>Total</b>	<b>10</b>	<b>(20)</b>	<b>37</b>	<b>(3)</b>	<b>6</b>	<b>(1)</b>	<b>20</b>	<b>(7)</b>	<b>31</b>	<b>(7)</b>

Note: Chart depicts the number of occurrences and includes each event, even if multiple downgrades occurred for a single company.

Source: Fitch Ratings, Moody's, and Standard & Poor's.

#### Upgrades Reflect Changes at Ultimate Parent and Overall Regulated Focus

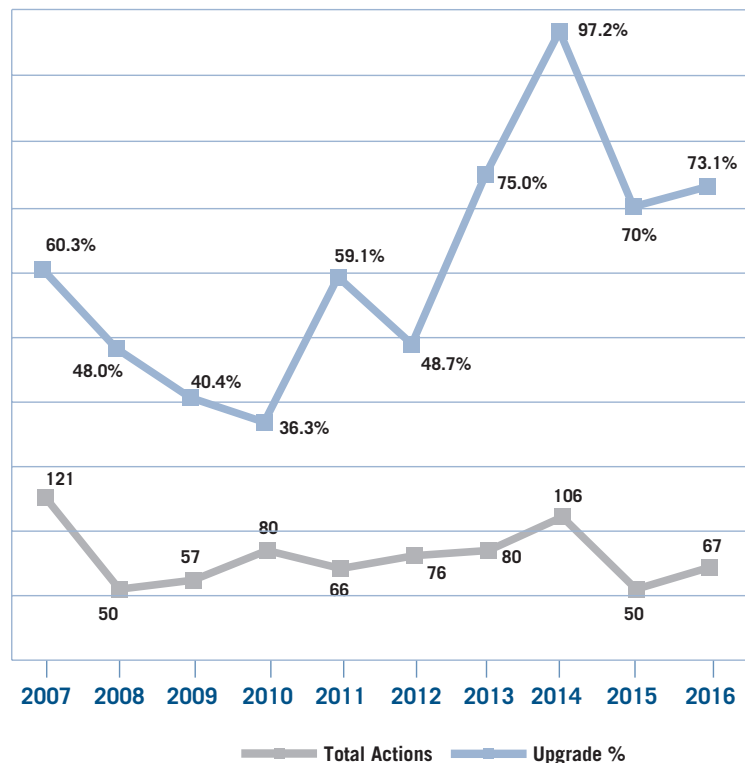
Ratings actions in 2016 included six parent company-level upgrades and only two downgrades.

#### Dominion Resources

On February 1, S&P lowered its issuer credit rating for Dominion Resources and subsidiaries Virginia Electric & Power and Dominion Gas Holdings LLC to BBB+ from A- following Dominion's announcement of its intent to acquire Questar Corp., a natural gas distribution, pipeline, storage and cost-of-service gas supply company headquartered in Salt Lake City, Utah. The downgrade was based on S&P's expectations that Dominion will continue to pursue growth through acquisition at a faster pace than peers. The Questar acquisition was completed in September (*please see Mergers & Acquisitions section for more details*).

### Direction of Rating Actions

U.S. INVESTOR-OWNED ELECTRIC UTILITIES



Source: Fitch Ratings, Moody's, and Standard & Poor's.

**Berkshire Hathaway Energy**

On February 19, S&P raised its issuer credit rating for Berkshire Hathaway Energy Co. to A from BBB+. The two-notch increase was based on S&P's reassessment of Berkshire Hathaway Energy's (BHE) relationship with ultimate parent Berkshire Hathaway, which revealed a higher contribution from BHE to the parent's consolidated earnings and a stronger strategic role within Berkshire Hathaway's overall business portfolio. S&P said BHE is important to Berkshire Hathaway's long-term strategy and is unlikely to be sold.

**Cleco**

On April 8, S&P lowered its issuer credit rating for Cleco Corp. to BBB- from BBB+, a two-notch downgrade. The move followed completion of Cleco's acquisition by a consortium of investors led by Macquarie Group LTD. The deal, valued at approximately \$4.7 billion, includes approximately \$1.3 billion of assumed debt; S&P cited materially weaker financial measures, including funds from operations, resulting from the acquisition and related debt.

**IPALCO Enterprises**

On April 14, S&P upgraded the issuer credit rating for IPALCO Enterprises and subsidiary Indianapolis Power & Light to BBB- from BB+, reflecting its upgrade the previous day of parent AES Corporation from BB- to BB. S&P said it rates IPALCO two notches higher than AES because of IPALCO's higher stand-alone credit profile and structural

protections that include dividend limitations, a significant minority shareholder with an economic interest and certain veto rights, and a non-consolidation opinion.

**AVANGRID**

On April 22, S&P raised its issuer credit rating for AVANGRID and its subsidiaries to BBB+ from BBB. The higher rating resulted from S&P's upgrade of AVANGRID's ultimate parent, Spanish power company Iberdrola S.A. S&P assessed AVANGRID as a core member of Iberdrola, whose stand-alone credit profile is BBB+. In the absence of insulation, AVANGRID's issuer credit rating is determined by Iberdrola's rating. AVANGRID was formed by the merger between Iberdrola USA and UIL Holdings Corporation in December 2015.

**Entergy**

On August 4, S&P raised its issuer credit rating for Entergy Corp. and its subsidiaries to BBB+ from BBB. The upgrade reflected the company's improved business risk profile, which S&P placed at the higher end of the "strong" business risk profile category range. The improvement resulted from Entergy's execution of its long-term strategy of strengthening its management of regulatory risk while shrinking the size of its merchant generation business. Work with regulators to incorporate formula rate plans in Arkansas and Mississippi has allowed Entergy's subsidiaries to more consistently earn close to their authorized returns on equity; S&P said it expects this improvement to

be sustained. The company's improving management of regulatory risk and above-average industrial demand growth within its service territory have also helped its financial measures remain steady despite its high capital spending and weak electricity prices.

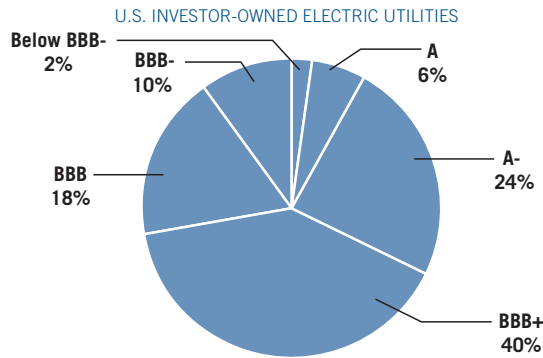
**PG&E Corp.**

On August 15, S&P raised the issuer credit rating for PG&E Corp. to BBB+ from BBB. The upgrade reflects PG&E's continued steps since the 2010 San Bruno gas transmission explosion to improve its business risk profile. Following a guilty verdict related to pipeline safety violations, a federal jury set the company's maximum fine at \$3 million, significantly below initial estimates. S&P placed PG&E at the higher-end of the "strong" business risk profile category.

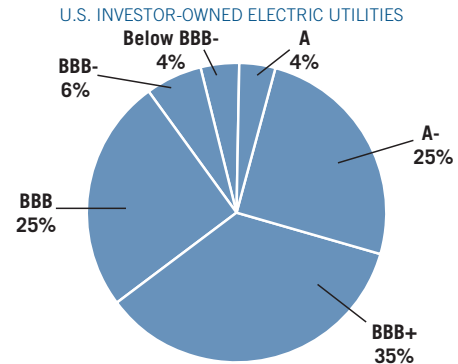
**American Electric Power**

On September 19, S&P upgraded the issuer credit ratings for American Electric Power Co. and its subsidiaries to BBB+ from BBB following the company's announcement that it agreed to sell four Midwest generating plants for about \$2.2 billion. S&P said the rating action reflects the reduced contribution of merchant generation to AEP's overall growth strategy, which emphasizes lower-risk regulated utility operations. The sale was completed in January 2017 to Lightstone Generation LLC, a joint venture of Blackstone Group LP and an affiliate of Arlight Capital Partners LLC. The sale included 5,200 MW of generation assets located in the

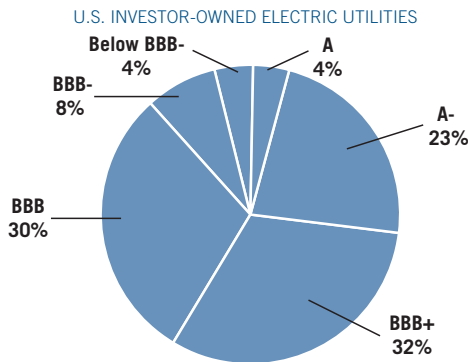
**Bond Ratings December 31, 2016**  
as rated by Standard & Poor's



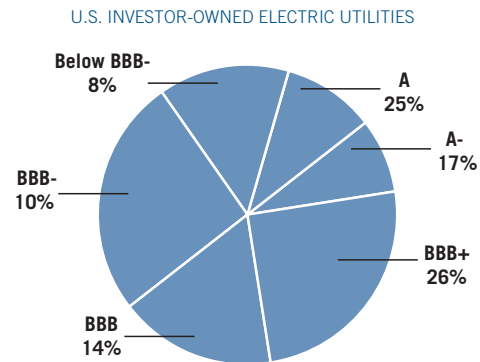
**Bond Ratings December 31, 2015**  
as rated by Standard & Poor's



**Bond Ratings December 31, 2014**  
as rated by Standard & Poor's



**Bond Ratings December 31, 2001**  
as rated by Standard & Poor's



Note: Rating applies to utility holding company entity.

Source: Standard & Poor's, S&P Global Market Intelligence, EEI Finance Department, and company annual reports

region served by PJM Interconnection, with a mix of about 51% coal and 49% natural gas.

**Light Activity by Moody's and Fitch**

Moody's and Fitch each issued a modest number of ratings actions, affecting both parent companies and subsidiaries, relative to their annual totals since 2001. Moody's issued five upgrades and eight downgrades.

Moody's noted stronger financial metrics and a constructive regulatory environment in upgrades of Entergy Arkansas to Baa1 from Baa2 and Eversource Energy subsidiary Western Massachusetts Electric Company to A2 from A3. Moody's upgraded Pepco Holdings to Baa2 from Baa3 based on the completion of Pepco's merger with parent company Exelon; Moody's said Exelon's larger size and scale provide resour-

es and capital for Pepco's investment plans. Reasons for downgrades varied among the eight companies and included weaker credit metrics and a challenging regulatory environment. Two downgrades were tied to recent/pending M&A deals and related high debt levels at the parent company; the downgrade was assigned to the parent company in one case and a subsidiary in the other.

## Rating Agency Activity

### U.S. INVESTOR-OWNED ELECTRIC UTILITIES

Total Ratings Changes	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<b>Fitch</b>	41	17	14	24	25	26	23	14	11	16
<b>Moody's</b>	32	6	23	20	11	20	17	85	12	13
<b>Standard &amp; Poor's</b>	48	27	20	36	30	30	40	7	27	38
<b>Total</b>	<b>121</b>	<b>50</b>	<b>57</b>	<b>80</b>	<b>66</b>	<b>76</b>	<b>80</b>	<b>106</b>	<b>50</b>	<b>67</b>

Source: Fitch Ratings, Moody's, Standard & Poor's, S&P Global Market Intelligence, and EEI Finance Department.

Fitch's 16 actions showed a strengthening of the industry's credit profile in 2016, with 13 upgrades and only three downgrades. Fitch's upgrades were based on its perception of stronger financial metrics, constructive regulatory environments and strong/improving business risk profiles. Fitch cited improved financial metrics and a constructive regulatory environment in upgrades of American Electric Power subsidiary Appalachian Power to BBB from BBB-; DTE Energy to BBB+ from BBB and subsidiary Detroit Edison to A- from BBB+; CMS Energy to BBB from BBB- and subsidiary Consumers Energy to A- from BBB; and Exelon subsidiary Commonwealth Edison to BBB+ from BBB. A low-risk business pro-

file was central to Fitch's upgrades of NiSource to BBB from BBB- and Eversource Energy subsidiaries Connecticut Light & Power, Public Service Company of New Hampshire and Western Massachusetts Electric, all to A- from BBB+. Fitch cited FirstEnergy's plan to exit its merchant generation business in upgrading the company from BB+ to BBB-. In upgrading AVANGRID to BBB+ from BBB Fitch noted its strong financial profile and the completed UIL Holdings acquisition; Fitch also upgraded AVANGRID subsidiary Rochester Gas & Electric to BBB+ from BBB. Two downgrades resulted from other M&A transactions and increased leverage at the acquiring companies. Another downgrade was due to execution risk and regulatory

uncertainty about cost recovery relating to construction of a generation plant.

### Ratings by Company Category

The table *S&P Utility Credit Rating Distribution by Company Category* presents the distribution of credit ratings over time for the investor-owned electric utilities organized into Regulated, Mostly Regulated and Diversified categories. Ratings are based on S&P's long-term issuer ratings at the holding company level with only one rating assigned per company. At December 31, 2016, the categories had the following average ratings: Regulated = BBB+, Mostly Regulated = BBB+, and Diversified = BBB.

## S&P Utility Credit Ratings Distribution by Company Category

### U.S. INVESTOR-OWNED ELECTRIC UTILITIES

	2012		2013		2014		2015		2016	
	#	%	#	%	#	%	#	%	#	%
<b>Regulated</b>										
A or higher	2	6%	1	3%	1	3%	1	3%	2	6%
A-	6	17%	7	20%	8	21%	8	22%	10	28%
BBB+	5	14%	6	17%	12	32%	12	33%	13	36%
BBB	13	36%	17	49%	14	37%	12	33%	8	22%
BBB-	6	17%	2	6%	1	3%	1	3%	3	8%
Below BBB-	4	11%	2	6%	2	5%	2	6%	0	0%
<b>Total</b>	<b>36</b>	<b>100%</b>	<b>35</b>	<b>100%</b>	<b>38</b>	<b>100%</b>	<b>36</b>	<b>100%</b>	<b>36</b>	<b>100%</b>
<b>Mostly Regulated</b>										
A or higher	1	6%	1	6%	1	8%	1	8%	1	8%
A-	2	12%	5	29%	4	31%	5	38%	2	17%
BBB+	7	41%	5	29%	4	31%	5	38%	7	58%
BBB	3	18%	3	18%	2	15%	1	8%	0	0%
BBB-	4	24%	3	18%	2	15%	1	8%	1	8%
Below BBB-	0	0%	0	0%	0	0%	0	0%	1	8%
<b>Total</b>	<b>17</b>	<b>100%</b>	<b>17</b>	<b>100%</b>	<b>13</b>	<b>100%</b>	<b>13</b>	<b>100%</b>	<b>12</b>	<b>100%</b>
<b>Diversified</b>										
A or higher	0	0%	0	0%	0	0%	0	0%	0	0%
A-	0	0%	0	0%	0	0%	0	0%	0	0%
BBB+	1	33%	1	50%	1	50%	1	50%	0	0%
BBB	0	0%	0	0%	0	0%	0	0%	1	50%
BBB-	1	33%	0	0%	1	50%	1	50%	1	50%
Below BBB-	1	33%	1	50%	0	0%	0	0%	0	0%
<b>Total</b>	<b>3</b>	<b>100%</b>	<b>2</b>	<b>100%</b>	<b>2</b>	<b>100%</b>	<b>2</b>	<b>100%</b>	<b>2</b>	<b>100%</b>

Note: Totals may not equal 100.0% due to rounding.

Refer to page v for category descriptions.

Source: Standard & Poor's, S&P Global Market Intelligence, and EEI Finance Department.

## Long-Term Credit Rating Scales

### U.S. INVESTOR-OWNED ELECTRIC UTILITIES

	Moody's	Standard & Poor's	Fitch
<b>Investment Grade</b>	Aaa	AAA	AAA
	Aa1	AA+	AA+
	Aa2	AA	AA
	Aa3	AA-	AA-
	A1	A+	A+
	A2	A	A
	A3	A-	A-
	Baa1	BBB+	BBB+
	Baa2	BBB	BBB
	Baa3	BBB-	BBB-

	Moody's	Standard & Poor's	Fitch
<b>Speculative Grade</b>	Ba1	BB+	BB+
	Ba2	BB	BB
	Ba3	BB-	BB-
	B1	B+	B+
	B2	B	B
	B3	B-	B-
	Caa1	CCC+	CCC+
	Caa2	CCC	CCC
	Caa3	CCC-	CCC-
	Ca	CC	CC
	C	C	C

	Moody's	Standard & Poor's	Fitch
<b>Default</b>	C	D	D

Source: Fitch Ratings, Moody's, and Standard & Poor's.

# Major FERC Initiatives

## **BUSINESS PRACTICE STANDARDS FOR ELECTRIC UTILITIES**

### **MAJOR PROPOSALS: RM05-5-000**

- FERC proposed to incorporate by reference the first set of standards for business practice for electric utilities developed by the North American Energy Standards Board (NAESB). The proposed rule would include OASIS business practice standards, OASIS standards and communications protocols and an OASIS dictionary. FERC also proposed that each electric utility's OATT include the applicable WEQ standards.
- FERC further proposed to incorporate definitions of demand response resources in the definitions of certain ancillary services, and later proposed to incorporate standards that identify operational information and performance evaluation methods.
- FERC did not propose to incorporate NAESB's Standards of Conduct standards.

### **MAJOR IMPLICATIONS:**

- Each electric utility's OATT must include the applicable WEQ standards. For standards that do not require implementing tariff revisions, the utility would be permitted to incorporate the WEQ standard by reference in its tariff.
- Once incorporated, compliance will be mandatory for all jurisdictional utilities and for non-jurisdictional utilities voluntarily following FERC's open access requirements under reciprocity.

### **FERC MILESTONES**

- September 18, 2014, FERC issued Order No. 676-H to incorporate by reference in its regulations Version 003 of the Standards for Business Practices and Communication Protocols for Public Utilities adopted by WEQ of NAESB.

- February 21, 2013, FERC issued Order No. 676-G to incorporate business practice standards for categorizing various products and services for demand response and energy efficiency and to support the measurement and verification of these products and services in organized wholesale electric markets. *Standards for Business Practices and Communication Protocols for Public Utilities*, 142 FERC ¶ 61,131 (2013).
- April 15, 2010, FERC issued Order No. 676-F revising its regulations to incorporate by reference business practice standards for certain demand response services in wholesale markets administered by RTO/ISOs adopted by the NAESB. *Standards for Business Practices and Communications Protocols for Public Utilities*, 131 FERC ¶ 61,022 (2010).
- February 18, 2010, FERC issued an Order clarifying aspects of Order No. 676-E and denying rehearing. *Standards for Business Practices and Communications Protocols for Public Utilities*, 130 FERC ¶ 61,116 (2010).
- November 24, 2009, in Docket No. RM05-5-13, FERC issued Order No. 676-E revising its regulations to incorporate by reference the version 2.1 of certain standards adopted by the NAESB. *Standards for Business Practices and Communications Protocols for Public Utilities*, 129 FERC ¶ 61,162 (2009).
- On September 30, 2008, in Docket Nos. RM05-5-005 and RM05-5-006, FERC issued Order No. 676-D which clarifies Order No. 676-C. *Standards for Business Practices and Communications Protocols for Public Utilities*, 124 FERC ¶ 61,070 (2008).
- On July 21, 2008, in Docket No. RM05-5-005, FERC issued Order No. 676-C, revising its regulations to incorporate by reference the latest version (Version 001) of certain standards adopted by the WEQ of the NAESB. *Standards for Business Practices and Communications Protocols for Public Utilities*, 124 FERC ¶ 61,070 (2008).
- December 20, 2007, in Docket Nos. RM96-1-028 and RM05-5-001, FERC issued Order No. 698-A clarifying Order No. 698 and denying requests for rehearing. *Standards for Business Practices and Communications Protocols for Public Utilities*, 121 FERC ¶ 61,264 (2007).
- June 25, 2007, in Docket Nos. RM96-1-027 and RM05-5-001, FERC issued Order No. 698, amending its open access regulations governing business practices and electronic communications with interstate gas pipelines and public utilities to improve communications scheduling gas-fired generators and incorporating certain NAESB regulations. *Standards for Business Practices and Communications Protocols for Public Utilities*, 119 FERC ¶ 61,317 (2007).
- April 19, 2007, in Docket No. RM05-5-003, FERC issued Order No. 676-B, amending its regulations to incorporate, by reference, revisions to the Coordinate Interchange business practice standards adopted by WEQ of the NAESB that identify processes and communications necessary to coordinate energy transfers across boundaries between load and generation balancing entities. *Standards for Business Practices and Communications Protocols for Public Utilities*, 119 FERC ¶ 61,049 (2007).
- February 20, 2007, in Docket No. RM05-5-003, FERC issued a NOPR proposing to incorporate the Coordinate Interchange business practice standards adopted by the WEQ of the NAESB into FERC's regulations. The Coordinate Interchange standards identify the processes and communications necessary to coordinate energy transfers between load and generation balancing entities. *Standards for Business Practices and Communications Protocols for Public Utilities*, 118 FERC ¶ 61,135 (2007).
- September 21, 2006, in Docket No. RM05-5-002, FERC issued Order No. 676-A, denying rehearing of Order No. 676. *Standards for Business Practices and Communications Protocols for Public Utilities*, 116 FERC ¶ 61,255 (2006).



- April 25, 2006, FERC issued Order No. 676 that adopts by reference a number of the NAESB WEQ business practices standards. *Standards for Business Practices and Communications Protocols for Public Utilities*, 115 FERC ¶ 61,102 (2006).
- May 9, 2005, FERC issued NOPR to revise its regulations to incorporate by reference standards for business practice for electric utilities developed by WEQ of NAESB. *Standards for Business Practices and Communications Protocols for Public Utilities*, 111 FERC ¶ 61,204 (2005).

**CREDIT REFORM IN ORGANIZED WHOLESALE MARKETS: DOCKET NO. RM10-13-000**

- FERC issued a Final Rule amending its regulations to improve the management of risk and use of credit in organized wholesale markets.

**MAJOR IMPLICATIONS:**

- Each RTO and ISO will be required to submit tariff revisions to comply with the following:
- Establish billing periods of no more than seven days after issuance of bills;
  - Reduce extension of unsecured credit to no more than \$50 million per market participant, \$100 million per corporate family;
- Eliminate unsecured credit for firm transmission rights positions;
- Specification of minimum participation criteria to be eligible to participate in the organized wholesale market;
- Specification of conditions under which the ISO/RTO will request additional collateral due to a material adverse change; and
- Limit to tie period to post additional collateral.

**FERC MILESTONES:**

- June 16, 2011, in Docket No. RM10-13-002, FERC issued Order No. 741-B reaffirming its determinations in Order No. 741-A. *Credit Reforms In Organized Wholesale Markets*, 135 FERC ¶ 61,242 (2011).
- February 17, 2011, in Docket No. RM10-13-001, FERC issued Order No. 741-A denying in part and granting rehearing and clarification of Order No. 741. *Credit Reforms in Organized Markets*, 133 FERC ¶ 61,060 (2010).
- October 21, 2010, in Docket No. RM10-13-000, FERC issued Order No. 741. *Credit Reforms in Organized Markets*, 133 FERC ¶ 61,060 (2010).

**CRITICAL ENERGY INFRASTRUCTURE INFORMATION**

**MAJOR PROPOSALS: DOCKET NO. RM16-15-000**

- The Fixing America's Surface Transportation Act (FAST Act), enacted in December 2015, added section 215A to the Federal Power Act to improve the security and resilience of energy infrastructure in the face of emergencies.
- The FAST Act directed FERC to issue regulations aimed at securing and sharing sensitive infrastructure information.

**MAJOR IMPLICATIONS:**

- Adds Section 215A to the Federal Power Act to implement criteria and procedures for designating information as Critical Energy Infrastructure Information (CEII); creates a specific prohibition on unauthorized disclosure of CEII; imposes sanctions for knowing and willful wrongful disclosure of CEII by certain federal personnel; implements a process for voluntary sharing of CEII; and changes the existing process for requesting CEII.

**FERC MILESTONES:**

- November 17, 2016, in Docket No. RM16-15-000, FERC issued Order No. 833. *Regulations Implementing FAST Act Section 61003 – Critical Electric Infrastructure Security and Amending Critical Energy Infrastructure Information; Availability of Certain North American Electric Reliability Corporation Databases to the Commission*, 157 FERC ¶ 61,123 (2016).

**DEMAND COMPENSATION IN ORGANIZED WHOLESALE ENERGY MARKETS: DOCKET NO. RM10-17-000**

- FERC issued a Final Rule amending its regulations to ensure that when a demand response resources participate in wholesale energy markets administered by RTOs and ISOs has the capability to balance supply and demand and when dispatch of that demand response resource is cost-effective as determined by the net benefits test described in the rule, that demand response resource is compensated at the locational marginal price (LMP).

**MAJOR IMPLICATIONS:**

- The U.S. Supreme Court overturned a lower court's decision to vacate and remand FERC's Order No. 745 affirming FERC's rules on demand response.
- Demand response resources which clear in the day-ahead market will receive the market-clearing LMP as compensation when it is cost-effective to do so as determined by a net benefits test.
- Each ISO/RTO will implement a net benefits test described in the order to determine if demand response is cost effective.

- ISO/RTOs are directed to review their verification requirements to be sure they can verify that demand response resources have performed.
- Require ISO/RTOs to make compliance filings demonstrating that their current cost allocation methodologies appropriately allocates costs to those that benefit or proposed revisions that conform to this requirement.

**FERC MILESTONES:**

- February 29, 2012, in Docket No. RM10-17-002, FERC issued Order No. 745-B reaffirming its determinations in Order No. 745-A. *Demand Response Compensation in Organized Wholesale Markets*, 138 FERC ¶ 61,148 (2012).
- December 15, 2011, in Docket No. RM10-17-001, FERC issued Order No. 745-A granting clarification to the limited extent of addressing the applicability of Order No. 745 to circumstances when it is not cost-effective to dispatch demand response resources. *Demand Response Compensation in Organized Wholesale Markets*, 137 FERC ¶ 61,215 (2011).
- March 15, 2011, FERC issued Order No. 745 in Docket No. RM10-17-000. *Demand Response Compensation in Organized Wholesale Markets*, 134 FERC ¶ 61,187 (2011).

**ELECTRICITY MARKET TRANSPARENCY PROVISIONS**

**MAJOR PROPOSALS: DOCKET NO. RM10-12-000**

- The Commission revises its regulations to require market participants that are excluded from the Commission's jurisdiction under FPA section 205 and have more than a *de minimis* market presence to file Electric Quarterly Reports (EQR) with the Commission to facilitate price transparency in markets for the sale and transmission of electric energy in interstate commerce.

**MAJOR IMPLICATIONS**

- FERC adopted a 4,000,000 MWh *de minimis* threshold for all non-public utilities, including for non-public utilities that are Balancing Authorities.
- FERC revised the existing EQR filing requirements applicable to market participants in the interstate wholesale electric markets by adding new fields for: (1) reporting the trade date and the type of rate; (2) identifying the exchange used for a sales transaction, if applicable; (3) reporting whether a broker was used to consummate a transaction; (4) reporting electronic tag (e-Tag) ID data; and (5) reporting standardized prices and quantities for energy, capacity and booked out power transactions.



- Requires EQR filers to indicate in the existing ID data section whether they report their sales transactions to an index publisher and, if so, to which index publisher(s), and, if applicable, identify which types of transactions are reported.
- Eliminates the time zone from the contract section and the Data Universal Numbering System (DUNS) data requirement.

### FERC MILESTONES:

- April 18, 2013, in Docket No. RM10-12-002, FERC issued Order No. 768-A affirming its determinations in Order No. 768 and providing clarification of certain reporting requirements.
- September 21, 2012, in Docket No. RM10-12-000, FERC issued Order No. 768. *Electricity Market Transparency Provisions of Section 220 of the Federal Power Act*, 140 FERC ¶ 61,232 (2012).
- April 21, 2011, in Docket No. RM10-12-000, FERC issued a Notice of Proposed Rulemaking to revise its regulations to require market participants that are excluded from the Commission's jurisdiction under FPA section 205 and have more than a *de minimis* market presence to file Electric Quarterly Reports with the Commission. *Electricity Market Transparency Provisions of Section 220 of the Federal Power Act*, 135 FERC ¶ 61,053 (2011).

### ELECTRICITY STORAGE

#### MAJOR PROPOSALS: DOCKET NOS. RM16-23-000, AD16-20-000

- Proposes to more effectively integrate electric storage resources into organized wholesale markets to enhance competition and help ensure that these markets produce just and reasonable rates.

#### MAJOR IMPLICATIONS:

- Proposes to establish a participation model consisting of market rules that, recognizing the physical and operational characteristics of electric storage resources, accommodates their participation in the organized wholesale electric markets.
- Proposes to define distributed energy resource aggregators as a type of market participant that can participate in the organized wholesale electric markets under the participation model that best accommodates the physical and operational characteristics of its distributed energy resource aggregation.

### FERC MILESTONES:

- November 17, 2016, in Docket Nos. RM16-23-000, AD16-20-000, FERC issued a Notice of Proposed Rulemaking to remove barriers to the participation of electric storage resources and distributed energy resource aggregations in the capacity, energy, and ancillary service markets operated by RTOs/ISOs. *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operator*, 157 FERC ¶ 61,121 (2016).

### ENHANCEMENT OF ELECTRICITY MARKET SURVEILLANCE AND ANALYSIS

#### MAJOR PROPOSALS: DOCKET NOS. RM11-17-000, AND RM16-17-000

- Amends Commission regulations to establish ongoing electronic delivery of data relating to physical and virtual offers and bids, market awards, resource outputs, marginal cost estimates, shift factors, financial transmission rights, internal bilateral contracts, uplift, and interchange pricing. Such data will facilitate the Commission's development and evaluation of its policies and regulations and will enhance Commission efforts to detect anti-competitive or manipulative behavior, or ineffective market rules, thereby helping to ensure just and reasonable rates.
- Proposes to improve surveillance of wholesale power markets by revising regulations to collect certain data for analytics and surveillance purposes from market-based rate sellers and entities trading virtual products or holding financial transmission rights and to change certain aspects of the substance and format of information submitted for market-based rate purposes.

#### MAJOR IMPLICATIONS:

- Proposes new data collection to assist FERC in understanding the financial and legal connections among market participants and other entities and their activities in Commission-jurisdictional electric markets.
- Proposes to modify regulations to change certain aspects of the substance and format of information submitted for market-based rate purposes.
- Establishes ongoing electronic delivery of data relating to physical and virtual offers and bids, market awards, resource outputs, marginal cost estimates, shift factors, financial transmission rights, internal bilateral contracts, uplift, and interchange pricing.
- RTOs and ISOs must electronically deliver data to the Commission within seven days after each RTO and ISO creates the datasets in a market run or other procedure.

### FERC MILESTONES:

- July 21, 2016, in Docket No. RM16-17-000, FERC issued a Notice of Proposed Rulemaking, *Data Collection for Analytics and Surveillance and Market-Based Rate Purposes*, 156 FERC ¶ 61,045 (2016).
- April 19, 2012, in Docket No. RM11-17-000, FERC issued Order No. 760. *Enhancement of Electricity Market Surveillance and Analysis through Ongoing Electronic Delivery of Data from Regional Transmission Organizations and Independent System Operators*, 139 FERC ¶ 61,053 (2012).
- October 20, 2011, in Docket No. RM11-17-000, FERC issued a Notice of Proposed Rulemaking proposing to require each RTO and ISO to electronically deliver to the Commission, on an ongoing basis, data related to the markets that it administers. *Enhancement of Electricity Market Surveillance and Analysis through Ongoing Electronic Delivery of Data from Regional Transmission Organizations and Independent System Operators*, 137 FERC ¶ 61,066 (2011).

### FREQUENCY REGULATION COMPENSATION IN THE ORGANIZED WHOLESALE POWER MARKETS

#### MAJOR PROPOSALS: DOCKET NOS: RM11-7-000 AND AD10-11-000

- Found that current compensation methods for regulation service in RTO and ISO markets fail to acknowledge the inherently greater amount of frequency regulation service being provided by faster-ramping resources. In addition, certain practices of some RTOs and ISOs result in economically inefficient economic dispatch of frequency regulation resources.
- FERC requires RTOs and ISOs to compensate frequency regulation resources based on the actual service provided, including a capacity payment that includes the marginal unit's opportunity costs and a payment for performance that reflects the quantity of frequency regulation service provided by a resource when the resource is accurately following the dispatch signal.

#### MAJOR IMPLICATIONS:

- Requires that all RTOs and ISOs with centrally procured frequency regulation resources must provide for marginal resource's opportunity costs in their tariffs. Further, this uniform clearing price must be market-based, derived from market-participant based bids for the provision of frequency regulation capacity.
- RTOs and ISOs are required to calculate cross-product opportunity costs, which reflect the foregone opportunity to participate in the energy or ancillary services markets, and include it in each resource's offer to supply frequency regulation capacity, for use when determining the market clearing price and which resources clear.

- RTOs and ISOs may allow for inter-temporal opportunity costs to be included in a resource's offer to sell frequency regulation service, with the requirement that the costs be verifiable.
- FERC requires use of a market-based price, rather than an administratively-determined price, on which to base the frequency regulation performance payment.
- RTOs and ISOs are required to account for frequency regulation resources' accuracy in following the Automatic Generator Control dispatch signal when determining the performance payment compensation. However, FERC will not mandate a certain method for how accuracy is measured.

**FERC MILESTONES:**

- February 16, 2012, in Docket No. RM11-7-001 and AD10-11-001, FERC issued Order No. 755-A reaffirming its determinations in Order No. 755. *Frequency Regulation Compensation in the Organized Wholesale Power Markets*, 138 FERC ¶ 61,123 (2012).
- October 20, 2011, FERC issued Order No. 755 in Docket No. RM11-7-000. *Frequency Regulation Compensation in the Organized Wholesale Power Markets*, 137 FERC ¶ 61,064 (2011).

**GAS/ELECTRIC COORDINATION**

**MAJOR PROPOSALS:**

**DOCKET NOS. RM14-2-000 AND RM13-17-000**

- Recognizing increased interdependency of the natural gas and electricity markets, FERC must ensure that outages and reliability problems are not the result of the lack of coordination between the electricity and gas industries.
- Over the last few years, natural gas is being used much more heavily in electricity generation. This trend appears likely to accelerate as coal-powered generation is retired, renewable energy resources require more backup by natural gas plants, and low natural gas prices encourage more use of gas.
- FERC issues Order No. 809 to better ensure the reliable and efficient operations of the interstate natural gas pipelines and the electricity systems. Order No. 809 moves the Timely Nomination Cycle deadline for scheduling gas transportation from 11:30 a.m. Central Clock Time (CCT) to 1 p.m. CCT and adds a third intraday nomination cycle during the gas operating day to help shippers adjust their scheduling to reflect changes in demand.

- FERC issued Order No. 787 which amends the Commission's regulations to provide explicit authority to interstate natural gas pipelines and public utilities that own, operate, or control facilities used for the transmission of electric energy in interstate commerce to share non-public, operational information with each other for the purpose of promoting reliable service or operational planning on either the public utility's or pipeline's system.

**MAJOR IMPLICATIONS:**

- Allows for better coordination among the natural gas and electricity markets by modifying the scheduling practices used by interstate pipelines to schedule natural gas transportation service and provide additional contracting flexibility to firm natural gas transportation customers through the use of multi-party transportation contracts.
- Provides explicit authority to interstate natural gas pipelines and public utilities that own, operate, or control facilities used for the transmission of electric energy in interstate commerce to share non-public, operational information with each other for the purpose of promoting reliable service or operational planning on either the public utility's or pipeline's system.
- Establishes a "No-Conduit Rule" which prohibits all public utilities and interstate natural gas pipelines, as well as their employees, contractors, consultants, or agents, from disclosing, or using anyone as a conduit for the disclosure of, non-public, operational information they receive under this rule to a third party or to its marketing function employees, as that term is defined in § 358.3 of the Commission's regulations.

**FERC MILESTONES:**

- April 16, 2015, in Docket No. RM14-2-000, FERC issued Order No. 809 moving the Timely Nomination Cycle deadline for scheduling gas transportation from 11:30 a.m. Central Clock Time (CCT) to 1 p.m. CCT and adding a third intraday nomination cycle during the gas operating day to help shippers adjust their scheduling to reflect changes in demand. *Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utilities*, 151 FERC ¶ 61,049 (2015).
- June 19, 2014, in Docket No. RM13-17-001, FERC issued Order No. 787-A affirming its findings in Order No. 787. *Communication of Operational Information Between Natural Gas Pipelines and Electric Transmission Operators*, 147 FERC ¶ 61,228 (2014).

- March 20, 2014, in Docket No. RM14-2-000, FERC issued a Notice of Proposed Rulemaking (NOPR) to revise the natural gas operating day and scheduling practices used by interstate pipelines to schedule natural gas transportation service. The proposed revisions include starting the natural gas operating day earlier, moving the Timely Nomination Cycle later, and increasing the number of intra-day nomination opportunities to help shippers adjust their scheduling to reflect changes in demand.
- November 15, 2013, in Docket No. RM13-17-000, FERC issued Order No. 787 which provides authority to interstate natural gas pipelines and public utilities that own, operate, or control facilities used for the transmission of electric energy in interstate commerce to share non-public, operational information with each other for the purpose of promoting reliable service or operational planning on either the public utility's or pipeline's system. *Communication of Operational Information Between Natural Gas Pipelines and Electric Transmission Operators*, 145 FERC ¶ 61,134 (2013).
- July 18, 2013, in Docket No. RM13-17-000, FERC issued a Notice of Proposed Rulemaking regarding the sharing of information between natural gas operators and electric transmission operators to ensure the reliability of service. *Communication of Operational Information Between Natural Gas Pipelines and Electric Transmission Operators*, 144 FERC ¶ 61,043 (2013).

**GENERATOR INTERCONNECTION AGREEMENTS AND PROCEDURES**

**MAJOR PROPOSALS: DOCKET NOS. RM13-2-000, RM17-8-000**

- Proposes reforms to its large generator interconnection processes aimed at improving the efficiency of processing interconnection requests, removing barriers to needed resource development, and assuring continued reliability of the grid.
- Revises the *pro forma* Small Generator Interconnection Procedures (SGIP) and *pro forma* Small Generator Interconnection Agreement (SGIA) originally set forth in Order No. 2006.
- Reforms are intended to ensure that the time and cost to process small generator interconnect requests will be just and reasonable and not unduly discriminatory.
- Market changes, including the growth of small generator interconnection requests and the growth in solar photovoltaic (PV) installations, driven in part by state renewable energy goals and policies, necessitate a reevaluation of the SGIP and SGIA to ensure that they continue to facilitate Commission-jurisdictional interconnections in a just and reasonable and not unduly discriminatory manner.

### MAJOR IMPLICATIONS:

- Proposes to improve certainty by giving interconnection customers more predictability in the interconnection process; improve transparency by providing more information to interconnection customers; and enhance interconnection processes by making use of underutilized existing interconnections, providing interconnection service earlier or accommodating changes in the development process.
- Incorporates into the SGIP and SGIA provisions that provide an Interconnection Customer with the option of requesting from the Transmission Provider a pre-application report providing existing information about system conditions at a possible Point of Interconnection.
- Revises the 2 megawatt (MW) threshold for participation in the Fast Track Process included in section 2 of the *pro forma* SGIP.
- Revises the customer options meeting and the supplemental review following failure of the Fast Track screens so that the supplemental review is performed at the discretion of the Interconnection Customer and includes minimum load and other screens to determine if a Small Generating Facility may be interconnected safely and reliably.
- Revises the *pro forma* SGIP Facilities Study Agreement to allow the Interconnection Customer the opportunity to provide written comments to the Transmission Provider on the upgrades required for interconnection.
- Revise the *pro forma* SGIP and the *pro forma* SGIA to specifically include energy storage devices.

### FERC MILESTONES:

- December 15, 2016, in Docket No. RM17-8-000, FERC issued a Notice of Proposed Rulemaking proposing certain reforms to the large generator interconnection procedures to provide more efficiency and consistency in generator interconnection study cycles. *Reform of Generator Interconnection Procedures and Agreements*, 157 FERC ¶ 61,212 (2016).
- March 20, 2014, in Docket No. RM13-2-001, FERC issued Order No. 792-A clarifying the reporting requirements under Order No. 792. *Small Generator Interconnection Agreements and Procedures*, 146 FERC ¶ 61,214 (2014).
- November 22, 2013, in Docket No. RM13-2-000, FERC issued Order No. 792. *Small Generator Interconnection Agreements and Procedures*, 145 FERC ¶ 61,159 (2013).

- January 17, 2013, in Docket No. RM13-2-000, FERC issued a Notice of Proposed Rulemaking proposing certain reforms to the *pro forma* SGIA and SGIP to accommodate increasing penetrations of solar PV installations. *Small Generator Interconnection Agreements and Procedures*, 142 FERC ¶ 61,049 (2013).

### INTEGRATION OF VARIABLE ENERGY RESOURCES

#### MAJOR PROPOSALS: DOCKET NO. RM10-11-000

- FERC determined that existing operational procedures may be unduly discriminatory and lead to unjust and unreasonable rates regarding the integration of variable energy resources (VERs) into the bulk electric transmission system. Specifically FERC proposed a limited set of reforms to address transmission scheduling practices and VER power production forecasts.

### MAJOR IMPLICATIONS:

- FERC amends the *pro forma* Open Access Transmission Tariff (OATT) to provide all transmission customers the option of using more frequent transmission scheduling intervals within each operating hour, at 15-minute intervals to allow transmission customers the ability to mitigate Schedule 9 generator imbalance charges in situations when the transmission customer knows or believes that generation output will change within the hour.
- Amends the *pro forma* Large Generator Interconnection Agreement (LGIA) to require new interconnection customers whose generating facilities are VERs to provide meteorological and forced outage data to the public utility transmission provider with which the customer is interconnected, where necessary for that public utility transmission provider to develop and deploy power production forecasting.

### FERC MILESTONES:

- September 19, 2013, in Docket No. RM10-11-002, FERC issued Order No. 764-B reaffirming its determinations in Order Nos. 764 and 764-A and offering further technical clarifications. *Integration of Variable Energy Resources*, 144 FERC ¶ 61,222 (2013).
- December 20, 2012, in Docket No. RM10-11-001, FERC issued Order No. 764-A affirming its findings in Order No. 764 and making certain technical clarifications. *Integration of Variable Energy Resources*, 141 FERC ¶ 61,232 (2012).
- June 22, 2012, in Docket No. RM10-11-000, FERC issued Order No. 764 adopting its proposals in the Notice of Proposed Rulemaking with the exception of the generic ancillary serve rate for regulation service. *Integration of Variable Energy Resources*, 139 FERC ¶ 61,246 (2012).

- November 18, 2010, in Docket No. RM10-11-000, FERC issued a Notice of Proposed Rulemaking proposing reforms to the OATT to revise scheduling and forecasting requirements and add a generic ancillary service rate schedule through which public utility transmission providers will offer regulation service to transmission customers delivering energy from a generator located within the transmission provider's balancing authority area. *Integration of Variable Energy Resources*, 133 FERC ¶ 61,149 (2010).
- January 21, 2010, in Docket No. RM10-11-000, FERC issued a Notice of Inquiry seeking comment on the extent to which barriers may exist that impede the reliable and efficient integration of VERs into the electric grid, and whether reforms are needed to eliminate those barriers. *Integration of Variable Energy Resources*, 130 FERC ¶ 61,053 (2010).

### LONG-TERM TRANSMISSION RIGHTS

#### MAJOR PROPOSALS: DOCKET NOS. RM06-8-000 AND AD05-7-000

- FERC adopted seven of eight proposed guidelines for independent transmission organizations to follow in developing a framework for providing long-term firm transmission rights (LTFTRs) in organized electricity markets.
- FERC proposed to allow for regional flexibility to account for different market designs and regional differences when developing the framework for LTFTRs.
- FERC proposed that LTFTRs would be required to be available with term lengths sufficient to meet the needs of load-serving entities with long-term power supply arrangements (either existing or planned) used to meet their service obligations.
- FERC required transmission organizations subject to the rule to either file tariff sheets making LTFTRs available which satisfy the seven criteria, or file an explanation of how current tariff sheets and rate schedules meet these criteria.

### MAJOR IMPLICATIONS:

- FERC would require that LTFTRs be available to entities that pay for upgrades or build expansions.
- If a transmission organization cannot accommodate all requests for LTFTRs over existing transmission capacity, FERC would require that preference be given to load-serving entities with long-term power supply arrangements used to meet service obligations.

**FERC MILESTONES:**

- March 20, 2009, in Docket No. RM06-8-002, FERC issued Order No. 681-B, granting certain clarifications concerning allocation of long-term firm transmission rights to external load serving entities and deny requests for rehearing. *Long-Term Firm Transmission Rights in Organized Electricity Markets*, 126 FERC ¶ 61,254 (2009).
- February 25, 2008, in Docket Nos. ER07-476-000 and RM06-8-000, FERC accepted in part and rejected in part the compliance filing of ISO-NE and New England Power Pool proposing amendments to the ISO-NE OATT. *Long-Term Firm Transmission Rights in Organized Electricity Markets*, 122 FERC ¶ 61,173 (2008).
- February 4, 2007, in Docket No. ER07-521-000, the New York Independent System Operator, Inc., submitted a compliance filing in response to Order Nos. 681 and 681-A.
- January 29, 2007, in Docket No. ER07-475-000, the California Independent System Operator Corporation submitted a compliance filing in response to Order Nos. 681 and 681-A.
- January 29, 2007, in Docket No. ER07-476-000, the ISO New England, Inc., submitted a compliance filing in response to Order Nos. 681 and 681-A.
- November 16, 2006, in Docket No. RM06-8-001, FERC issued Order No. 681-A, clarifying and denying rehearing of Order No. 681. *Long-Term Firm Transmission Rights in Organized Electricity Markets*, 117 FERC ¶ 61,201 (2006).
- July 20, 2006, in Docket No. RM06-8-000, FERC issued Order No. 681 approving seven of the eight proposed guidelines for independent transmission organizations to follow in developing proposals for providing long-term firm transmission rights. *Long-Term Firm Transmission Rights in Organized Electricity Markets*, 116 FERC ¶ 61,077 (2006).
- February 2, 2006, FERC issued NOPR, in Docket No. RM06-8-000, proposing eight guidelines for independent transmission organizations to follow in developing a framework for providing long-term firm transmission rights in organized electricity markets. *Long-Term Firm Transmission Rights in Organized Electricity Markets*, 114 FERC ¶ 61,097 (2006).
- May 11, 2005, in Docket No. AD05-7-000, FERC issued notice inviting comments on establishing long-term transmission rights in markets with locational pricing. *Notice Inviting Comments On Establishing Long-Term Transmission Rights in Markets With Locational Pricing and Staff Paper, Long-Term Transmission Rights Assessment*, Docket No. AD05-7-000 (May 11, 2005).

**MARKET-BASED RATES FOR WHOLESALE SALES OF ELECTRIC ENERGY, CAPACITY AND ANCILLARY SERVICES BY PUBLIC UTILITIES**

**MAJOR PROPOSALS: DOCKET NOS. RM14-14-000 AND RM04-7-000**

- Replaces existing four-prong analysis with a two-part test covering horizontal and vertical market power.
- Current interim market power screens would be made a permanent part of the horizontal (generation) market power analysis.
- Newly-constructed generation would no longer be exempted from the market power analysis.
- Provide for a standard market-based rate tariff of general applicability.
- “Affiliate abuse” would cease to be a separate prong of the market power analysis, but the Commission proposed to codify existing policies governing sales between public utilities and affiliated entities.
- Certain small power sellers would not be required to submit regularly scheduled triennial reviews; other holders of MBR authority would file triennial reviews on a schedule organized by regions.

**MAJOR IMPLICATIONS:**

- Clarifies that where all generation capacity owned or controlled by sellers and their affiliates in the relevant balancing authority areas (including first-tier balancing authority areas or markets) is fully committed, sellers may explain that their capacity is fully committed in lieu of submitting indicative screens as part of their horizontal market power analyses.
- Removes the requirement that market-based rate sellers file quarterly land acquisition reports and provide information on their control of sites for development of new generation capacity.
- Requires that all long-term firm purchases of capacity and/or energy by market-based rate sellers be reported in their indicative screens.
- Redefines the default relevant geographic market used to analyze market power for an independent power producer with generation capacity located in a generation-only balancing authority area.
- The native load proxy for market power screens would be changed from the minimum peak day in the season to the average peak native load.
- The Delivered Price Test would be retained for companies failing the initial market power screens.
- Maintaining an Open Access Transmission Tariff (OATT) would continue to be sufficient to mitigate any vertical market power; violations of the OATT may be grounds for revocation of MBR authority.

- Consideration of “other barriers to entry” would be considered as part of the vertical market power assessment.
- Both larger and small sellers would remain under the requirement to file change in status reports.
- Corporate entities would have a single, consolidated MBR tariff.

**FERC MILESTONES:**

- May 19, 2016, in Docket No. RM14-14-001, FERC issued Order No. 816-A denying requests for rehearing and providing clarification to report all long-term firm energy and capacity purchases from generation capacity located within the RTO/ISO market if the generation is designated as a resource with capacity obligations, unless it is from an exempt qualifying facility. *Refinements to Policies and Procedures for Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities*, 155 FERC ¶ 61,188 (2016).
- October 16, 2015, in Docket No. RM14-14-000, FERC issued Order No. 816 to revise its current standards for market-based rates for sales of electric energy, capacity, and ancillary services to streamline certain aspects of its filing requirements to reduce the administrative burden on applicants and the Commission. *Refinements to Policies and Procedures for Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities*, 153 FERC ¶ 61,065 (2015).
- March 18, 2010, in Docket No. RM04-7-008, FERC issued Order No. 697-D, granting in part and denying in part requests for rehearing of Order No. 697-C. *Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities*, 130 FERC ¶ 61,206 (2010).
- June 18, 2009, in Docket No. RM04-7-006, FERC issued Order No 697-C, granting in part and denying in part requests for clarification of Order No. 697-B. *Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities*, 127 FERC ¶ 61,284 (2009).
- December 19, 2008, in Docket No. RM04-7-005, FERC issued Order No. 697-B granting rehearing and clarification regarding certain revisions to its regulations and to the standards for obtaining and retaining market-based rate authority for sales of energy, capacity and ancillary services to ensure that such sales are just and reasonable. *Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities*, 125 FERC ¶ 61,326 (2008).



- April 21, 2008, in Docket No. RM04-7-001, FERC issued Order No. 697-A granting rehearing and clarification regarding certain revisions to its regulations and to the standards for obtaining and retaining market-based rate authority for sales of energy, capacity and ancillary services to ensure that such sales are just and reasonable. *Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities*, 123 FERC ¶ 61,055 (2008).
- December 14, 2007, FERC issued an order clarifying the effective compliance date, which entities are required to file and what data are required for market power analyses, and details of “seller-specific terms and conditions” for Order No. 697. *Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities*, 121 FERC ¶ 61,260 (2007).
- June 21, 2007, FERC issued Order No. 697. *Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities*, 119 FERC ¶ 61,295 (2007).
- August 14, 2006, FERC issued notice granting EEI’s request for an extension of time to file reply comments.
- May 19, 2006, FERC issued a NOPR proposing to amend its policies regarding the granting of market-base rate authority and to formally incorporate FERC’s four-prong market power analysis into the FERC’s regulatory code. *Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities*, 115 FERC ¶ 61,210 (2006).
- The final rule takes a principled, non-prescriptive approach to open, coordinated, and transparent transmission planning. FERC acknowledged the importance of both regional and local planning processes, and agreed with EEI that a transmission provider must have the ultimate authority on its transmission plan and its commitment to build transmission facilities. Moreover, the final rule recognizes that it is not necessary to impose a third-party entity to conduct transmission planning and that transmission providers must be able to recover the costs of planning.
- The fundamental structure of transmission services (network/point-to-point) is maintained. However, the final rule recognizes that it is not necessary to mandate the provision of hourly firm transmission service and that transmission providers only must provide planning redispatch and conditional firm service when doing so would not impair reliability (or if planning redispatch would interfere with existing firm service).
- The final rule makes transmission planning more rational; transmission customers must take a term of service for five years in order to obtain the right to roll over their service for an additional term of five years. Transmission customers must provide at least one year’s notice that they will rollover their service.
- FERC required rules, standards and practices governing transmission service to be included in public utility OATTs, thus subject to FERC filing, notice and comment, and FERC review.
- June 23, 2008, in Docket Nos. RM05-17-003 and RM05-25-003, FERC issued Order No. 890-B clarifying the degree of consistency required in the calculation of available transfer capability by transmission providers and denies rehearing regarding the requirement to undesignate network resources used to serve off-system sales. *Preventing Undue Discrimination and Preference in Transmission Services*, 123 FERC ¶ 61,299 (2008).
- December 28, 2007, in Docket Nos. RM05-17-001 and 002 and RM05-25-000, FERC issued Order No. 890-A, granting requests for rehearing and clarification to strengthen the pro forma OATT to ensure it prevents undue discrimination, to provide reduced opportunities for undue discrimination, and to increase transparency. *Preventing Undue Discrimination and Preference in Transmission Services*, 121 FERC ¶ 61,297 (2007).
- February 16, 2007, in Docket Nos. RM05-17-000 and RM05-25-000, FERC issued Order No. 890, Final Rule. *Preventing Undue Discrimination and Preference in Transmission Services*, 118 FERC ¶ 61,119 (2007).
- September 19, 2005, in Docket No. RM05-25-000, FERC issued Notice of Inquiry inviting comments (and asking over 100 questions) on the need to reform the Order No. 888 OATT and public utilities’ OATTs to ensure the provision of tariffed transmission service is just and reasonable. *Preventing Undue Discrimination and Preference in Transmission Services*, 112 FERC ¶ 61,299 (2005).

### OATT REFORM

#### MAJOR PROPOSALS: DOCKET NO. RM05-25-000

- FERC has indicated its preliminary view is that the OATT should be reformed to reflect lessons learned in nearly a decade of experience with open access transmission service.
- FERC has indicated concern that the public utilities’ OATTs have been implemented in various ways, and greater clarification and other reforms of the OATT may be necessary to avoid undue discrimination or preferential terms and conditions.

#### MAJOR IMPLICATIONS:

- The final rule acknowledges that it is best to continue to require functional unbundling rather than corporate unbundling, and FERC declined to entertain proposals that would have required structural changes or that might have required the creation of new market structures.
- The final rule deems that industry consensus is the best means to develop consistent and transparent methods for calculating Available Transfer Capability (ATC) in order to address concerns over denials of transmission service.

### FERC MILESTONES:

- November 19, 2009, in Docket Nos. RM05-17-005 and RM05-25-005, FERC issued Order No. 890-D, affirming its determinations in previous orders and clarifying the requirement to un-designate network resources used to serve off-system sales. *Preventing Undue Discrimination and Preference in Transmission Services*, 129 FERC ¶ 61,126 (2009).
- March 19, 2009, in Docket Nos. RM05-17-004 and RM05-25-004, FERC issued Order No. 890-C clarification of the degree of consistency required in the calculation of available transfer capability by transmission providers and denies rehearing regarding the requirement to undesignate network resources used to serve off-system sales. *Preventing Undue Discrimination and Preference in Transmission Services*, 123 FERC ¶ 61,299 (2008).

### PRICE FORMATION

#### MAJOR PROPOSALS: DOCKET NOS. RM15-24-000, RM16-5-000, RM17-3-000

- FERC continues to evaluate issues regarding price formation in the energy and ancillary service markets operated by RTOs and ISOs specifically in areas of (1) use of uplift payments; (2) offer price mitigation and offer price caps; (3) scarcity and shortage pricing; and (4) operator actions that affect pricing.

#### MAJOR IMPLICATIONS:

- Addresses certain practices that fail to compensate resources at prices that reflect the value of the service resources provide to the system, thereby distorting price signals, and in certain instances, creating a disincentive for resources to respond to dispatch signals.

**FERC MILESTONES:**

- December 15, 2016, in Docket No. RM17-3-000, FERC issued a Notice of Proposed Rulemaking proposing to require RTOs/ISOs to: (1) apply fast-start pricing to any resource committed that can start up within 10 minutes or less, has a minimum run time of one hour or less, and submits economic energy offers to the market; (2) incorporate commitment costs, such as start-up and no-load costs, of a fast-start resource in energy and operating reserve prices during the resource's minimum run time; (3) modify its fast-start pricing to relax the economic minimum operating limits of fast-start resources and treat them as dispatchable from zero to the economic maximum operating limits for the purpose of calculating prices; (4) allow an offline fast-start resource to set prices, but only if the resource is feasible and economic for addressing certain system needs; and (5) incorporate fast-start pricing in both the day-ahead and real-time markets. *Fast-Start Pricing in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 157 FERC ¶ 61,213 (2016).
- November 17, 2016, in Docket No. RM16-5-000, FERC issued Order No. 831 requiring RTOs/ISOs to: (1) cap each resource's incremental energy offer at the higher of \$1,000/megawatt-hour (MWh) or that resource's verified cost-based incremental energy offer; and (2) cap verified cost-based incremental energy offers at \$2,000/MWh when calculating locational marginal prices. *Offer Caps in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 157 FERC ¶ 61,115 (2016).
- June 16, 2016, in Docket No. RM15-24-000, FERC issued Order No. 825 requiring RTOs/ISOs to align settlement and dispatch intervals by: (1) settling energy transactions in its real-time markets at the same time interval it dispatches energy; (2) settling operating reserves transactions in its real-time markets at the same time interval it prices operating reserves; and (3) settling intertie transactions in the same time interval it schedules intertie transactions. Also requires RTOs/ISOs to trigger shortage pricing for any interval in which a shortage of energy or operating reserves is indicated during the pricing of resources for that interval. *Settlement Intervals and Shortage Pricing in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 155 FERC ¶ 61,276 (2016).

**RELIABILITY: ESTABLISHMENT OF THE ERO, MANDATORY RELIABILITY STANDARDS AND THE DEFINITION OF BULK ELECTRIC SYSTEM MAJOR PROPOSALS: DOCKET NOS. AD06-6-000, RM05-30-000, RM06-16-000, RM06-22-000, RM09-18-000, RM11-11-000, RM12-6-000 AND RM12-7-000**

- Pursuant to EAct 2005, FERC proposed criteria for the establishment of an Electric Reliability Organization (ERO) that will enforce reliability standards under the regulatory review of FERC.
- FERC accepted the North American Electric Reliability Corporation (NERC) as the ERO and directed NERC to use its compliance registry process to ensure there are no gaps or redundancies among the entities responsible for specific reliability criteria
- FERC and NERC have refined the definition of Bulk Electric System in order to prevent uncertainty in the market.
- FERC and NERC have established mandatory reliability standards that all users, owners and operators of the Bulk Electric System must comply.

**MAJOR IMPLICATIONS**

- Establishes a new national regime of mandatory reliability standards subject to FERC review and oversight. Compliance with reliability standards become a legal requirement subject to substantial civil penalties.
- Establishes a process for certifying a single, independent ERO. ERO must demonstrate independence from users, owners and operators while assuring fair stakeholder representation in key areas.
- Provides some regional flexibility and variability by allowing "regional entities" to propose reliability standards through the ERO, and allow the ERO to delegate compliance monitoring and enforcement to regional entities. The delegation is subject to FERC approval and periodic review.
- Each proposed reliability standard must be submitted by NERC to FERC for approval on a case-by-case basis. FERC will not defer to NERC or a Regional Entity with respect to the effect of a proposed reliability standard on competition. FERC may remand to NERC for further consideration a proposed reliability standard that FERC disapproves.
- Order No. 672 provides a process for user, owner or operator of the transmission facilities of a transmission organization to notify FERC of a possible conflict for a timely resolution by FERC.

- NERC or a Regional Entity that is delegated enforcement authority may impose a penalty on user, owner or operator of the Bulk Electric System for a violation of a reliability standard. Order No. 672 establishes a single appeal at the NERC or Regional Entity level to ensure internal consistency in the imposition of penalties by NERC or the Regional Entity.
- Order No. 706 approved mandatory reliability standards that require certain users, owners, and operators of the Bulk Electric System to comply with specific requirements to safeguard critical cyber assets.

**FERC MILESTONES**

- November 22, 2013, in Docket No. RM13-5-000, FERC issued Order No. 791 approving "Version 5" of the CIP reliability standards which identify and categorize Bulk Electric System (BES) Cyber Systems using a new methodology based on whether a BES Cyber System has a Low, Medium, or High Impact on the reliable operation of the bulk electric system. *Version 5 Critical Infrastructure Protection Reliability Standards*, 145 FERC ¶ 61,160 (2013).
- December 20, 2012, in Docket Nos. RM12-6-000 and RM12-7-000, FERC issued Order No. 773 approving certain proposed modifications to the definition of "bulk electric system" and proposed revisions to NERC's Rules of Procedure which create an exception process to add elements to, or remove elements from, the definition of "bulk electric system" on a case-by-case basis. *Revisions to Electric Reliability Organization Definition of Bulk Electric System and Rules of Procedure*, 141 FERC ¶ 61,236 (2012).
- April 19, 2012, in Docket No. RM11-11-000, FERC issued Order No. 761 approving "Version 4" of the CIP reliability standards which includes "bright line" criteria for the identification of critical assets. *Version 4 Critical Infrastructure Protection Reliability Standards*, 139 FERC ¶ 61,058 (2012).
- June 18, 2009, in Docket No. RM06-22-006, FERC issued Order No. 706-C denying requests for rehearing of Order No. 706-B regarding nuclear facilities. *Mandatory Reliability Standards for Critical Infrastructure Protection*, 127 FERC ¶ 61,273 (2009).
- March 19, 2009, in Docket No. RM06-22-000, FERC issued Order No. 706-B clarifying that the facilities within a nuclear generation plant in the United States that are not regulated by the U.S. Nuclear Regulatory Commission are subject to compliance with the eight mandatory CIP reliability standards. *Mandatory Reliability Standards for Critical Infrastructure Protection*, 126 FERC ¶ 61,229 (2009).

- May 16, 2008, in Docket No. RM06-22-001, FERC issued Order No. 706-A which largely affirms its determinations in Order No. 706. FERC offered certain clarifications regarding enforceability, technical feasibility, confidentiality and technical support. *Mandatory Reliability Standards for Critical Infrastructure Protection*, 123 FERC ¶ 61,174 (2008).
- January 18, 2008, in Docket No. RM06-22-000, FERC issued Order No. 706 which established eight Critical Infrastructure Protection (CIP) mandatory reliability standards requiring certain users, owners, and operators of the Bulk Electric System to comply with specific requirements to safeguard critical cyber assets. *Mandatory Reliability Standards for Critical Infrastructure Protection*, 122 FERC ¶ 61,040 (2008).
- July 19, 2007, in Docket No. RM06-16-001, FERC issued Order No. 693-A which reaffirmed its determinations in Order No. 693 and offered certain clarifications in the preamble of the rule. *Mandatory Reliability Standards for the Bulk-Power System*, 120 FERC ¶ 61,053 (2007).
- March 16, 2007, in Docket No. RM06-16-000, FERC issued Order No. 693, Final Rule regarding mandatory reliability standards for the Bulk Electric System which approved 83 of the 107 mandatory reliability standards proposed by NERC. *Mandatory Reliability Standards for the Bulk-Power System*, 118 FERC ¶ 61,218 (2007).
- April 18, 2006, in Docket No. RM06-16-000, FERC issued a notice announcing a rulemaking process for the processing of the proposed reliability standards submitted by NERC. *Mandatory Reliability Standards for the Bulk-Power System*, 115 FERC ¶ 61,060 (2006).
- March 30, 2006, in Docket No. RM05-30-001, FERC issued Order No. 672-A which reaffirmed its determinations in Order No. 672 concerning the rules for the ERO and procedures for electric reliability standards, but clarified certain provisions, and granted rehearing in part regarding transmission organization options in cases of potential conflicts of a reliability standard with a FERC order. *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval and Enforcement of Electric Reliability Standards*, 114 FERC ¶ 61,328 (2006).
- March 17, 2011, in Docket No. RM09-18-001, FERC issued Order No. 743-A denying requests for rehearing of Order No. 743 and clarifying the discretion of Regional Entities, standard of review and local distribution facilities. *Revision to Electric Reliability Organization Definition of Bulk Electric System*, 134 FERC ¶ 61,210 (2011).
- November 18, 2010, in Docket No. RM09-18-000, FERC issued Order No. 743 which directs NERC to revise the definition of “bulk electric system” and consider eliminating the regional discretion in the current definition, maintaining a bright-line threshold that includes all facilities operated at or above 100 kV except defined radial facilities, and establishing an exemption process and criteria for excluding facilities that are not necessary for operating the interconnected transmission network. *Revision to Electric Reliability Organization Definition of Bulk Electric System*, 133 FERC ¶ 61,150 (2010).
- February 3, 2006, in Docket No. RM05-30-000, FERC issued Order No. 672 to implement provisions in EPAct 2005 by establishing criteria for ERO qualification. The Final Rule also establishes procedures under which NERC may propose new or modified reliability standards for FERC review and procedures governing an enforcement action for violation of a reliability standard. *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval and Enforcement of Electric Reliability Standards*, 114 FERC ¶ 61,104 (2006).
- September 1, 2005, in Docket No. RM05-30-000, FERC issued a notice of proposed rulemaking on developing and implementing the process and procedures under EPAct 2005 for FERC to develop and undertake with regard to the formation and functions of the ERO and Regional Entities. *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval and Enforcement of Electric Reliability Standards*, 112 FERC ¶ 61,239 (2005).

### STANDARDS OF CONDUCT

#### MAJOR PROPOSALS: DOCKET NO.

#### RM01-10-000; RM07-1-000

- FERC has conducted technical conferences and workshops to discuss Standards of Conduct for Transmission Providers under Order No. 2004.
- FERC has proposed permanent regulations regarding the standards of conduct consistent with the decisions of the U.S. Court of Appeals of the District of Columbia in *National Fuel Gas Supply Corp. v. FERC*, 468 F.3d 831 (2006), regarding natural gas pipelines. FERC is soliciting comments regarding comparable changes for electric utility transmission providers: specifically, whether or not the standards of conduct should govern the relationship between electric utility transmission providers and their energy affiliate.

### MAJOR IMPLICATIONS:

- Transmission providers are permitted to communicate essential information to affiliated and non-affiliated nuclear power plants to preserve power grid reliability.

### FERC MILESTONES:

- April 8, 2011, in Docket No. RM07-1-003, FERC issued Order No. 717-D, clarifying that an employee who performs a system impact study re a transmissions service request, that person is a transmission function employee. *Standards of Conduct for Transmission Providers*, 135 FERC ¶ 61,017 (2011).
- April 16, 2010, in Docket No. RM07-1-002, FERC issued Order No. 717-C, further clarifying “marketing function employee.” *Standards of Conduct for Transmission Providers*, 129 FERC ¶ 61,045 (2010).
- November 16, 2009, in Docket No. RM07-1-002, FERC issued Order No. 717-B, clarifying whether an employee who is not making business decisions about contract non-price terms and conditions is considered a “marketing function employee.” *Standards of Conduct for Transmission Providers*, 129 FERC ¶ 61,123 (2009).
- October 15, 2009, in Docket No. RM07-1-001, FERC issued Order No. 717-A, clarifying: 1) the applicability of the Standards of Conduct to transmission owners with no marketing affiliate transactions; 2) whether the Independent Functioning Rule applies to balancing authority employees; 3) which activities of transmission or marketing function employees are subject to the Rule; 4) whether local distribution companies making off-system sales on nonaffiliated pipe pipelines are subject to the Standards; 5) Whether the Standards apply to a pipeline’s sale of its own production; 6) applicability of the Standards to asset management agreements; 7) whether incidental purchases to remain in balance or sales of unneeded gas supply subject the company to the Standards; 8) applicability of the No Conduit Rule; and 9) applicability of the Transparency Rule. *Standards of Conduct for Transmission Providers*, 129 FERC ¶ 61,043 (2009).



- October 16, 2008, in Docket No. RM07-1-000, FERC issued Order No. 717, amending its regulations adopted on an interim basis in Order No. 690, in order to make them clearer and to refocus the rules on the areas where there is the greatest potential for abuse. The Final Rule is designed to (1) foster compliance, (2) facilitate Commission enforcement, and (3) conform the Standards of Conduct to the decision of the U.S. Court of Appeals for the D.C. Circuit in *National Fuel Gas Supply Corporation v. FERC*, 468 F.3d 831 (D.C. Cir. 2006). Specifically, the Final Rule eliminates the concept of energy affiliates and eliminates the corporate separation approach in favor of the employee functional approach used in Order Nos. 497 and 889. *Standards of Conduct for Transmission Providers*, 125 FERC ¶ 61,064 (2008).
- March 21, 2008, in Docket No. RM07-1-000, FERC issued a Notice of Proposed Rulemaking proposing to revise its Standards of Conduct for transmission providers to make them clearer and to refocus the rules on the areas where there is the greatest potential for affiliate abuse. By doing so, we will make compliance less elusive and facilitate Commission enforcement. We also propose to conform the Standards to the decision of the U.S. Court of Appeals for the D.C. Circuit in *National Fuel Gas Supply Corporation v. FERC*, 468 F.3d 831 (D.C. Cir. 2006). *Standards of Conduct for Transmission Providers*, 122 FERC ¶ 61,263 (2008).
- January 18, 2007, FERC issues NOPR in Docket No. RM07-1-000. *Standards of Conduct for Transmission Providers*, 118 FERC ¶ 61,031 (2007).
- November 17, 2006, in *National Fuel Gas Supply Corporation v. Federal Energy Regulatory Commission*, the United States Court of Appeals for the District of Columbia vacated Orders 2004, 2004-A, 2004-B, 2004-C, and 2004-D with respect to natural gas suppliers. *National Gas Fuel Supply Corporation v. FERC*, 468 F.3d 831 (November 17, 2006).
- February 16, 2006, FERC issued interpretive order relating to the Standards of Conduct to clarify that Transmission Providers may communicate with affiliated nuclear power plants regarding certain matters related to the safety and reliability of the transmission system on nuclear power plants, in order to comply with the requirements of the Nuclear Regulatory Commission. *Interpretive Order Relating to the Standards of Conduct*, 114 FERC ¶ 61,155 (2006).

### THIRD-PARTY PROVISION OF ANCILLARY SERVICES; ACCOUNTING AND FINANCIAL REPORTING FOR NEW ELECTRIC STORAGE TECHNOLOGIES

#### MAJOR PROPOSALS: DOCKET NO. RM11-24-000 AND AD10-13-000

- FERC revises its *Avista Corp.* policy governing the sale of ancillary services at market-based rates to meet public utility transmission providers and reflect such reforms in Parts 35 and 37 of the Commission's regulations.
- FERC requires each public utility transmission provider to include provisions in its OATT explaining how it will determine Regulation and Frequency Response reserve requirements in a manner that takes into account speed and accuracy of resources used.
- FERC also revises the accounting and reporting requirements under its Uniform System of Accounts for public utilities and licensees and its forms, statements, and reports contained in FERC Form No. 1, Annual Report of Major Electric Utilities, Licensees and Others, FERC Form No. 1-F, Annual Report for Nonmajor Public Utilities and Licensees, and FERC Form No. 3-Q, Quarterly Financial Report of Electric Utilities, Licensees, and Natural Gas Companies to better account for and report transactions associated with the use of energy storage devices in public utility operations.

#### MAJOR IMPLICATIONS:

- FERC allows third-party sellers passing existing market power screens to sell Energy Imbalance and Generator Imbalance services at market-based rates to a public utility transmission provider within the same balancing authority area, or to a public utility transmission provider in a different balancing authority area, if those areas have implemented intra-hour scheduling for transmission service.
- FERC allows third-party sellers passing existing market power screens to sell Operating Reserve-Spinning and Operating Reserve-Supplemental services at market-based rates to a public utility transmission provider within the same balancing authority area, or to a public utility transmission provider in a different balancing authority area, if those areas have implemented intra-hour scheduling for transmission service that supports the delivery of operating reserve resources from one balancing authority area to another.
- The Final Rule allows applicants to engage in market-based sales of ancillary services to a public utility that is purchasing ancillary services to satisfy its OATT requirements where the sale is made pursuant to a competitive solicitation that meets specific requirements.

- Each public utility transmission provider must add to its OATT Schedule 3 a statement that it will take into account the speed and accuracy of regulation resources in its determination of reserve requirements for Regulation and Frequency Response service, including as it reviews whether a self-supplying customer has made "alternative comparable arrangements" as required by the Schedule. This statement will also acknowledge that, upon request by the self-supplying customer, the public utility transmission provider will share with the customer its reasoning and any related data used to make the determination of whether the customer has made "alternative comparable arrangements."
- The Final Rule adds new electric plant and O&M expense accounts to record the installed cost and operating and maintenance cost of energy storage assets and a new account to record the cost of power purchased for use in energy storage operations.

#### FERC MILESTONES:

- February 20, 2014, in Docket No. RM11-24-001 and AD10-13-001, FERC issued Order No. 784-A clarifying certain reporting requirements and that intra-hour transmission scheduling practices are sufficient to meet the requirements of Order No. 784. *Third-Party Provision of Ancillary Services; Accounting and Financial Reporting for Electric Storage Technologies*, 146 FERC ¶ 61,114 (2014).
- July 18, 2013, in Docket Nos. RM11-24-000 and AD10-13-000, FERC issued Order No. 784. *Third-Party Provision of Ancillary Services; Accounting and Financial Reporting for New Electric Storage Technologies*, 144 FERC ¶ 61,056 (2013).
- June 22, 2012, in Docket Nos. RM11-24-000 and AD-13-000, FERC issued a Notice of Proposed Rulemaking. *Third-Party Provision of Ancillary Services; Accounting and Financial Reporting for New Electric Storage Technologies*, 139 FERC ¶ 61,245 (2012).

### THIRD-PARTY PROVISION OF PRIMARY FREQUENCY RESPONSE SERVICE

#### MAJOR PROPOSALS: DOCKET NO. RM15-2-000

- FERC revises its regulations to foster competition in the sale of primary frequency response service by permitting the sale of primary frequency response service at market-based rates by sellers with market-based rate authority for sales of energy and capacity.



### MAJOR IMPLICATIONS:

- Permits voluntary sales of primary frequency response service at market-based rates for entities granted market-based rate authority. The Final Rule does not place any limits on the types of transactions available to procure primary frequency response service as they may be cost-based or market-based, bundled with other services or unbundled and inside or outside of organized markets. The Final Rule focuses solely on how jurisdictional entities can qualify for market-based rates for primary frequency response service in the context of voluntary bilateral sales.

### FERC MILESTONES:

- November 20, 2015, in Docket No. RM15-2-000, FERC issues Order No. 819 adopting revisions to its regulations in order to allow sellers with market-based rates to sell primary frequency response service. Third-Party Provision of Primary Frequency Response Service, 153 FERC ¶ 61,220 (2015).

### TRANSMISSION PLANNING AND COST ALLOCATION

#### MAJOR PROPOSALS: DOCKET NO. RM10-23-000

- Reforms FERC's electric transmission planning and cost allocation requirements for public utility transmission providers. The rule builds on the reforms of Order No. 890 and corrects remaining deficiencies with respect to transmission planning processes and cost allocation methods.

### MAJOR IMPLICATIONS:

- Establishes three requirements for transmission planning:
  - Each public utility transmission provider must participate in a regional transmission planning process that satisfies the transmission planning principles of Order No. 890 and produces a regional transmission plan.
  - Local and regional transmission planning processes must consider transmission needs driven by public policy requirements established by state or federal laws or regulations. Each public utility transmission provider must establish procedures to identify transmission needs driven by public policy requirements and evaluate proposed solutions to those transmission needs.
  - Public utility transmission providers in each pair of neighboring transmission planning regions must coordinate to determine if there are more efficient or cost-effective solutions to their mutual transmission needs.
- Establishes three requirements for transmission cost allocation:

- Each public utility transmission provider must participate in a regional transmission planning process that has a regional cost allocation method for new transmission facilities selected in the regional transmission plan for purposes of cost allocation. The method must satisfy six regional cost allocation principles.
  - Public utility transmission providers in neighboring transmission planning regions must have a common interregional cost allocation method for new interregional transmission facilities that the regions determine to be efficient or cost-effective. The method must satisfy six similar interregional cost allocation principles.
  - Participant-funding of new transmission facilities is permitted, but is not allowed as the regional or interregional cost allocation method.
  - Public utility transmission providers must remove from Commission-approved tariffs and agreements a federal right of first refusal for a transmission facility selected in a regional transmission plan for purposes of cost allocation, subject to four limitations:
    - This does not apply to a transmission facility that is not selected in a regional transmission plan for purposes of cost allocation.
    - This allows, but does not require, public utility transmission providers in a transmission planning region to use competitive bidding to solicit transmission projects or project developers.
    - Nothing in this requirement affects state or local laws or regulations regarding the construction of transmission facilities, including but not limited to authority over siting or permitting of transmission facilities.
    - The rule recognizes that incumbent transmission providers may rely on regional transmission facilities to satisfy their reliability needs or service obligations. The rule requires each public utility transmission provider to amend its tariff to require reevaluation of the regional transmission plan to determine if delays in the development of a transmission facility require evaluation of alternative solutions, including those proposed by the incumbent, to ensure incumbent transmission providers can meet reliability needs or service obligations.
- ### FERC MILESTONES:
- October 18, 2012, in Docket No. RM10-23-002, FERC issued Order No. 1000-B reaffirming its determinations in Order No. 1000 and Order No. 1000-A. *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, 141 FERC ¶ 61,044.

- May 17, 2012, in Docket No. RM10-23-001, FERC issued Order No. 1000-A providing certain clarifications to the policies adopted in Order No. 1000. *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, 139 FERC ¶ 61,132 (2012).
- July 21, 2011, FERC issued Order No. 1000 in Docket No. RM11-26-000. *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, 136 FERC ¶ 61,051 (2011).

### TRANSMISSION PRICING REFORMS/INCENTIVES

#### MAJOR PROPOSALS: DOCKET NOS. EL11-66-000, RM06-4-000 AND RM11-26-000

- FERC established a two-step discounted cash flow (DCF) methodology which incorporates a long-term growth component for determining allowed return on equity (ROE) for transmission investments.
- FERC enacted transmission pricing reforms which identifies incentives which FERC will allow utilities that demonstrate that a project ensures reliability or reduces transmission congestion.
- FERC emphasized that applicants must demonstrate a link between the incentives requested and the investment being made, that the resulting rates are just and reasonable.
- FERC stated that the incentives will only be permitted for investments which benefit consumers by promoting reliability or reducing the cost of delivered power by reducing congestion.

### MAJOR IMPLICATIONS:

- Establishes a two-step DCF methodology which includes a long-term growth component, established as gross domestic product (GDP), for determining allowed ROE on transmission investments. The new DCF methodology also uses a national proxy group to measure capital attraction and comparability of risk.
- Incentives available for traditional utilities as well as additional incentives for stand-alone transmission companies, or transcos, that include: (a) a rate of return on equity sufficient to attract new investment; (b) a recovery in rate base of 100% of prudently incurred transmission-related construction work in progress (CWIP) to increase cash flow; (c) allowing hypothetical capital structures to provide the flexibility needed to maintain viability of new capacity projects; (d) accelerating recovery of depreciation expense; (e) recovery of all prudent development costs in cases where construction of facilities may be abandoned or canceled due to circumstances beyond the control of the utility; (f) allowing deferred

cost recovery; and (g) providing a higher rate of return on equity for utilities that join transmission organizations.

- A public utility would have to demonstrate that the new facilities would improve regional reliability and reduce transmission congestion in order for it to receive an incentive based rate of return on equity.
- The rule allows for recovery of costs associated with joining a transmission organization, electric reliability organizations and infrastructure development in National Interest Transmission Corridors.
- In order to encourage the formation of transcos, FERC authorized transcos to propose an acquisition premium, and an Accumulated Deferred Income Taxes incentive for companies selling transmission assets to a transco. FERC stated that it would allow a return on equity (ROE) sufficient to encourage transco formation, and that provision of the ROE incentive would not preclude a transco from seeking other approved incentives.

**FERC MILESTONES:**

- June 19, 2014, in Docket No. EL11-66-001, FERC issued Opinion No. 531 which established a two-step DCF methodology for determining allowed ROEs going forward in response to a complaint filed against the current ROE allowed for transmission owners/utilities in the Northeast.
- November 15, 2012, in Docket No. RM11-26-000, FERC issued its Policy Statement on Promoting Transmission Through Pricing Reform by clarifying that it would no longer rely on the “routine vs. non-routine” analysis as part of its nexus test and thus required applicants to demonstrate that the total package of incentives requested is tailored to address demonstrable risks and challenges. The Commission also expects incentives applicants to seek to reduce the risk of transmission investment not otherwise accounted for in its base ROE by using risk-reducing incentives before seeking an incentive ROE based on a project’s risks and challenges. *Promoting Transmission Through Pricing Reform*, 141 FERC ¶ 61,129 (2012).
- May 19, 2011, in Docket No. RM11-26-000, FERC issued a Notice of Inquiry given the changes in the electric industry, the Commission’s experience to date applying Order No. 679, and the ongoing need to ensure that incentives regulations and policies are encouraging the development of transmission infrastructure. *Promoting Transmission Investment Through Pricing Reform*, 135 FERC ¶ 61,146 (2011).

- December 21, 2010, in Docket Nos. PA11-11-000, PA11-13-000 and PA11-14-000 respectively, FERC announced it would audit compliance with Order Nos. 679, 679-A and 679-B, and the conditions placed when FERC granted incentives.
- April 19, 2007, in Docket No. RM06-4-002, FERC issued Order No. 679-B, denying rehearing and clarifying Order No. 679-A. *Promoting Transmission Investment Through Pricing Reform*, 119 FERC ¶ 61,062 (2007).
- December 22, 2006, in Docket No. RM06-4-001, FERC issued Order No. 679-A, reaffirming in part and granting rehearing in part of Order No. 679.
- July 20, 2006, in Docket No. RM06-4-000, FERC issued Order No. 679, *Promoting Transmission Investment Through Pricing Reform*, 116 FERC ¶ 61,199 (2006).
- November 18, 2005, in Docket No. RM06-4-000, FERC issued a NOPR to amend its regulations to establish incentive-based rate treatments for transmission of electric energy in interstate commerce by public utilities. *Promoting Transmission Investment through Pricing Reform*, 113 FERC ¶ 61,182 (2005).

**WHOLESALE COMPETITION IN REGIONS WITH ORGANIZED ELECTRIC MARKETS**

**MAJOR PROPOSALS: DOCKETS AD07-7, AD07-8, RM07-19**

- FERC amends its regulations to improve operation of wholesale electric markets with regards to: (1) demand response and market prices during operating reserve shortages; (2) long-term power contracting; (3) market-monitoring policies; and (4) RTO and ISO responsiveness to stakeholders and customers.
- MAJOR IMPLICATIONS:**
- Allow RTOs to accept bids from demand response resources for certain ancillary services, to eliminate charges for voluntarily taking less energy in real-time markets than purchased in the day-ahead markets, allow demand response to be bid by a retail customer aggregator, and to allow market-clearing prices to reach levels that allow for rebalances of supply and demand during periods of operating reserve shortages.
  - Requires RTOs to support long-term power contracting by allowing market participants to post offers on their website.
  - Expands the rules regarding the Market Monitoring Unit’s (MMU) interaction with their RT, require the RTO to materially support the MMU, remove the MMU from tariff administration, and reduce time period before energy bid and offer data are released to the public.

- Establishes criteria to ensure RTO responsiveness to customers and stakeholders, such as: inclusiveness, fairness in balancing diverse interests, representation of minority positions and ongoing responsiveness.

**FERC MILESTONES:**

- December 17, 2009, in Docket No. RM07-19-002, FERC Issued Order No. 719-B affirming its determinations in Orders Nos. 719 and 719-A. *Wholesale Competition in Regions with Organized Electric Markets*, 129 FERC ¶ 61,252 (2009).
- July 16, 2009, in Docket No. RM07-19-001, FERC issued Order No 719-A, affirming and granting clarification of Order No. 719. *Wholesale Competition in Regions with Organized Electric Markets*, 128 FERC ¶ 61,059 (2009).
- October 17, 2008, in Docket Nos. AD07-7-000 and RM07-19-000, FERC issued Order No. 719 amending its regulations under the Federal Power Act to improve the operation of organized wholesale electric markets in the areas of: (1) demand response and market pricing during periods of operating reserve shortage; (2) long-term power contracting; (3) market-monitoring policies; and (4) the responsiveness of regional transmission organizations (RTOs) and independent system operators (ISOs) to their customers and other stakeholders, and ultimately to the consumers who benefit from and pay for electricity services. *Wholesale Competition in Regions with Organized Electric Markets*, 125 FERC ¶ 61,071 (2008).
- February 22, 2008, FERC issued a Notice of Proposed Rulemaking. *Wholesale Competition in Regions with Organized Electric Markets*, 122 FERC ¶ 61,167 (2008).

# Finance and Accounting Division

The Business Services and Finance Division is part of EEI's Business Operations Group. This division provides the leadership and management for advocating industry policies, technical research, and enhancing the capabilities of individual members through education and information sharing. The division's leadership is used in areas that affect the financial health of the investor-owned electric utility industry, such as finance, accounting, taxation, internal auditing, investor relations, risk management, budgeting and financial forecasting. If you need research information about these issue areas, please contact an EEI Business Services and Finance Division staff member (listed in this section). Under the direction of both the Finance and the Accounting Executive Advisory Committees, the division provides staff representatives to work with issue area committees. These committees give member company personnel a forum for information exchange and training and an opportunity to comment on legislative and regulatory proposals.

## Publications

### Quarterly Financial Updates

A series of financial reports on the investor-owned segment of the electric utility industry. Quarterly reports include stock performance, dividends, credit ratings, and rate case summary, as well as the industry's consolidated financial statements.

### Financial Review

An annual report that provides a review of the financial performance of the investor-owned electric utility industry. The report also includes a policy overview section giving an update on major FERC initiatives. In addition, the report provides an annual update on construction and fuel use by electric utilities.

### EEI Index

Quarterly stock performance of the U.S. investor-owned electric utilities. The index, which measures total return and provides company rankings for one- and five-year periods, is widely used in company proxy statements and for overall industry benchmarking.

### Executive Accounting News Flash

Published quarterly and distributed to members of accounting committees, this update provides current information about the im-

act on our companies of evolving accounting and financial reporting issues. The News Flash is prepared jointly with AGA by the Utility Industry Accounting Fellow in coordination with our accounting staff in order to keep members informed on proposed and newly effective requirements from key accounting standard-setters.

### Introduction to Depreciation for Utilities and Other Industries

Updated in 2013, the latest edition of this book serves as a primer on the concepts of depreciation accounting including fundamental principles, life analysis techniques, salvage and cost of removal analysis methods and depreciation rate calculation formulas and examples. The 2013 edition features updated chapters on Tax Depreciation, Accounting for Asset Retirement Obligations (AROs) and includes a new chapter on Depreciation in an IFRS Environment.

### Industry directories published by the Business Services and Finance Division:

- Electric Utility Investor Relations Executives Directory
- Accounting and Internal Audit Directory

For more information, please visit the EEI website at: [www.eei.org](http://www.eei.org).

## Conference Highlights

### Annual Financial Conference

This three-day conference is the premier annual fall gathering of utilities and the financial community; it is attended by more than 1,100 senior executives, including utility CEOs, CFOs, treasurers, investor relations executives, and Wall Street investment analysts, portfolio managers, commercial and investment bankers and the rating agencies. The General Sessions cover topics of strategic interest to the industry and financial community. Contact Debra Henry for more information.

### Chief Financial Officers' Forum

This forum is held once a year in the fall in conjunction with the EEI Financial Conference. The forum provides an opportunity for chief financial officers to identify and discuss critical issues and challenges impacting the financial health of the electric utility industry. The forum is opened to member company chief financial officers only. Contact Debra Henry for more information.

### Finance Committee Meeting

This day and a half meeting is held in the spring or summer. The meeting covers current and emerging industry issues critical to the electric power industry. It also provides an opportunity for utility financial officers to identify best practices and share management skills that contribute to financial performance. Contact Debra Henry for more information.

### Investor Relations Meeting

This one-day meeting is held in the spring. Executives gain insight on current and evolving industry issues, analysts' perspectives on the industry and have an opportunity to identify and share IR best practice concepts within and outside the electric utility industry. Contact Debra Henry for more information.

### Treasury Group Meeting

Half day meetings are held in the spring and the fall annually. Discussion is focused on pension funding, capital markets and economic and regulatory impacts on debt and equity issuances. Members are provided an opportunity to share and identify best practices beneficial to the well-being of the industry. Contact Debra Henry for more information.

### Accounting Leadership Conference

This annual meeting, held jointly with the Chief Audit Executives and their counterparts from AGA, covers current accounting, finance, business, and management issues for the Chief Accounting Officers and key accounting leadership of EEI member companies. Contact Randall Hartman for more information.

### Chief Audit Executives Conference

This annual conference provides a forum for EEI and AGA Chief Audit Executives to discuss issues and challenges and exchange ideas on utility-specific internal auditing topics. The conference is open to members of the Internal Auditing Committee and other employees of EEI/AGA member companies designated by the CAE. Contact Dave Dougher for more information.

### EEI Accounting Standards Committee

Provides a forum for technical accounting, accounting research, financial reporting, and other interested member-company accounting leaders and staff, to update their knowledge on emerging accounting standards, implementation issues associated with newly issued standards, and other technical and business issues. Starting in 2017, this Committee will meet in conjunction with the Spring Accounting Conference. Contact Randall Hartman for more information.

### Spring and Fall Accounting Conferences

Hosted by the EEI Corporate Accounting Committee, the Property Accounting & Valuation Committee, and the Accounting Standards Committee, and the AGA Accounting Services Committee, the conference provides a forum for members to discuss current issues and challenges and exchange ideas in the electric and natural gas utility industries – convenes twice a year for two and one half days. The meetings are open to members of the Committees and other employees of EEI/AGA member companies. Contact Dave Dougher for more information.

### Tax School

Provides tax professionals a forum to discuss developing tax issues impacting our member companies. This two and half day training is held every other year. Contact Mark Agnew for more information.



## Accounting Courses

### Introduction to Public Utility Accounting

This 4-day program, offered jointly with AGA, concentrates on the fundamentals of public utility accounting. It focuses on providing basic knowledge and a forum for understanding the elements of the utility business. It is intended primarily for recently hired electric and gas utility staff in the areas of accounting, auditing, and finance. Contact Randall Hartman or Dave Dougher for more information.

### Advanced Public Utility Accounting

This intensive, 4-day course, jointly sponsored with AGA, focuses on complex and specific advanced accounting and industry topics. It addresses current accounting issues including those related to deregulation and competition, as they affect regulated companies in the changing and increasingly competitive environment of the electric and gas utility industries. Contact Randall Hartman or Dave Dougher for more information.

### Accounting for Energy Derivatives

Electricity and gas commercial transacting often involves commodity purchase contracts, hedges, and trading activities that are considered derivatives for accounting purposes. EEI and AGA partner with EY to offer this three-day seminar and workshop that covers the basics of derivatives accounting as well as advanced applications. In 2017, we expect to offer a webcast in lieu of a live training session. Look for a live session in 2018. Contact Randall Hartman or Dave Dougher for more information.

### Property Accounting & Depreciation Training Seminar

This is a 1½-day seminar offered jointly with AGA that provides an introduction to property accounting and depreciation in the electric and natural gas utility industries. Contact Dave Dougher for more information.

### Utility Internal Auditor's Training

Provides utility staff auditors, managers, and directors with the fundamentals of public utility auditing and specific utility audit/accounting issues including advanced internal auditing topics and is presented jointly by EEI and AGA – convenes for two and one half days. Contact Randall Hartman or Dave Dougher for more information.

### Additional Training Opportunities

Provides additional training opportunities as appropriate, such as Revenue Recognition, Leases, and FERC Accounting. Contact Randall Hartman or Dave Dougher for more information.

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## Edison Electric Institute Schedule of Upcoming Meetings

To assist in planning your schedule, here are finance-related meetings that may be of interest to you. For further details, please contact Debra Henry at (202) 508-5496, Charnita Garvin at (202) 508-5057, Randall Hartman (202) 508-5494, or Dave Dougher (202) 508-5570.

### June 14-15, 2017

#### Annual Finance Committee Meeting

*(Closed meeting, admittance  
by invitation only)*

Boston Marriott Copley Plaza  
Boston, Massachusetts

### June 25-28, 2017

#### Accounting Leadership Conference

*(open meeting)*

#### Chief Audit Executives Conference

*(closed meeting, admittance  
by invitation only)*

The Nines Hotel  
Portland, Oregon

### November 5-8, 2017

#### 52nd EEI Financial Conference

Walt Disney World Swan &  
Dolphin Resort  
Lake Buena Vista, Florida

#### EEI Treasury Group Meeting

*(Closed meeting, admittance  
by invitation only)*

Walt Disney World Swan &  
Dolphin Resort  
Lake Buena Vista, Florida

#### Chief Financial Officers Forum

*(Closed meeting, admittance  
by invitation only)*

Walt Disney World Swan &  
Dolphin Resort  
Lake Buena Vista, Florida

### December 7, 2017

#### Investor Relations Planning Group Meeting

*(Closed meeting, admittance  
by invitation only)*

Omni Berkshire Place  
New York, New York

### December 8, 2017

#### Wall Street Advisory Group Meeting

*(Closed meeting, admittance  
by invitation only)*

Omni Berkshire Place  
New York, New York

## Earnings Twelve Months Ending December 31

### U.S. INVESTOR-OWNED ELECTRIC UTILITIES

(\$ Millions)	2016	2015 <sup>r</sup>
<b>Earnings Excluding Non-Recurring and Extraordinary Items</b>	<b>46,716</b>	<b>39,949</b>
Non-Recurring Items (pre-tax)		
Gain on Sale of Assets	767	789
Other Non-Recurring Revenues	888	(4)
Asset Write-downs	(17,480)	(5,189)
Other Non-Recurring Expenses	(3,110)	(1,764)
<b>Total Non-Recurring Items</b>	<b>(18,935)</b>	<b>(6,168)</b>
Extraordinary Items (net of taxes)		
Discontinued Operations	(668)	(1,148)
Change in Accounting Principles	—	—
Early Retirement of Debt	—	—
Other Extraordinary Items	—	—
<b>Total Extraordinary Items</b>	<b>(668)</b>	<b>(1,148)</b>
<b>Net Income</b>	<b>27,112</b>	<b>32,633</b>
<b>Total Non-Recurring and Extraordinary Items</b>	<b>(19,604)</b>	<b>(7,316)</b>

r = revised Note: Totals may reflect rounding.

Source: S&P Global Market Intelligence and EEI Finance Department.

# U.S. Investor-Owned Electric Utilities

(At 12/31/2016)

ALLETE, Inc.  
 Alliant Energy Corporation  
 Ameren Corporation  
 American Electric Power Company, Inc.  
 AVANGRID, Inc.  
 Avista Corporation  
*Berkshire Hathaway Energy* \*  
 Black Hills Corporation  
 CenterPoint Energy, Inc.  
*Cleco Corporation* \*  
 CMS Energy Corporation  
 Consolidated Edison, Inc.  
 Dominion Resources, Inc.  
*DPL Inc.* \*  
 DTE Energy Company  
 Duke Energy Corporation  
 Edison International  
 El Paso Electric Company  
 Empire District Electric Company  
*Energy Future Holdings Corp.* \*  
 Entergy Corporation  
 Eversource Energy  
 Exelon Corporation  
 FirstEnergy Corp.  
 Great Plains Energy Inc.

Hawaiian Electric Industries, Inc.  
 IDACORP, Inc.  
*IPALCO Enterprises, Inc.* \*  
 MDU Resources Group, Inc.  
 MGE Energy, Inc.  
 NextEra Energy, Inc.  
 NiSource Inc.  
 NorthWestern Corporation  
 OGE Energy Corp.  
 Otter Tail Corporation  
 PG&E Corporation  
 Pinnacle West Capital Corporation  
 PNM Resources, Inc.  
 Portland General Electric Company  
 PPL Corporation  
 Public Service Enterprise Group Incorporated  
*Puget Energy, Inc.* \*  
 SCANA Corporation  
 Sempra Energy  
 Southern Company  
 Unitil Corporation  
 Vectren Corporation  
 WEC Energy Group, Inc.  
 Westar Energy, Inc.  
 Xcel Energy Inc.

Note: Includes the 44 publicly traded electric utility holding companies plus an additional six electric utilities (shown in italics) that are not listed on U.S. stock exchanges for one of the following reasons—they are subsidiaries of an independent power producer; they are subsidiaries of foreign-owned companies; or they were acquired by other investment firms.



The **Edison Electric Institute** (EEI) is the association that represents all U.S. investor-owned electric companies. Our U.S. members provide electricity for 220 million Americans and operate in all 50 states and the District of Columbia. EEI also has dozens of international electric companies as International Members, and hundreds of industry suppliers and related organizations as Associate Members.

Safe, reliable, affordable, and increasingly clean energy enhances the lives of all Americans and powers the economy. As a whole, the electric power industry supports more than 7 million jobs in communities across the United States and contributes 5 percent to the nation's GDP.

Organized in 1933, EEI provides public policy leadership, strategic business intelligence, and essential conferences and forums.

For more information, visit our Web site at [www.eei.org](http://www.eei.org).



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# FEDERAL RESERVE press release



For release at 2 p.m. EDT

November 1, 2017

Information received since the Federal Open Market Committee met in September indicates that the labor market has continued to strengthen and that economic activity has been rising at a solid rate despite hurricane-related disruptions. Although the hurricanes caused a drop in payroll employment in September, the unemployment rate declined further. Household spending has been expanding at a moderate rate, and growth in business fixed investment has picked up in recent quarters. Gasoline prices rose in the aftermath of the hurricanes, boosting overall inflation in September; however, inflation for items other than food and energy remained soft. On a 12-month basis, both inflation measures have declined this year and are running below 2 percent. Market-based measures of inflation compensation remain low; survey-based measures of longer-term inflation expectations are little changed, on balance.

Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. Hurricane-related disruptions and rebuilding will continue to affect economic activity, employment, and inflation in the near term, but past experience suggests that the storms are unlikely to materially alter the course of the national economy over the medium term. Consequently, the Committee continues to expect that, with gradual adjustments in the stance of monetary policy, economic activity will expand at a moderate pace, and labor market conditions will strengthen somewhat further. Inflation on a 12-month basis is expected to remain somewhat below 2 percent in the near term but to stabilize around the Committee's 2 percent objective over the medium term. Near-term risks to the economic outlook appear roughly balanced, but the Committee is monitoring inflation developments closely.

(more)

- 2 -

In view of realized and expected labor market conditions and inflation, the Committee decided to maintain the target range for the federal funds rate at 1 to 1-1/4 percent. The stance of monetary policy remains accommodative, thereby supporting some further strengthening in labor market conditions and a sustained return to 2 percent inflation.

In determining the timing and size of future adjustments to the target range for the federal funds rate, the Committee will assess realized and expected economic conditions relative to its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. The Committee will carefully monitor actual and expected inflation developments relative to its symmetric inflation goal. The Committee expects that economic conditions will evolve in a manner that will warrant gradual increases in the federal funds rate; the federal funds rate is likely to remain, for some time, below levels that are expected to prevail in the longer run. However, the actual path of the federal funds rate will depend on the economic outlook as informed by incoming data.

The balance sheet normalization program initiated in October 2017 is proceeding.

Voting for the FOMC monetary policy action were: Janet L. Yellen, Chair; William C. Dudley, Vice Chairman; Lael Brainard; Charles L. Evans; Patrick Harker; Robert S. Kaplan; Neel Kashkari; Jerome H. Powell; and Randal K. Quarles.

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### **Decisions Regarding Monetary Policy Implementation**

The Federal Reserve has made the following decisions to implement the monetary policy stance announced by the Federal Open Market Committee in its statement on November 1, 2017:

- The Board of Governors of the Federal Reserve System voted unanimously to maintain the interest rate paid on required and excess reserve balances at 1.25 percent.
- As part of its policy decision, the Federal Open Market Committee voted to authorize and direct the Open Market Desk at the Federal Reserve Bank of New York, until instructed otherwise, to execute transactions in the System Open Market Account in accordance with the following domestic policy directive:

“Effective November 2, 2017, the Federal Open Market Committee directs the Desk to undertake open market operations as necessary to maintain the federal funds rate in a target range of 1 to 1-1/4 percent, including overnight reverse repurchase operations (and reverse repurchase operations with maturities of more than one day when necessary to accommodate weekend, holiday, or similar trading conventions) at an offering rate of 1.00 percent, in amounts limited only by the value of Treasury securities held outright in the System Open Market Account that are available for such operations and by a per-counterparty limit of \$30 billion per day.

The Committee directs the Desk to continue rolling over at auction the amount of principal payments from the Federal Reserve’s holdings of Treasury securities maturing during each calendar month that exceeds \$6 billion, and to continue reinvesting in agency mortgage-backed securities the amount of principal payments from the Federal Reserve’s holdings of agency debt and agency mortgage-backed securities received during each calendar month that exceeds \$4 billion. Small deviations from these amounts for operational reasons are acceptable.

The Committee also directs the Desk to engage in dollar roll and coupon swap transactions as necessary to facilitate settlement of the Federal Reserve’s agency mortgage-backed securities transactions.”

(more)

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- In a related action, the Board of Governors of the Federal Reserve System voted unanimously to approve the establishment of the primary credit rate at the existing level of 1.75 percent.

This information will be updated as appropriate to reflect decisions of the Federal Open Market Committee or the Board of Governors regarding details of the Federal Reserve's operational tools and approach used to implement monetary policy.

More information regarding open market operations and reinvestments may be found on the Federal Reserve Bank of New York's website.

# FEDERAL RESERVE press release



For release at 2 p.m. EST

December 13, 2017

Information received since the Federal Open Market Committee met in November indicates that the labor market has continued to strengthen and that economic activity has been rising at a solid rate. Averaging through hurricane-related fluctuations, job gains have been solid, and the unemployment rate declined further. Household spending has been expanding at a moderate rate, and growth in business fixed investment has picked up in recent quarters. On a 12-month basis, both overall inflation and inflation for items other than food and energy have declined this year and are running below 2 percent. Market-based measures of inflation compensation remain low; survey-based measures of longer-term inflation expectations are little changed, on balance.

Consistent with its statutory mandate, the Committee seeks to foster maximum employment and price stability. Hurricane-related disruptions and rebuilding have affected economic activity, employment, and inflation in recent months but have not materially altered the outlook for the national economy. Consequently, the Committee continues to expect that, with gradual adjustments in the stance of monetary policy, economic activity will expand at a moderate pace and labor market conditions will remain strong. Inflation on a 12-month basis is expected to remain somewhat below 2 percent in the near term but to stabilize around the Committee's 2 percent objective over the medium term. Near-term risks to the economic outlook appear roughly balanced, but the Committee is monitoring inflation developments closely.

In view of realized and expected labor market conditions and inflation, the Committee decided to raise the target range for the federal funds rate to 1-1/4 to 1-1/2 percent. The stance of monetary policy remains accommodative, thereby supporting strong labor market conditions and a sustained return to 2 percent inflation.

(more)

- 2 -

In determining the timing and size of future adjustments to the target range for the federal funds rate, the Committee will assess realized and expected economic conditions relative to its objectives of maximum employment and 2 percent inflation. This assessment will take into account a wide range of information, including measures of labor market conditions, indicators of inflation pressures and inflation expectations, and readings on financial and international developments. The Committee will carefully monitor actual and expected inflation developments relative to its symmetric inflation goal. The Committee expects that economic conditions will evolve in a manner that will warrant gradual increases in the federal funds rate; the federal funds rate is likely to remain, for some time, below levels that are expected to prevail in the longer run. However, the actual path of the federal funds rate will depend on the economic outlook as informed by incoming data.

Voting for the FOMC monetary policy action were Janet L. Yellen, Chair; William C. Dudley, Vice Chairman; Lael Brainard; Patrick Harker; Robert S. Kaplan; Jerome H. Powell; and Randal K. Quarles. Voting against the action were Charles L. Evans and Neel Kashkari, who preferred at this meeting to maintain the existing target range for the federal funds rate.

- 0 -

### **Decisions Regarding Monetary Policy Implementation**

The Federal Reserve has made the following decisions to implement the monetary policy stance announced by the Federal Open Market Committee in its statement on December 13, 2017:

- The Board of Governors of the Federal Reserve System voted unanimously to raise the interest rate paid on required and excess reserve balances to 1.50 percent, effective December 14, 2017.
- As part of its policy decision, the Federal Open Market Committee voted to authorize and direct the Open Market Desk at the Federal Reserve Bank of New York, until instructed otherwise, to execute transactions in the System Open Market Account in accordance with the following domestic policy directive:

“Effective December 14, 2017, the Federal Open Market Committee directs the Desk to undertake open market operations as necessary to maintain the federal funds rate in a target range of 1-1/4 to 1-1/2 percent, including overnight reverse repurchase operations (and reverse repurchase operations with maturities of more than one day when necessary to accommodate weekend, holiday, or similar trading conventions) at an offering rate of 1.25 percent, in amounts limited only by the value of Treasury securities held outright in the System Open Market Account that are available for such operations and by a per-counterparty limit of \$30 billion per day.

The Committee directs the Desk to continue rolling over at auction the amount of principal payments from the Federal Reserve’s holdings of Treasury securities maturing during December that exceeds \$6 billion, and to continue reinvesting in agency mortgage-backed securities the amount of principal payments from the Federal Reserve’s holdings of agency debt and agency mortgage-backed securities received during December that exceeds \$4 billion. Effective in January, the Committee directs the Desk to roll over at auction the amount of principal payments from the Federal Reserve’s holdings of Treasury securities maturing during each calendar month that exceeds \$12 billion, and to reinvest in agency mortgage-backed securities the amount of principal payments from the Federal Reserve’s holdings of agency debt and agency mortgage-backed securities received during each calendar month that exceeds \$8 billion. Small deviations from these amounts for operational reasons are acceptable.

(more)



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The Committee also directs the Desk to engage in dollar roll and coupon swap transactions as necessary to facilitate settlement of the Federal Reserve's agency mortgage-backed securities transactions.”

- In a related action, the Board of Governors of the Federal Reserve System voted unanimously to approve a 1/4 percentage point increase in the primary credit rate to 2.00 percent, effective December 14, 2017. In taking this action, the Board approved requests to establish that rate submitted by the Boards of Directors of the Federal Reserve Banks of Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Kansas City, Dallas, and San Francisco.

This information will be updated as appropriate to reflect decisions of the Federal Open Market Committee or the Board of Governors regarding details of the Federal Reserve's operational tools and approach used to implement monetary policy.

More information regarding open market operations and reinvestments may be found on the Federal Reserve Bank of New York's website.

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**DATA UPDATES**

Yields & Spreads: US Treasury and Corporate Snapshot

20 Dec 2017

Yields & Spreads: US Long Term Corporates

20 Dec 2017

Yields & spreads: US long-term corporates

20 Dec 2017

Yields & Spreads: US Intermediate Term Corporates (Medians)

19 Dec 2017

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**THOUGHT OF THE DAY**

The bond market worries that tax reform may bring the Phillips Curve monster back to life.

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**COMMENTARY**
**Inflation Expectations Are Critical to the Pricing of Corporate Securities**

The recent drop by equity prices and increase by Treasury bond yields suggest markets may be fretting over both a wider federal budget deficit and faster price inflation.

20 Dec 2017

**Economic Roundup: U.S. Housing Market Data Continue to Impress**

Existing-home sales rose 5.6% in November to 5.81 million annualized units.

20 Dec 2017

**Housing-Related Share Prices Plunge 1.2% Despite 10-Year High for Single-Family Starts**

The PHLX index of housing-sector share prices remains higher by 42.7% since year-end 2016.

19 Dec 2017

**Economic Roundup: Housing Starts Beat Expectations**

Starts increased 3.3% over the month to 1.297 million annualized units in November.

19 Dec 2017

**Economic Roundup: Strengthening in U.S. Housing Market Is on the Horizon**

The NAHB housing market index rose from 69 in November to 74 in December.

18 Dec 2017

[More »](#)

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**DAILY BOND YIELDS**

Moody's Daily Long-term Corporate Bond Yield Averages for 19-Dec-17

Utilities **3.90**

Industrial **3.85**

Corporate **3.88**

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**CAPITAL MARKETS RESEARCH**

Sovereign & Supranational: Peru's Sovereign Credit Risk Rises on Its President's Troubles à€" Stay Tuned

Sovereign & Supranational: EDFs for Greece and Spain Lowest in Years

Cross-Sector: Market Data Highlights

Dangers Lurk Amid 2018's Positive Outlook (Capital Markets Research)

Cross-Sector: Market Data Highlights

[More »](#)

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**READER'S CHOICE**

Forecasts of a Lower Default Rate Assume Profits Growth and a Peaking of Leverage

Nonfinancial-Corporate Leverage Still Trending Higher

Economic Roundup: Implications of GOP Tax Plans Show Up in the Data

Fed's Shedding of Treasury Notes and Bonds Does Not Assure Higher Yields

Economic Roundup: Something Is Still Missing in the Labor Market Puzzle

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**EVENTS**

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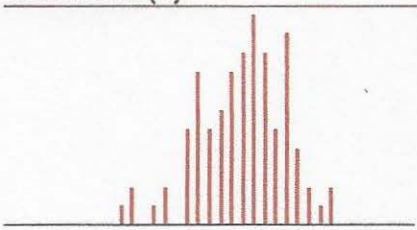
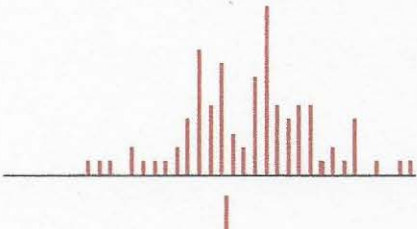
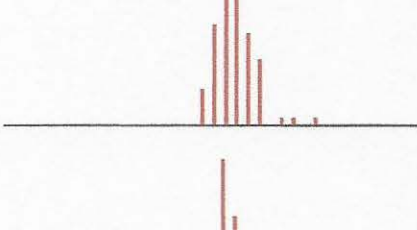
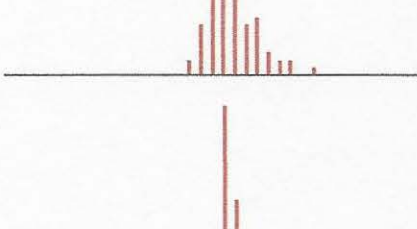
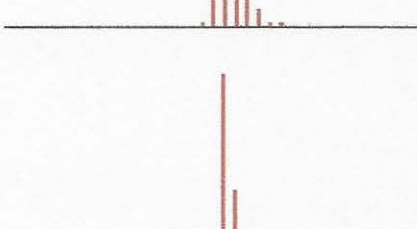
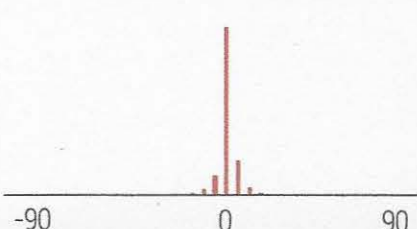

**2017** SBBI Yearbook  
Stocks, Bonds, Bills, and Inflation

U.S. Capital Markets Performance by Asset Class 1926–2016

Duff & Phelps

**WILEY**

**Exhibit 2.3:** Basic Series, Summary Statistics of Annual Total Returns (%)  
1926–2016

Series	Geometric Mean (%)	Arithmetic Mean (%)	Standard Deviation (%)	Distribution (%)
Large-Cap Stocks	10.0	12.0	19.9	
Small-Cap Stocks*	12.1	16.6	31.9	
Long-term Corp Bonds	6.0	6.3	8.4	
Long-term Gov't Bonds	5.5	6.0	9.9	
Inter-term Gov't Bonds	5.1	5.3	5.6	
U.S. Treasury Bills	3.4	3.4	3.1	
Inflation	2.9	3.0	4.1	

\*The 1933 small-cap stocks total return was 142.9%, and is not shown here.

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## Basic Series Summary Statistics

Exhibit 6.9 presents summary statistics of annual total return, and where applicable, income and capital appreciation, for each asset class. The summary statistics presented here are arithmetic mean, geometric mean, standard deviation, and serial correlation. Exhibit 6.10 presents summary statistics for the six inflation-adjusted total return series.

**Exhibit 6.9:** Total Returns, Income Returns, and Capital Appreciation Returns of the SBBI Asset Classes Summary Statistics of Annual Returns (%) 1926–2016

	<u>Geometric Mean (%)</u>	<u>Arithmetic Mean (%)</u>	<u>Standard Deviation (%)</u>	<u>Serial Correlation</u>
<b>Large-Cap Stocks</b>				
Total Return	10.0	12.0	19.9	0.02
Income	4.0	4.0	1.6	0.91
Capital Appreciation	5.8	7.7	19.2	0.01
<b>Small-Cap Stocks (TR)</b>	12.1	16.6	31.9	0.06
<b>Long-term Corp Bonds (TR)</b>	6.0	6.3	8.4	0.04
<b>Long-term Gov't Bonds</b>				
Total Return	5.5	6.0	9.9	-0.15
Income	5.0	5.0	2.6	0.96
Capital Appreciation	0.3	0.7	8.9	-0.26
<b>Inter-term Gov't Bonds</b>				
Total Return	5.1	5.3	5.6	0.14
Income	4.4	4.4	2.9	0.96
Capital Appreciation	0.6	0.7	4.5	-0.17
<b>U.S. Treasury Bills (TR)</b>	3.4	3.4	3.1	0.92
<b>Inflation</b>	2.9	3.0	4.1	0.64

Exhibit 6.9 shows that over 1926–2016 small-cap stocks were the riskiest asset class with a standard deviation of 31.9%, but provided the greatest rewards to long-term investors, with an arithmetic mean annual return of 16.6%. The geometric mean of the small-cap series is 12.1%. Large-cap stocks, long-term government bonds, long-term corporate bonds, and intermediate-term government bonds are progressively less risky, and have lower average returns. Treasury bills were nearly riskless and had the lowest return. In general, risk is rewarded by a higher return over the long term.

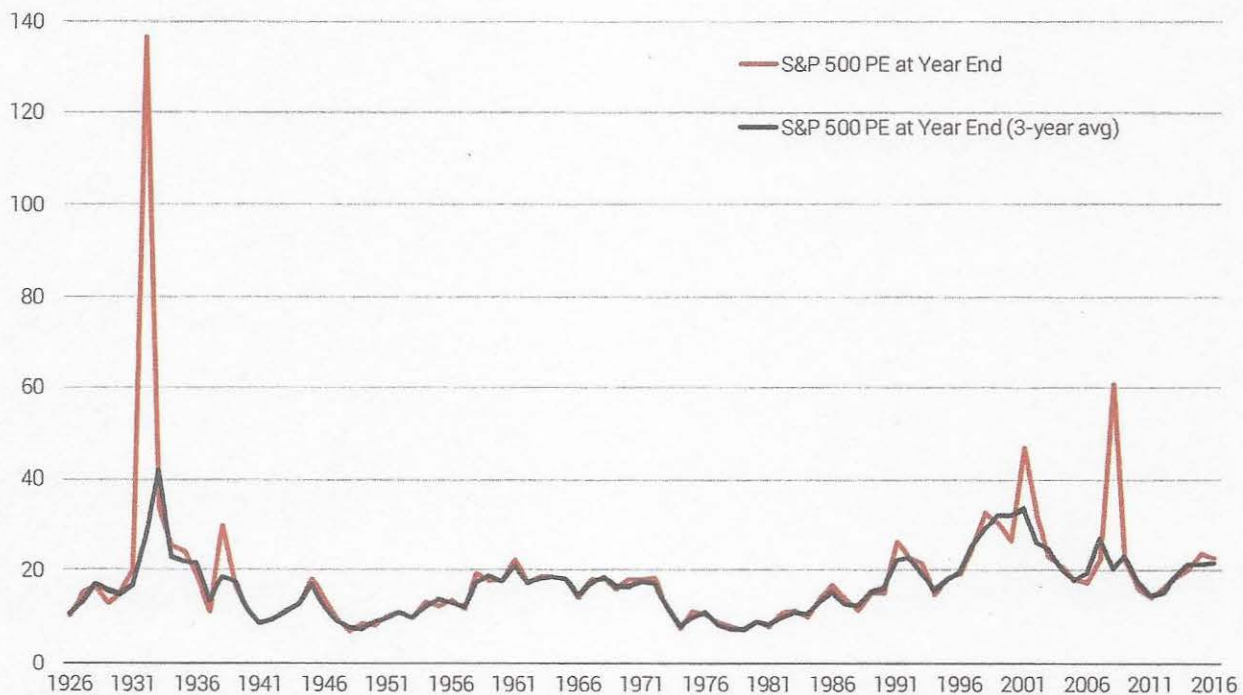


## Forward-Looking Earnings Model

Ibbotson and Chen forecast the equity risk premium through a supply-side model using historical data. They used an earnings model as the basis for their supply-side estimate. The earnings model breaks the historical equity return into four pieces, with only three historically being supplied by companies: inflation, income return, and growth in real earnings per share. The growth in the P/E ratio, the fourth piece, is a reflection of investors' changing prediction of future earnings growth. The past supply of corporate growth is forecasted to continue; however, a change in investors' predictions is not. P/E rose dramatically from 1980 through 2001 because people believed that corporate earnings were going to grow faster in the future. This growth in P/E drove a small portion of the rise in equity returns over the same period.

Exhibit 10.14 illustrates the price-to-earnings ratio from 1926 to 2016. The P/E ratio, using one year average earnings, was 10.23 at the beginning of 1926 and ended the year 2016 at 22.56, an average increase of 0.87% per year. The highest P/E was 136.69 recorded in 1932, while the lowest was 7.08 recorded in 1948. Ibbotson Associates revised the calculation of the P/E ratio from a one-year to a three-year average earnings for use in equity forecasting.

**Exhibit 10.14:** Large-cap Stocks P/E Ratio  
1926–2016



This is because reported earnings are affected not only by the long-term productivity, but also by one-time items that do not necessarily have the same consistent impact year after year. The three year average is more reflective of the long-term trend than the year-by-year numbers. The P/E ratio calculated using the three-year average of earnings had an increase of 0.79% per year.

The historical P/E growth factor, using three-year earnings, of 0.79% per year is subtracted from the equity forecast because it is not believed that P/E will continue to increase in the future. The market serves as the cue. The current P/E ratio is the market's best guess for the future of corporate earnings and there is no reason to believe, at this time, that the market will change its mind. Using this top-down approach, the geometric supply-side equity risk premium is 3.99%, which equates to an arithmetic supply-side equity risk premium of 5.97%.

Another approach in calculating the premium would be to add up the components that constitute the supply of equity return, excluding the P/E component. Thus, the supply of equity return only includes inflation, the growth in real earnings per share, and income return. This forward-looking earnings model calculates the long-term supply of U.S. equity returns to be 9.21%:

---


$$SR = [(1 + CPI) \times (1 + g_{REPS}) - Inc + Rinv]$$

$$9.21\%* = [(1 + 2.90\%) \times (1 + 2.05\%) - 1] + 3.98\% + 0.21\%$$

\* difference due to rounding

---

Where:

- SR* = The supply of the equity return
- CPI* = Consumer Price Index (inflation)
- g<sub>REPS</sub>* = The growth in real earning per share
- Inc* = The income return
- Rinv* = The reinvestment return

The equity risk premium, based on the supply-side earnings model, is calculated to be 3.99% on a geometric basis:

---


$$SERP = \frac{(1 + SR)}{(1 + CPI) \times (1 + RRf)} - 1$$

$$3.99\%* = \frac{1 + 9.21\%}{(1 + 2.90\%) \times (1 + 2.03\%)} - 1$$

\* difference due to rounding

---

Where:

- SERP* = The supply-side equity risk premium
- SR* = The supply of the equity return
- CPI* = Consumer Price Index (inflation)
- RRf* = The real risk-free rate



Converting the geometric average into an arithmetic average results in an equity risk premium of 5.97%.<sup>10.10</sup>

---

$$R_A = R_G + \frac{\sigma^2}{2}$$

$$5.97\%^* = 3.99\% + \frac{19.88\%^2}{2}$$

\* difference due to rounding

---

Where:

- $R_A$  = The arithmetic average
- $R_G$  = The geometric average
- $\sigma$  = The standard deviation of equity returns

Exhibit 10.15 presents the supply-side equity risk premium, on an arithmetic basis, beginning in 1926 and ending in each of the years from 2003 through 2016.<sup>10.11</sup>

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<sup>10.10</sup> The 1926–2016 supply-side equity risk premia estimate (5.97%) is calculated by Duff & Phelps for the *2017 SBI Yearbook* using (i) the same methodologies and (ii) the same data sources as were used in previous editions of this book.

<sup>10.11</sup> In last year's *2016 SBI Yearbook*, Exhibit 10.15 included supply-side ERP estimates for the most recent 25 years, estimated using refreshed data inputs over the entire 1926–2015 time horizon. Starting with the *2017 SBI Yearbook* (this book), this exhibit will only include the years for which supply-side ERP values were actually published in a hardcover book (instead of the most recent 25 years). As such, this exhibit will be made to match (i) the "as published" supply-side ERP values from the *2004–2013 SBI Valuation Yearbooks* (see "Appendix C-1" in those books), and (ii) the "as published" values from the 2014 (and subsequent years) *Valuation Handbook – U.S. Guide to Cost of Capital* (see "Appendix 3" in those books).

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen, Rick Baudino & Glenn Watkins

QUESTION No. 9

Page 1 of 1

Please provide copies of any and all presentations made by Messrs. Watkins, Kollen or Baudino within the last three years involving or relating to the following: 1) utility rate-making; 2) rate of return; 3) rider cost recovery; 4) depreciation; 5) taxes; 6) vegetation management; 7) costs of participating in PJM, including Regional Transmission Expansion Plan (RTEP) expenses; 8) utility generation outage maintenance expenses; and 9) sharing of off-system sales revenues between utilities and customers.

RESPONSE:

For Mr. Kollen, refer to his expert testimonies addressing the referenced subject matters. These testimonies are publicly available in the various state and federal commission websites.

With regard to Mr. Watkins, he has not made any presentations other than testimony before regulatory commissions.

Mr. Baudino has not made any presentations other than the testimony he provided before regulatory commissions as listed in his Exhibit No. \_\_\_(RAB-1).

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates; 2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities; And 5) All Other Required Approvals And Relief

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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Glenn A. Watkins

QUESTION No. 10

Page 1 of 1

AG witness Watkins states on page 27 lines 26 through 28 of his testimony that the proposed Rate RS customer charge increase "...violates the regulatory principle of gradualism, violates the economic theory of efficient competitive pricing, and is contrary to effective conservation efforts." Please answer the following questions.

- (a) Please define the regulatory principle of gradualism and, more specifically, in terms of how the Commission has applied it to utility rate design.
- (b) Is witness Watkins aware of any Commission position or orders that address the concept of gradualism in a utility's residential tariff schedule? If yes, please provide a copy of the documents.
- (c) Is witness Watkins aware of any Commission position or orders that address the concept of gradualism specifically for a single component, i.e. Customer Charge, of a utility's residential tariff schedule? If yes, please provide a copy of the documents.
- (d) Is witness Watkins aware of any Commission position or orders that accept or approve his economic theory of efficient competitive pricing as described in his testimony on pages 27 through 34 for use in the design of a residential tariff schedule? If yes, please provide a copy of the documents.
- (e) Is Mr. Watkins aware of any Commission position or orders concluding that Company's residential rate schedule is effective or ineffective for conservation purposes? If yes, please provide a copy of and a reference to the documents.

RESPONSE:

- (a) Merriam – Webster defines gradualism as "the policy of approaching a desired end by gradual stages." The same concept applies to regulatory principles. Mr. Watkins has not conducted a review of the Commission's application of gradualism over the years.
- (b) See response to (a).
- (c) See response to (a).
- (d) See response to (a).
- (e) See response to (a).

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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Glenn A. Watkins

QUESTION No. 11

Page 1 of 1

Does Mr. Watkins believe that Company's proposed Rate RS is a Straight Fixed  
Variable rate design?

RESPONSE:

No.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Glenn A. Watkins

QUESTION No. 12

Page 1 of 1

Mr. Watkins states on page 30 lines 6 through 9 that “Fair and equitable pricing of a regulated monopoly’s products and services should reflect the benefits received for the goods and services. In this regard, it is generally agreed in our society, and economic system, that those who receive more benefits should pay more in total than those who receive fewer benefits.” Please provide the basis for the statement, “... it is generally agreed in our society, and economic system, that those who receive more benefits should pay more in total than those who receive fewer benefits.”

RESPONSE:

This statement is common knowledge and requires no further explanation.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Glenn A. Watkins

QUESTION No. 13

Page 1 of 1

Mr. Watkins states on page 35 lines 4 through 6 that "...if an additional customer is added to the distribution system, the Company will not incur additional pole or conductor investment costs in order to serve this new customer." Please provide the basis and any empirical evidence for the statement.

RESPONSE:

See Mr. Watkins' testimony, page 35, lines 1 through 4. In this regard, Mr. Watkins is referring to a typical residential customer.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Glenn A. Watkins

QUESTION No. 14

Page 1 of 1

Has Mr. Watkins performed any study or analysis comparing Duke Energy Kentucky's current and/or proposed electric residential customer charge to that of other electric utilities regulated by the Commission?

(a) If the answer is in the affirmative, please provide such studies.

RESPONSE:

No. However, and consistent with utility ratemaking in the State of Kentucky, Duke Energy's rates should be based on their specific costs of providing service. In this regard, Duke's residential customer costs are calculated to be less than \$4.00 per month, therefore, a comparison of other utilities cost structures is irrelevant for ratemaking purposes.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Counsel as to objection

QUESTION No. 15

Page 1 of 1

Within the last three years, has the Kentucky Attorney General's office performed any study or analysis comparing Duke Energy Kentucky's current and/or proposed electric residential customer charge to that of other electric utilities regulated by the Commission?

(a) If the answer is in the affirmative, please provide such studies.

RESPONSE:

Objection. This question seeks information that is covered by the Attorney-Client and/or work product privileges. This request did not seek information from any of the three (3) witnesses the Attorney General's office provided for the purpose of providing pre-filed direct testimony. No employee of the Attorney General's office, nor the Attorney General himself provided direct testimony in this matter. Furthermore, the Attorney General, and the employees in his office that have made an appearance in this matter are all attorneys, and as such, it would be improper for them to provide testimony, data request responses, or take the stand for cross-examination in their capacity as an attorney. The Company has already requested similar information from a witness for the Attorney General's office in Question number 14. Additionally, nothing precludes the Company from reviewing the dockets of the public cases the Attorney General has participated and offered exhibits in for the last three years.



Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Glenn A. Watkins/Counsel as to objection

QUESTION No. 16

Page 1 of 1

Has Mr. Watkins or the Kentucky AG performed any study or analysis comparing Duke Energy Kentucky's current and/or proposed electric residential customer charge to that of other electric utilities in the country. If the answer is in the affirmative, please provide such studies.

RESPONSE:

Insofar as the question requests information from the Kentucky Attorney Generals office, the response is: Objection. This question seeks information that is covered by the Attorney-Client and/or work product privileges. This request did not seek information from any of the three (3) witnesses the Attorney General's office provided for the purpose of providing pre-filed direct testimony. No employee of the Attorney General's office, nor the Attorney General himself provided direct testimony in this matter. Furthermore, the Attorney General, and the employees in his office that have made an appearance in this matter are all attorneys, and as such, it would be improper for them to provide testimony, data request responses, or take the stand for cross-examination in their capacity as an attorney. Additionally, nothing precludes the Company from reviewing the dockets of the public cases the Attorney General has participated and offered exhibits in for the last three years.

Mr. Watkins has not.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Glenn A. Watkins

QUESTION No. 17

Page 1 of 1

Refer to Mr. Watkins' testimony on page 26 through 27 discussing the revenue increase to rates EH, GSFL, the Lighting class and DT-Primary. Is it Mr. Watkins' position that those classes should receive a greater percentage increase to offset the increase proposed to Rate RS?

- (a) If the answer is in the affirmative, what is Mr. Watkins' recommendation?
- (b) Has Mr. Watkins performed his own cost of service study or classification of costs to support his position that a greater percentage of costs should be assigned to Rates EH, GSFL, Lighting and DT-Primary.

RESPONSE:

No.

- (a) See above.
- (b) See above.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Glenn A. Watkins

QUESTION No. 18

Page 1 of 1

Is Mr. Watkins aware of the Kentucky Public Service Commission ever approving the direct customer cost analysis methodology discussed on pages 33 through 34 of his testimony? If the answer is in the affirmative, please provide citations to such orders.

RESPONSE:

Mr. Watkins has not conducted a review of prior Commission Orders regarding the development of customer charges.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Glenn A. Watkins

QUESTION No. 19

Page 1 of 1

Is Mr. Watkins aware of the Kentucky Public Service Commission ever excluding all costs associated with conductors and poles from the fixed costs included in a customer charge calculation. If the answer is in the affirmative, please provide citations to commission orders excluding all such costs.

RESPONSE:

See response to Question No. 18.

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New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Glenn A. Watkins

QUESTION No. 20

Page 1 of 1

Has Mr. Watkins reviewed the customer a charge for any of the Company's other tariffs to see if they comport with his customer connection methodology for rate design?

RESPONSE:

No.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates; 2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities; And 5) All Other Required Approvals And Relief

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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Glenn A. Watkins

QUESTION No. 21

Page 1 of 1

On page 37, line 30-32, Mr. Watkins in describing the Company's proposed Fixed Bill program, states, "This program merely provides windfall profits to Duke with no realistic benefit to consumers. Please provide the basis for this statement, including all analysis performed to determine the Company's profits from the program offering, as well as any customer research or analysis performed to determine the benefit consumers would realize from participating in the Company's proposed fixed bill program?"

RESPONSE:

See Mr. Watkins' testimony, page 37, lines 1 through 3. As a result of the proposed premium, the Company will collect revenues over and above current authorized residential rates. The traditional rates approved in this case would be designed to recover the Company's total cost of providing service such that the revenue collected from the proposed "premium" would be over and above the Company's cost of service.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Glenn A. Watkins

QUESTION No. 22

Page 1 of 1

On page 39, line 7-9, Mr. Watkins states, "However, in my opinion, the most important point to remember is that the proposed Fixed Bill program will provide incentives for customers to use more electricity, at least on a short term basis during peak periods." Please provide all analysis and data used by Witness Watkins to support his opinion?

RESPONSE:

No other analyses were performed. No analyses or data were required for this statement, rather, this is a statement of fact based on basic consumer behavior.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Glenn A. Watkins

QUESTION No. 23

Page 1 of 1

On page 39, line 14-16, Mr. Watkins states, "The estimation of expected consumption is extremely discretionary on the part of Duke, as is the discretionary aspect of the profit "adder" allowed by the Commission." Please provide the basis or rationale for Mr. Watkins' belief that the calculation of expected consumption will be at the discretion of the Company?

RESPONSE:

This statement is based on Mr. Watkins' understanding of the Company's proposal that provides no specifics as to how expected consumption will be determined or subject to review by the customer, Commission, or Attorney General.



Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 24

Page 1 of 1

Does witness Kollen agree with the proposed allocation of the impacts of the change in the tax law as proposed by Kroger witness Bieber?

(a) If the response is in the negative, please explain why Mr. Kollen does not agree.

RESPONSE:

Mr. Kollen does not have an opinion on the cost allocation recommendations provided by Kroger witness Bieber.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 25

Page 1 of 1

Please indicate the extent to which Mr. Kollen has participated in any fuel adjustment cases for Duke Energy Kentucky since 2007.

RESPONSE:

Refer to Mr. Kollen's Exhibit\_\_(LK-1).

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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 26

Page 1 of 1

Please describe the extent to which Mr. Kollen has reviewed any cases, filings, or other material involving Duke Energy Kentucky's profit sharing mechanism (Rider PSM).

- (a) To the extent Mr. Kollen has reviewed any filings or cases, provide the citations to such documents reviewed.

RESPONSE:

Mr. Kollen reviewed the Company's testimony and exhibits, including proposed tariff changes, in this proceeding, as well as prior Commission Orders in Case Nos. 2003-00152 and 2014-00201.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 27

Page 1 of 1

Please explain the extent to which Mr. Kollen has participated in any case involving Duke Energy Kentucky since 2007.

RESPONSE:

Refer to Mr. Kollen's Exhibit\_\_(LK-1).

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 28

Page 1 of 1

Please identify any and all prior Commission cases involving Duke Energy Kentucky's electric business that Mr. Kollen has reviewed as part of drafting his direct testimony in Case No 2017-00321.

RESPONSE:

To the best of Mr. Kollen's recollection, he reviewed the Commission Orders in Case Nos. 2003-00252, 2006-00172, 2014-00201, 2015-00120, 2015-00187, and 2016-00152.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 29

Page 1 of 1

What is Mr. Kollen's understanding of what PJM Make Whole payments are for?

RESPONSE:

Mr. Kollen's understanding is based on the PJM Manual 18: PJM Capacity Market Section 15, which is replicated as follows:

### **5.7.3 Resource Make-Whole Payments in the Base Residual Auction**

A resource provider that offered and cleared fewer MWs than the minimum MW specification in the Base Residual Auction would receive a Resource Make-whole payment. The Resource Make-whole Payment is equal to the product of the Capacity Resource Clearing Price and the quantity difference between the sell offer's minimum MW specification and the cleared MW quantity in the Base Residual Auction. Effective with the 2020/2021 Delivery Year, a resource provider that offered and cleared a Seasonal Capacity Performance sell offer for which the sell offer price exceeded the clearing price determined for such resource as a result of the seasonal matching process in the postprocessing of the auction results as described in Section 5.7.2 will receive a Resource Make-whole Payment. The Resource Make-whole Payment is equal to the difference between the sell offer price and clearing price for such resource determined as a result of the seasonal matching process, multiplied by the cleared MW quantity.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 30

Page 1 of 1

Is it Mr. Kollen's contention that Make Whole Payments received by Duke Energy Kentucky from PJM are anything more than to compensate the company in instances when revenues received by the Company to run generation assets at PJM's request aren't greater than the units costs to run?

(a) If the response is in the affirmative, please explain.

RESPONSE:

Refer to the response to question 29.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 31

Page 1 of 1

Does Mr. Kollen agree that if the Company were to include PJM Make Whole Revenues in its forecasted test period, that it would be necessary to include a corresponding amount of expenses?

- (a) If yes, please provide the amount of expense that the company should include in its forecasted test period.
- (b) If no, please explain why it would not be appropriate to include the additional expense necessary for the generation station to run which enables the Make Whole Payment.

RESPONSE:

No. Mr. Kollen believes that the fixed expenses for all the Company's capacity resources are included in the base revenue requirement.



Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 32

Page 1 of 1

Does Mr. Kollen agree that Duke Energy Kentucky does not have control over and cannot predict whether or not its generation will be dispatched by PJM in market pricing situations that create the need for the receipt of Make Whole Payments from PJM?

RESPONSE:

Yes, generally, assuming that the resource has been offered into the PJM market.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 33

Page 1 of 1

Does Mr. Kollen agree that currently Duke Energy Kentucky allocates Make Whole Revenues and expenses to native customers for inclusion in its FAC and to non-native customers to be netted against costs through the Company's Profit Sharing Mechanism (Rider PSM) since 2007, the inception of Duke Energy Kentucky's FAC and PSM respectively?

RESPONSE:

Yes. Mr. Kollen was not aware of this when he drafted his testimony. As such, he no longer supports this adjustment.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of  
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And 5) All Other Required Approvals And Relief

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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 34

Page 1 of 1

Does Mr. Kollen agree that in Duke Energy Kentucky witness John Swez's direct testimony and attachments, the Company is proposing to continue including the actual costs and revenues associated with PJM Make Whole payments through either the FAC, if native, or PSM, if non-native?

(a) If the response is in the negative, please explain.

RESPONSE:

Yes.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 35

Page 1 of 1

Is Mr. Kollen aware of any prior Commission orders that address the Company's treatment of charges and credits related to ancillary services?

RESPONSE:

Yes.

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 36

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Does Mr. Kollen agree that the Company currently nets all PJM ancillary service market revenues and expenses, including, but not limited to Reactive Revenues, and Scheduling & Dispatch Revenues and the corresponding expenses, through its Rider PSM, as was approved in Case No. 2008-489.

- (a) Does Mr. Kollen agree that in this case, the Company is proposing to continue a netting of all ancillary service market revenues and expenses as between the FAC and Rider PSM as it relates to applicable native/non-native and fuel/non-fuel related components of these revenues and expenses?
- (b) If Mr. Kollen does not agree, please explain the basis for his position.

RESPONSE:

Yes. Mr. Kollen was not aware of this when he drafted his testimony. As such, he no longer supports this adjustment.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 37

Page 1 of 1

Referring to Mr. Kollen's testimony on pages 7-8 regarding an adjustment to the Company's Test Year base revenue requirement to include 2017 Scheduling & Dispatch Revenues and PJM Reactive Revenues, does Mr. Kollen agree that, per the terms of PJM's Open Access Transmission Tariff, these items are considered "ancillary services"?

RESPONSE:

Yes.

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New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 38

Page 1 of 1

Please explain why Mr. Kollen is proposing to reduce the Company's test year revenue requirement for revenue it receives for ancillary services (Scheduling and Dispatch, and Reactive Power in this case) but neglected to make any corresponding adjustment to the Company's revenue requirement for costs related to Scheduling and Dispatch and Reactive Power that it is billed by PJM.

RESPONSE:

Refer to the response to question 36.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 39

Page 1 of 1

Please cite the case numbers supporting the statement that “The Commission historically has included off-system sales margins in the base revenue requirement and contemporaneously reset the PSM or other sharing mechanism to \$0.”

RESPONSE:

Mr. Kollen relied on his experience in Kentucky Power Company, Kentucky Utilities Company, and Louisville Gas & Electric Company base rate proceedings where this has been the Commission's historic practice.



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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 40

Page 1 of 1

To Mr. Kollen's knowledge, has Duke Energy Kentucky ever included a "base" amount of off-system sales in its base rates?

- (a) If the answer is in the affirmative, please provide citations for such cases.

RESPONSE:

Mr. Kollen does not believe there was an amount included in the base revenue requirement set in Case No. 2006-00172 based on the lack of any subtraction for such a base amount in the present PSM rider tariff.

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 41

Page 1 of 1

On page 11, lines 6 and 7, of Mr. Kollen's testimony, he calculates an 'annualized' amount for the Company's 2017 outage costs based on the information provided in response to AG-DR-011(a). Please explain how Mr. Kollen derived a figure of \$1.788 million using information provided (i.e. January through September 2017 of \$1.4425 million in the response).

RESPONSE:

Refer to the Company's Revised Attachment to the referenced data response filed by the Company on November 20, 2017 which includes actual data through October 2017 of \$1.490 million. That number annualized equals \$1.788 million.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 42

Page 1 of 1

Please confirm that Mr. Kollen is recommending that the Commission find that Duke Energy Kentucky should not plan to dismantle or decommission any of its generation assets at any point in the future, even after retirement.

RESPONSE:

Mr. Kollen recommends that the Commission not assume that the Company will dismantle its retired power plants at this time, but rather assume that they will be retired in place. Mr. Kollen recommends that any recovery of dismantling and/or site remediation costs be subject to a subsequent filing and review of alternatives available at or near retirement (ranging from retirement in place to dismantlement and site remediation for industrial (brownfield) use) and the related costs of the alternatives, and the Commission's approval of an alternative and the related cost.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 43

Page 1 of 1

Please confirm that Mr. Kollen is recommending that the Commission find the Duke Energy Kentucky should not perform any site restoration whatsoever to its generating stations once they are eventually retired.

- (a) If the response is in the affirmative, please cite to any state or federal environmental law that would support such a position.

RESPONSE:

Refer to the response to question 42.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of  
New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 44

Page 1 of 1

Please identify any and all Orders by the Kentucky Public Service Commission that support Mr. Kollen's position that the default position for decommissioning of a generating station is retirement in place with no demolition whatsoever.

RESPONSE:

In Mr. Kollen's experience, the Commission historically did not include terminal net salvage in production plant depreciation rates. Mr. Kollen has not reviewed specific Orders that adjudicated this issue or addressed the Commission's rationale.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 45

Page 1 of 1

Referring to Kollen Page 39, Line 15 through Page 40, Line 1 – please provide all calculations, work papers, etc. that demonstrate that dismantlement and site restoration is often not the economic alternative when compared to “retirement in place.”

RESPONSE:

This statement is based on Mr. Kollen's experience. Mr. Kollen did not perform calculations in this proceeding responsive to the question. Refer to the response to question 42.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 46

Page 1 of 1

Please provide a list of generating plants that Mr. Kollen is aware have been retired in place and never have to be demolished and sites restored.

RESPONSE:

That is not Mr. Kollen's testimony. Refer to the response to question 42.

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 47

Page 1 of 1

Refer to pages 10 through 12 and 16 through 17 of Mr. Kollen's testimony, please explain why Mr. Kollen used a three year historical average for the AG's proposed replacement power adjustment but used a 7 year average (4 years historical and 3 years forecast) for the AG's proposed planned outage O&M adjustment.

RESPONSE:

Mr. Kollen used the most recent historic information for replacement power expense, which varies based on the performance of the Company's generating units and market prices. Mr. Kollen used the longer period for the planned outage expense because he started with the Company's proposed six years of historic information, which included forecast expense for 2017 and 2018. He added the Company's forecast expense for 2019 to ensure that the average included the test year.



Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 48

Page 1 of 1

Refer to pages 14 and 15 of Mr. Kollen's testimony where he discusses his adjustment for vegetation management expense, please confirm that his adjustment does not take into account the vegetation management bid estimates provided in response to AG-DR-02-001.

RESPONSE:

Confirmed.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 49

Page 1 of 1

On Page 15 of his testimony, Mr. Kollen references actual vegetation management costs for 2012 through 2016 as his basis for comparing the Company's proposed test year vegetation management expense. Please explain why Mr. Kollen believes it is appropriate to use five years of historical data for calculating an average cost for vegetation management expense, but uses only three years (out of the five that were available and provided by the Company) when computing a recommended average historical expense for replacement power on page 11 of his testimony.

RESPONSE:

Mr. Kollen used the five years for vegetation management expense because it is not as volatile as the replacement power expense. Refer to the response to question 47.

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 50

Page 1 of 1

Is Mr. Kollen aware that the Commission requires the Company to have a vegetation management plan that includes, among other things, a right of way clearing cycle, maintenance requirements, and annual reporting on the progress of such plan?

RESPONSE:

Mr. Kollen is not aware of any such requirement.

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 51

Page 1 of 1

Is Mr. Kollen aware that the work for the Company's vegetation management is primarily done through contract labor?

RESPONSE:

Yes.

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 52

Page 1 of 1

Describe any and all measures Mr. Kollen believes are available to a utility to 'control; costs from third party contractors doing vegetation management work?

- (a) Does Mr., Kollen believe that Duke Energy Kentucky is not performing any of the actions he lists above?
- (b) On what basis does Mr. Kollen have this belief?

RESPONSE:

The Company controls the scope and cost of the work performed by the contractor. The Company negotiates the cost and all other terms of the contract. It controls the cost through the procurement process and its management of the contractor's performance. It also controls whether it performs vegetation management with its own employees and equipment or with contractors. Mr. Kollen did not investigate the Company's actual performance, but rather relied on the actual cost that it incurred for this activity as a reasonable estimate for the forecast cost in the test year.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 53

Page 1 of 1

On page 15, line 2, of his testimony, Mr. Kollen acknowledges that the Company's forecasted vegetation management expense is "based on indicative bids issued by the Company." Does Mr. Kollen dispute the legitimacy of the 'indicative bids' for vegetation management?

RESPONSE:

Indicative bids are just that, indicative. They are not contracts. The best evidence of a reasonable forecast expense in the test year is recent actual experience, assuming no change in the scope of the work that will be performed.

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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 54

Page 1 of 1

With respect to Mr. Kollen's recommendation to average the Company's historic actual vegetation management expense from the years 2012 through 2016, does Mr. Kollen agree that the Company's contracts for vegetation management, as were provided in response to AG-DR-01-001(f) and that contained the pricing for vegetation management costs during those years have expired?

- i. If the response is in the negative, please explain why Mr. Kollen disagrees that the contracts expired.
- ii. Does Mr. Kollen dispute that the Company has experienced increases in vegetation management expense for 2017 and the forecasted test period?

RESPONSE:

Mr. Kollen does not know the present status of the contracts provided in response to AG 2-1(f). Mr. Kollen does not know what the actual vegetation management expense was for the calendar year 2017 and cannot state whether the expense increased in 2017 compared to 2016. The forecast expense remains a forecast. Mr. Kollen does not know the actual expense for the forecast test year because it has not yet been incurred.

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 55

Page 1 of 1

Has Mr. Kollen examined the Company's 2017 actual costs for vegetation management?

- (a) If the response is in the affirmative, please provide any analysis, study, or opinions regarding the costs of vegetation management in 2017.

RESPONSE:

Yes. The base period vegetation management expense was \$1.601 million, according to the Company's response to Staff 2-18, which was less than the actual expense for each year 2012 through 2016.



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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 56

Page 1 of 1

Has Mr. Kollen compared either Duke Energy Kentucky's test year vegetation management expense or his recommended adjustment to the Company's vegetation management expense to that of any other utility in the Commonwealth of Kentucky?

(a) If the response is in the affirmative, please provide such comparison.

RESPONSE:

No. In Mr. Kollen's experience, vegetation management expenses vary widely among utilities due to the size and other characteristics of the utilities' service territories as well as their approaches to vegetation management.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates; 2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities; And 5) All Other Required Approvals And Relief

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 57

Page 1 of 1

Please describe Mr. Kollen's experience with vegetation management of a utility's distribution system.

- (a) Has Mr. Kollen ever been responsible for hiring vegetation management contractors to trim a utility's distribution system?
- (b) Has Mr. Kollen ever competitively bid a vegetation management contract for a utility's distribution system?
- (c) If the response is in the affirmative, please provide the following: the name of the utility, the year(s), the results of such a bid; whether it was on a time and material basis or costs per mile; the number of distribution miles; number of circuits; location; trimmed, and the annual cost.

RESPONSE:

Mr. Kollen performed an operational and expense audit of The Toledo Edison Company's outside vegetation management contractor when he was employed by that utility. He has not been responsible for a utility's vegetation management activities or competitively bid a contract for such activities.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 58

Page 1 of 1

Referring to Mr. Kollen's testimony on page 17, lines 3-6, Mr. Kollen states that "the Commission historically has disallowed and removed all incentive compensation expense from the revenue requirement that were incurred to incentivize the achievement of shareholder goals as measured by financial performance, not incurred to incentivize the achievement of customer and safety goals." Please confirm that Mr. Kollen's proposed adjustment to incentive compensation was only intended to remove the portion of incentive compensation that related to the Company's financial performance.

RESPONSE:

Mr. Kollen's adjustment removes incentive compensation expenses from the revenue requirement that were incurred to incentivize the achievement of shareholder goals as measured by financial performance.

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 59

Page 1 of 1

Provide all information used or relied upon by Mr. Kollen to support his position stated on page 20 that having an EPS and TSR metrics as part of a short-term incentive plan leads to greater and more frequent rate increases from customers.

RESPONSE:

These are logical conclusions based on the outcomes of incentivized behavior. The frequency and amount of requested increases will increase in order to achieve the EPS and TSR outcomes, all else equal.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 60

Page 1 of 1

Provide all information supporting Mr. Kollen's position on page 20 that EPS and TSR metrics discourage employees from working diligently to ensure costs are responsibly and prudently incurred which directly benefits the customer.

RESPONSE:

Mr. Kollen did not state this position on page 20 or elsewhere in his testimony.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 61

Page 1 of 1

Provide all information supporting the implication that incentivizing employees to achieve a healthy EPS does not help reduce the cost of capital which directly benefits the customer.

RESPONSE:

Mr. Kollen did not address the effect of incentive compensation on the cost of capital, and does not agree with the premise of the question.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 62

Page 1 of 1

If the Company were to transform its compensation plans to replace the EPS and TSR metrics used in its incentive plans to solely include such metrics as safety, service quality, or call-center response, please explain if Mr. Kollen would agree that the entire cost of employees' market-competitive pay should then be borne by customers.

RESPONSE:

The hypothetical posed in the question does not provide sufficient information to respond yes or no. However, Mr. Kollen believes that any incentive compensation should be limited to the economic value received. In addition, Mr. Kollen does not believe that incentive compensation should be tied to achievement of legal requirements, including safety requirements. These are requirements and the Company has a legal obligation to comply with these requirements, the costs of which are included in the revenue requirement.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 63

Page 1 of 1

Since the compensation tied to incentive target opportunities is part of market-competitive total pay, please explain why the portion related to EPS and TSR metrics is not a prudent expense that should be recovered through customer rates.

RESPONSE:

Refer to Mr. Kollen's Direct Testimony at page 19 line 1 through page 20 line 18.



Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Counsel as to objections

QUESTION No. 64

Page 1 of 1

Provide a copy of all documents, plans, and contracts that explain and describe Mr. Kollen's current compensation structure at J. Kennedy and Associates.

- (a) As Vice President of J. Kennedy and Principal with the firm Kennedy and Associates, does Mr. Kollen receive any compensation that is tied to the performance of J. Kennedy and Associates?

RESPONSE:

Objection. These questions seek information which are not relevant to the proceeding.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of  
New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Counsel as to objection

QUESTION No. 65

Page 1 of 1

Please provide any written policies, guidelines, or documentation regarding the compensation for employees and prospective employees of J. Kennedy and Associates.

RESPONSE:

Objection. These questions seek information which are not relevant to the proceeding.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of  
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WITNESS/RESPONDENT RESPONSIBLE:

Counsel as to objection

QUESTION No. 66

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To the extent that J. Kennedy and Associates offers incentives to employees, please describe for each type of incentive plan, the extent to which the company's overall success influences the incentives paid out to its employees, partners, and executives.

RESPONSE:

Refer to the response to question 64.

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WITNESS/RESPONDENT RESPONSIBLE:

Counsel as to objection

QUESTION No. 67

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Please describe the extent to which the compensation aid to employees, partners and executives of J. Kennedy & Associates and offered to prospective employees is designed to retain and attract employees.

RESPONSE:

Refer to the response to question 64.

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WITNESS/RESPONDENT RESPONSIBLE:

Counsel as to objection

QUESTION No. 68

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Is the overall compensation paid to employees, partners, and executives of J. Kennedy & Associates in any way designed to be competitive with its peer companies?

(a) If the response is in the affirmative, please explain.

RESPONSE:

Refer to the response to question 64.

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Counsel as to objection

QUESTION No. 69

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In Mr. Kollen's opinion, do employees consider employment with J. Kennedy & Associates exclusively for the base salary offer or does he believe all of the salary and benefits making up the entire compensation package influences the decision of employees, prospective employees, partners, and executives, to work for or remain at J. Kennedy & Associates?

RESPONSE:

Refer to the response to question 64.

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 70

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Does Witness Kollen agree that in accordance with the Federal Tax legislation referenced in his testimony, that the excess accumulated deferred income tax (ADIT) balances related to property (*i.e.* protected ADITs) must be amortized over the life of the remaining assets in accordance with average rate assumption method (ARAM) normalization principles.

- (a) If Mr. Kollen does not agree that the Jobs and Tax Cuts Act requires ARAM normalization for property-related excess ADITS, please provide a detailed description of Mr. Kollen's understanding of the normalization rules related to the treatment of deferred taxes, explain the basis if this belief and provide citations to sections of the Jobs and Tax Cut Act that support such a position.
- (b) Please confirm that Mr. Kollen's proposed adjustment for excess ADITs does not distinguish between property and non-property related excess ADITS and does not take into account the ARAM normalization required for Duke Energy Kentucky's property-related ADITs.
  - iii. If the response is in the negative, please provide the amortization schedule used by Mr. Kollen to calculate the normalization of each property-related excess ADIT in electronic form with active cells intact.
  - iv. Mr. Kollen has recommended that the Company's excess ADITs be amortized over 20 years and refunded to customers. Does Mr. Kollen agree that the normalization rules would preclude amortization of excess ADITs related to property over 20 years if the remaining life of the underlying asset is longer (or shorter) than 20 years?

RESPONSE:

Yes, with respect to depreciation temporary differences.

- a. NA.

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- b. The amortization of excess ADIT is different between protected (subject to IRC normalization requirements) and unprotected (not subject to IRC normalization requirements); however, Mr. Kollen assumed that the entirety of the excess ADIT was protected in his calculations, meaning that the amortization period was longer for the unprotected excess ADIT than is required.
  - i. Refer to Mr. Kollen's electronic workpapers.
  - ii. The Tax Cuts and Jobs Act requires the use of ARAM for protected excess ADIT. This would preclude the use of a shorter life if the remaining lives of the underlying assets are less than 20 years.



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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 71

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Regarding Mr. Kollen's recommendation related to AMI savings discussed on pages 21 through 23 of his testimony,

- (a) Confirm that Mr. Kollen's calculation is based on the same savings estimates included in AG-DR-02-035(c)?
- (b) If the answer to (a) is in the affirmative, does Mr. Kollen Agree that the information provided in response to AG-DR-02-035(c) was based upon the Commission's request that the Company assume a test year of 2019 for its next base electric rate case?
- (c) Please explain whether and how Mr. Kollen accounted for the difference in the timing of the rate case assumed in AG-DR-02-03(c) and the timing that is the basis for this instant proceeding, including the delayed AMI deployment as a result of the timing of the Commission's approval of Case No. 2016-00152?

RESPONSE:

- (a) Yes, the calculation is based on the same savings estimates included in Duke Energy's confidential response to AG-DR-02-035(c).
- (b) Yes, Mr. Kollen understands that Duke Energy provided a new version of Confidential Exhibit DLS-4 in response to the Commission's post-hearing data request in 2016-00152. It appears that Duke Energy took the opportunity presented by the post-hearing data request response to present the benefit in a 5 year period, instead of 16, even though the chart provided in the post-hearing data request response was for the entire 16 year period. However, Mr. Kollen notes that the version of Confidential Exhibit DLS-4 on which the Settlement Agreement between Duke Energy and the AG was based used a 16-year benefit period. The Settlement Agreement the Commission approved was based on a 16-year benefit period and is dated December 6, 2016, while the post-hearing data request response (5-year benefit period) is dated December 13, 2016.
- (c) Mr. Kollen did not account for the difference in AG-DR-02-035(c) caused by the rate case timing. However, Mr. Kollen believes this difference to be inconsequential. Regardless of whether the 16-year benefit period runs from 2017 through 2032, or from 2018 through 2033, the benefits anticipated by

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Duke Energy, and necessitating an operational savings adjustment as contemplated by the Stipulation in 2016-00152, will be substantially the same.

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 72

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In calculating his AMI levelization adjustment, did Mr. Kollen assume any new costs over the fourteen years of forecasted savings? Would Mr. Kollen agree that at the time of the Company's next base rate case after full deployment, the O&M for that test year would reflect the steady state savings?

RESPONSE:

Mr. Kollen used the same spreadsheet, including the costs and savings relied on by the Company for its AMI savings adjustment in this proceeding. Mr. Kollen simply used a longer period to calculate the levelized savings, the same period that the Company proposed and the Commission relied on in the AMI proceeding.

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 73

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In calculating his AMI levelization adjustment to account for the full fourteen years of anticipated savings as depicted in the Company's cost-benefit analysis submitted in Case No 2016-00152 and provided in Confidential Attachment DLS-4 provided response to AG-DR-01-074a, did Mr. Kollen assume any of the incremental costs included in that same cost-benefit analysis over the fourteen year term?

RESPONSE:

Refer to the response to question 72.

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 74

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On page 22 of his testimony, Mr. Kollen states that “the Commission should not depart from the methodology developed by the Company for this purpose in Case No. 2016-00152.

- (a) Please indicate the extent to which Mr. Kollen participated in Case No. 2016-00152.
- (b) Please describe the extent to which Mr. Kollen has reviewed the record in Case No. 2016-00152.
- (c) Please indicate where in the record for Case No 2016-00152 the Company agreed to the methodology being advocated by Mr., Kollen.
- (d) Please provide the basis for Mr. Kollen's belief that the Company departed from any directive, agreement or proposal made in Case No. 2016-00152?

RESPONSE:

- a) Mr. Kollen did not participate in Case No. 2016-00152.
- b) Mr. Kollen has reviewed the Stipulation agreed to between the AG and Duke Energy, and approved by the Commission, in 2016-00152. Mr. Kollen has also reviewed Confidential Exhibit DLS-4 in 2016-00152, which was introduced in the present case as Duke Energy's Confidential Response to AG-DR-01-074(a). Mr. Kollen notes that Confidential Exhibit DLS-4 is calculated using a 16-year project benefit period (from 2017 to 2032, inclusive).
- c) The approved Stipulation states, on page 4, “ The Parties agree that in its next base electric rate case, estimated to be filed before December 31, 2019, Duke Energy Kentucky shall make appropriate adjustments to its rate case test period to reflect . . . 5) a pro-forma adjustment to account for the projected Operational Savings as reflected in Confidential Exhibit DLS-4, adjusted to factor in any Operational Savings degradation that may accrue due to the establishment of an electric AMI opt-out tariff as described below. The pro-forma adjustment for the projected Operational Savings calculations shall be in the form of a levelized net present value calculated using the 7.05% as presented in Confidential Exhibit DLS-4 for the projected future Operational

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- Savings which will be factored into the Company's ongoing revenue requirement.”
- d) The Confidential Exhibit DLS-4 in 2016-00152 was to serve as the basis of the operational savings adjustment per the Stipulation approved by the Commission. This Exhibit was calculated using a 16-year benefit period. Duke Energy used a 5-year benefit period to calculate the operational savings adjustment in the present case (Volume 14, WPD 2.26a, 2018-2022 inclusive). As such, Mr. Kollen reiterates his belief that Duke Energy's operational savings adjustment in the present case departed from the Settlement Agreement and Commission Order in 2016-00152.

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 75

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On page 42, regarding plant retirement costs, Mr. Kollen states “[i]f the cost estimate or actual costs escalates in future years, then the increases, to the extent they are reasonable and prudent, can be reflected in periodic revisions and updates to depreciation rates and expense.” Please explain if Mr. Kollen believes this same statement applies for the projected AMI savings that he is including through the year 2032.

RESPONSE:

No. Mr. Kollen's testimony applies to plant retirement costs.

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Lane Kollen

QUESTION No.76

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Mr. Kollen states in regards to Duke Energy Kentucky's proposed Rider FTR that "the Commission previously rejected a similar proposal made by Kentucky Power Company in Case No. 2014-00396." Is Mr. Kollen aware that the settlement agreement in Kentucky Power Company's current Case No. 2017-00179, includes language that would allow the company to defer for future recovery, its net PJM charges and credits above or below amounts included in base rates?

RESPONSE:

Yes. A non-unanimous settlement was reached in Case No. 2017-00179. The Attorney General was not a signatory of the non-unanimous settlement. In any event, the settlement by its own terms is not precedential, even for Kentucky Power Company. As is the case in settlement agreements, there were concessions by all parties. In exchange for the cited provision in the settlement agreement, Kentucky Power Company agreed to a 3-year base rate stay-out, something that the Company has not offered in this proceeding.



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Lane Kollen

QUESTION No. 77

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With respect to Mr. Kollen's testimony on pages 23 and 24 to reduce retirement plan expenses, provide all information used by Mr. Kollen to determine the market competitiveness of Duke Energy retirement plans (pension & 401(k)) in the utility sector.

- (a) Provide all studies and analysis, including work papers created by Mr. Kollen to evaluate the market competitiveness of Duke Energy's retirement plans.

RESPONSE:

Mr. Kollen relied on Commission precedent, as described in his testimony.

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Lane Kollen

QUESTION No. 78

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Considering Mr. Kollen relies upon the Commission's rulings for Cumberland Valley Electric, Inc., (CVE) and Kentucky Utilities (KU) as the basis for this ruling, please provide all analysis that compares the value of the CVE and KU retirement benefit to Duke Energy retirement benefit.

RESPONSE:

Mr. Kollen did not prepare a comparative analysis.

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 79

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Provide an explanation of why Mr. Kollen believes the existence of a pension benefit is the basis for whether 401(k) costs should be recovered, with no analysis of whether the pension benefit is frozen, converted to a lesser cash balance formula, etc.

RESPONSE:

Refer to the response to question 77.

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Lane Kollen

QUESTION No. 80

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Duke Energy provides a 401K match enhancement that reduced the overall risk and expense of the pension benefit. Please provide the market data relied upon by Mr. Kollen that shows the value of these combined benefits is excessive and should be reduced.

RESPONSE:

Refer to the response to question 77.

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 81

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On page 30 of his testimony, Mr. Kollen compares the actual expenses for East Bend Unit 2 O&M deferrals through October 2017 to those projected to suggest that because actuals have been less than those forecasted and adjustment should be made to the projected deferral balance.

- (a) Is it Mr. Kollen's belief that forecasted test year expenses should be revised based upon trends in more recent historical data?
- (b) If the response is in the affirmative, shouldn't updates then also be made for expenses that increase as well as those that decrease?
- (c) Please reconcile the response to parts (a) and (b) with KAR 807:002 Section 16(6)(d).

RESPONSE:

- a. In this circumstance, yes.
- b. There is insufficient information to answer this question yes or no. In this circumstance, the O&M expense was a component of the East Bend O&M expense deferrals. The Company should not be allowed to recover more than the actual reasonable cost deferred as a regulatory asset.
- c. Mr. Kollen understands that the cited regulation was intended to be 807 KAR 5:001 Section 16(6)(d), as conveyed to the Attorney General's office by Company counsel. See response to question No. 81 (b).

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 82

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Referring to Mr. Kollen's discussion regarding depreciation beginning on page 31 through 36, where he alludes to other changes that could impact life analysis, has Mr. Kollen a statistical life analyses study for each account?

- (a) If the response is in the affirmative, please provide such studies in electronic form with all cells intact.

RESPONSE:

Mr. Kollen relied on the ALG depreciation rates calculated by Mr. Spanos and provided by the Company in response to AG discovery. He did not perform an independent depreciation study or life analysis.

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Lane Kollen

QUESTION No. 83

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Referring to Mr. Kollen's discussion regarding depreciation beginning on page 31 through 36 has Mr. Kollen conducted a depreciation study for Duke Energy Kentucky utilizing the Equal Life Group (ELG) procedure?

- (a) If the response is in the affirmative, please provide a copy of such study.

RESPONSE:

No. Mr. Kollen did not perform an independent depreciation study.

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WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 84

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Is Mr. Kollen aware that the Company's current depreciation rates include a terminal net salvage component?

RESPONSE:

Yes.



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Lane Kollen

QUESTION No. 85

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Is Mr. Kollen aware of any Kentucky jurisdictional utilities that do not include terminal net salvage in their base rates as part of depreciation expense?

- (a) If the response is in the affirmative, please provide a list of such utilities, and the orders of the Kentucky Public Service Commission that exclude the terminal net salvage component from rates.

RESPONSE:

Yes. Kentucky Power Company's production plant account depreciation rates do not include a terminal net salvage component. Refer to the Commission's Order in Case No. 2017-00179.

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Lane Kollen

QUESTION No. 86

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Is the ELG procedure straight line depreciation? If so, how can the ELG depreciation rates always be greater than the ALG depreciation rate for each account?

RESPONSE:

Yes, but over shorter lives based on vintage year plant rather than the aggregate of all plant at the account level. This is true when ELG is first adopted, but the ELG and ALG procedures may reach rough equivalence at the account level in future years depending on the dollars in each vintage year group within the account.

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Lane Kollen

QUESTION No. 87

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Please explain in detail how Mr. Kollen's second and third approach to net salvage recovers the full service value of an asset while the asset is in service.

RESPONSE:

The first approach recovers net salvage before the asset is retired. The second approach recovers net salvage after the asset is retired. The third approach recovers net salvage as it is incurred.

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Lane Kollen

QUESTION No. 88

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Please supply the workpapers in electronic format, all formulas intact, on how Mr. Kollen quantified his reduction of the escalation of terminal net salvage using the ALG procedure.

RESPONSE:

Refer to the response to question 7.

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Lane Kollen

QUESTION No. 89

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Please identify if Duke Energy Kentucky currently utilizes the “traditional approach”  
or first approach as identified by Mr. Kollen in his testimony.

RESPONSE:

Yes.

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Lane Kollen

QUESTION No. 90

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Please identify which authoritative text, including page and chapter citations that support Mr. Kollen's approach to net salvage.

RESPONSE:

GAAP does not allow net salvage in depreciation expense, except for rate regulated utilities. The FERC USOA instructions specify that depreciation expense includes the loss in service value, which is the gross cost of the plant plus negative salvage or less salvage. The FERC USOA does not mandate the manner in which the net salvage is included in depreciation expense, other than specifying that depreciation expense is the systematic and rational allocation of the service value. Experts in the utility industry have developed various approaches to net salvage. One authoritative text is the NARUC depreciation manual. However, the approach to net salvage is subject to the discretion of the rate regulator.

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Lane Kollen

QUESTION No. 91

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Regarding Mr. Kollen's recommendation on page 52 to offset capitalization with short-term investments, please provide all examples known to Mr. Kollen, including case citations, of the Commission offsetting capitalization with short-term investments.

RESPONSE:

Mr. Kollen has not performed such an assessment; however, it is Mr. Kollen's experience that short-term investments are not included in rate base, and, in fact, were not included by the Company in its calculation of rate base provided in this case. Thus, the return on the capitalization used to fund short-term investments should not be included in the revenue requirement.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of  
New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
And 5) All Other Required Approvals And Relief

Case No. 2017-00321

Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Lane Kollen

QUESTION No. 92

Page 1 of 1

As part of its application, Duke Energy Kentucky is required to reconcile its proposed capitalization to its rate base (See FR 16(6)(f) of the Company's Application). Please provide a reconciliation of Mr. Kollen's final recommended capitalization \$647,314,275 to the Company's electric rate base of \$705,051,140 including an explanation of all items that make up the difference between Mr. Kollen's proposed capitalization and the Company's electric rate base.

RESPONSE:

Mr. Kollen has not performed such a reconciliation. Mr. Kollen's electronic workpapers provide sufficient information for the Company to perform such a reconciliation.



Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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And 5) All Other Required Approvals And Relief

Case No. 2017-00321

Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 93

Page 1 of 1

Please provide Mr. Baudino's return on equity recommendation and the return on equity authorized for each investor-owned electric/gas regulated utility case in which he has testified in the last five years along with a copy of such testimonies. Please also provide the prevailing yield on long-term Treasury bonds at the time of preparing these testimonies.

RESPONSE:

Refer to Mr. Baudino's RAB-1, wherein he provided the docket numbers and dates of the cases in which he provided testimony, and the subject on which he provided testimony. His testimony in those dockets are public information and are available for Duke to review. Furthermore, the company can find the prevailing Treasury bond yields in each of these testimonies as well as in the exhibits attached to the testimonies. For the authorized returns, please refer to the Commission web sites for a copy of the Orders in each of these cases.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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And 5) All Other Required Approvals And Relief

Case No. 2017-00321

Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 94

Page 1 of 1

Please provide the currently authorized return on equity for each of the 19 utilities in your comparable companies shown on Exhibit No. RAB-5, Page 1.

RESPONSE:

Please refer to Duke Energy Kentucky's response to Commission Staff-DR-041(e).

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of  
New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
And 5) All Other Required Approvals And Relief

Case No. 2017-00321

Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 95

Page 1 of 1

Please provide exhibits RAB-4 to RAB-7 in MS Excel format, with all cells unlocked and formulae available.

RESPONSE:

Please refer to the Attorney General's response to Question 22 of the Attorney General's Responses to Data Requests of the Kentucky Public Service Commission Staff.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates; 2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities; And 5) All Other Required Approvals And Relief

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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 96

Page 1 of 1

Please provide for each company the underlying data used by Mr. Baudino to calculate his estimates of retention growth (B x R) shown on Column (3) of Exhibit RAB-5, Page 1. Given that utility companies pay dividends on a quarterly basis, please explain why Mr. Baudino relied on the annual version of the DCF model instead of relying on the quarterly version of the DCF model?

RESPONSE:

Mr. Baudino took the retention growth estimates from the Value Line reports for each company. Mr. Baudino did not provide the Value Line reports due to copyright restrictions. However, the Attorney General will provide copies of these reports for review at its Frankfort, KY office at a mutually convenient date and time.

The quarterly DCF model is unnecessary, overcompensates investors, and results in excessive costs for ratepayers. Dividends are paid quarterly and, of course, investors can reinvest those dividends. This means that through quarterly compounding, if a utility company is allowed a 10% return on equity then investors will realize slightly more than a 10% return due to their ability to reinvest quarterly dividends. However, this effect should not be added to the annual model that uses the  $1 + 0.5$  times growth adjustment, which I used in my DCF calculations. Quarterly compounding is likely already accounted for in a company's stock price since investors know that dividends are paid quarterly and that they may reinvest those cash flows. Adding an incremental return for quarterly compounding merely serves to inappropriately and unnecessarily enhance the allowed return on equity.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 97

Page 1 of 1

Which of the companies in Mr. Baudino's sample groups have rates set using future test years and which of those companies have rates set using historical test years?

RESPONSE:

Mr. Baudino did not review the use of historical and future test years for companies in the proxy group. Refer to p. 18 of Mr. Baudino's testimony wherein he states, "I relied on the proxy group of companies that Dr. Morin used for his ROE analysis."

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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And 5) All Other Required Approvals And Relief

Case No. 2017-00321

Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 98

Page 1 of 1

Concerning Mr. Baudino's proxy groups of companies, indicate which companies possess capital investment rider clauses and/or similar risk-mitigating mechanisms.

RESPONSE:

Mr. Baudino did not review the use of capital investment clauses for companies in the proxy group. Mr. Baudino cannot answer the portion of the question regarding "risk-mitigating mechanisms" because of a lack of specificity regarding the type of mechanisms being referred to. Additionally, see response to question No. 97.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Case No. 2017-00321

Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 99

Page 1 of 1

Please provide a copy of the chapter containing the excerpt cited on Footnote 7, Page 26 of Mr. Baudino's testimony.

RESPONSE:

Mr. Baudino cannot provide a copy due to copyright restrictions. However, the Attorney General will provide a copy for review at its Frankfort, KY office at a mutually convenient date and time.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 100

Page 1 of 1

Please provide a copy of the chapter containing the excerpt cited on Footnote 8, Page 29 of Mr. Baudino's testimony.

RESPONSE:

Please refer to the attached copy.



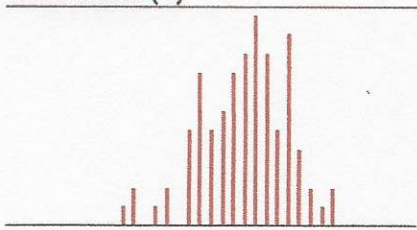
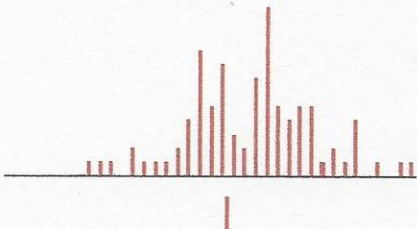
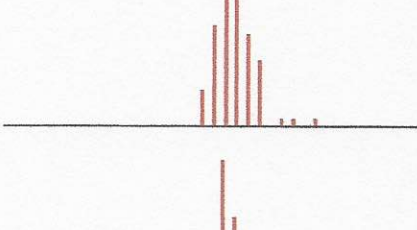
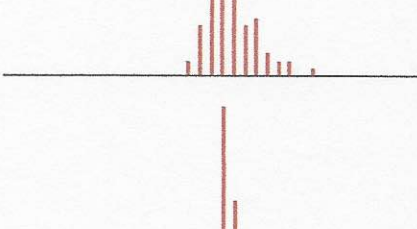
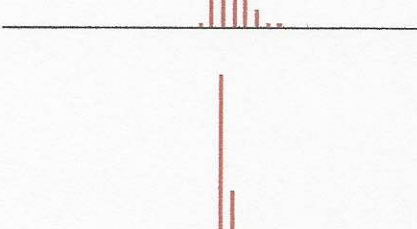
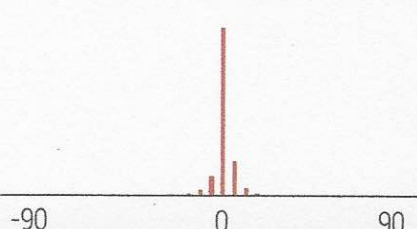

**2017** SBBI Yearbook  
Stocks, Bonds, Bills, and Inflation

U.S. Capital Markets Performance by Asset Class 1926–2016

Duff & Phelps

**WILEY**

**Exhibit 2.3:** Basic Series, Summary Statistics of Annual Total Returns (%)  
1926–2016

Series	Geometric Mean (%)	Arithmetic Mean (%)	Standard Deviation (%)	Distribution (%)
Large-Cap Stocks	10.0	12.0	19.9	
Small-Cap Stocks*	12.1	16.6	31.9	
Long-term Corp Bonds	6.0	6.3	8.4	
Long-term Gov't Bonds	5.5	6.0	9.9	
Inter-term Gov't Bonds	5.1	5.3	5.6	
U.S. Treasury Bills	3.4	3.4	3.1	
Inflation	2.9	3.0	4.1	

\*The 1933 small-cap stocks total return was 142.9%, and is not shown here.

-90 0 90



## Basic Series Summary Statistics

Exhibit 6.9 presents summary statistics of annual total return, and where applicable, income and capital appreciation, for each asset class. The summary statistics presented here are arithmetic mean, geometric mean, standard deviation, and serial correlation. Exhibit 6.10 presents summary statistics for the six inflation-adjusted total return series.

**Exhibit 6.9:** Total Returns, Income Returns, and Capital Appreciation Returns of the SBBI Asset Classes Summary Statistics of Annual Returns (%) 1926–2016

	<u>Geometric Mean (%)</u>	<u>Arithmetic Mean (%)</u>	<u>Standard Deviation (%)</u>	<u>Serial Correlation</u>
<b>Large-Cap Stocks</b>				
Total Return	10.0	12.0	19.9	0.02
Income	4.0	4.0	1.6	0.91
Capital Appreciation	5.8	7.7	19.2	0.01
<b>Small-Cap Stocks (TR)</b>	12.1	16.6	31.9	0.06
<b>Long-term Corp Bonds (TR)</b>	6.0	6.3	8.4	0.04
<b>Long-term Gov't Bonds</b>				
Total Return	5.5	6.0	9.9	-0.15
Income	5.0	5.0	2.6	0.96
Capital Appreciation	0.3	0.7	8.9	-0.26
<b>Inter-term Gov't Bonds</b>				
Total Return	5.1	5.3	5.6	0.14
Income	4.4	4.4	2.9	0.96
Capital Appreciation	0.6	0.7	4.5	-0.17
<b>U.S. Treasury Bills (TR)</b>	3.4	3.4	3.1	0.92
<b>Inflation</b>	2.9	3.0	4.1	0.64

Exhibit 6.9 shows that over 1926–2016 small-cap stocks were the riskiest asset class with a standard deviation of 31.9%, but provided the greatest rewards to long-term investors, with an arithmetic mean annual return of 16.6%. The geometric mean of the small-cap series is 12.1%. Large-cap stocks, long-term government bonds, long-term corporate bonds, and intermediate-term government bonds are progressively less risky, and have lower average returns. Treasury bills were nearly riskless and had the lowest return. In general, risk is rewarded by a higher return over the long term.

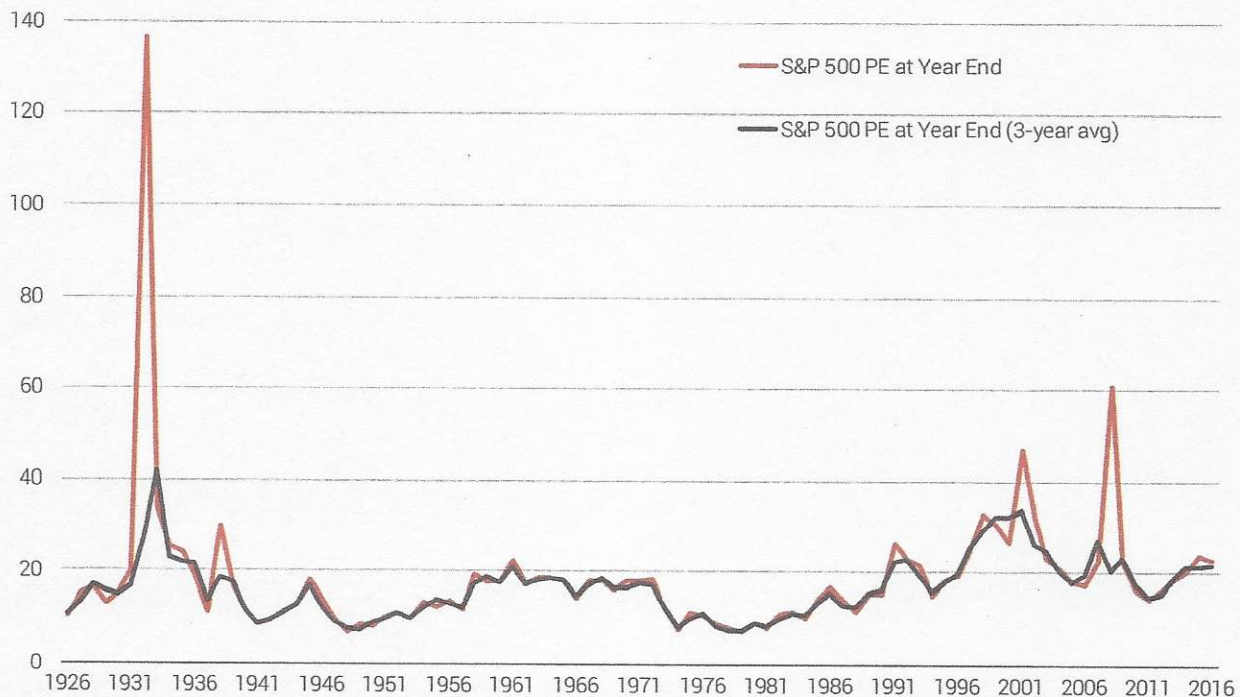


## Forward-Looking Earnings Model

Ibbotson and Chen forecast the equity risk premium through a supply-side model using historical data. They used an earnings model as the basis for their supply-side estimate. The earnings model breaks the historical equity return into four pieces, with only three historically being supplied by companies: inflation, income return, and growth in real earnings per share. The growth in the P/E ratio, the fourth piece, is a reflection of investors' changing prediction of future earnings growth. The past supply of corporate growth is forecasted to continue; however, a change in investors' predictions is not. P/E rose dramatically from 1980 through 2001 because people believed that corporate earnings were going to grow faster in the future. This growth in P/E drove a small portion of the rise in equity returns over the same period.

Exhibit 10.14 illustrates the price-to-earnings ratio from 1926 to 2016. The P/E ratio, using one year average earnings, was 10.23 at the beginning of 1926 and ended the year 2016 at 22.56, an average increase of 0.87% per year. The highest P/E was 136.69 recorded in 1932, while the lowest was 7.08 recorded in 1948. Ibbotson Associates revised the calculation of the P/E ratio from a one-year to a three-year average earnings for use in equity forecasting.

**Exhibit 10.14:** Large-cap Stocks P/E Ratio  
1926–2016



This is because reported earnings are affected not only by the long-term productivity, but also by one-time items that do not necessarily have the same consistent impact year after year. The three year average is more reflective of the long-term trend than the year-by-year numbers. The P/E ratio calculated using the three-year average of earnings had an increase of 0.79% per year.



The historical P/E growth factor, using three-year earnings, of 0.79% per year is subtracted from the equity forecast because it is not believed that P/E will continue to increase in the future. The market serves as the cue. The current P/E ratio is the market's best guess for the future of corporate earnings and there is no reason to believe, at this time, that the market will change its mind. Using this top-down approach, the geometric supply-side equity risk premium is 3.99%, which equates to an arithmetic supply-side equity risk premium of 5.97%.

Another approach in calculating the premium would be to add up the components that constitute the supply of equity return, excluding the P/E component. Thus, the supply of equity return only includes inflation, the growth in real earnings per share, and income return. This forward-looking earnings model calculates the long-term supply of U.S. equity returns to be 9.21%:

---


$$SR = [(1 + CPI) \times (1 + g_{REPS}) - Inc + Rinv]$$

$$9.21\% = [(1 + 2.90\%) \times (1 + 2.05\%) - 1] + 3.98\% + 0.21\%$$

\* difference due to rounding

---

Where:

- SR = The supply of the equity return
- CPI = Consumer Price Index (inflation)
- $g_{REPS}$  = The growth in real earning per share
- Inc = The income return
- Rinv = The reinvestment return

The equity risk premium, based on the supply-side earnings model, is calculated to be 3.99% on a geometric basis:

---


$$SERP = \frac{(1 + SR)}{(1 + CPI) \times (1 + RRf)} - 1$$

$$3.99\% = \frac{1 + 9.21\%}{(1 + 2.90\%) \times (1 + 2.03\%)} - 1$$

\* difference due to rounding

---

Where:

- SERP = The supply-side equity risk premium
- SR = The supply of the equity return
- CPI = Consumer Price Index (inflation)
- RRf = The real risk-free rate



Converting the geometric average into an arithmetic average results in an equity risk premium of 5.97%.<sup>10.10</sup>

---

$$R_A = R_G + \frac{\sigma^2}{2}$$

$$5.97\%^* = 3.99\% + \frac{19.88\%^2}{2}$$

\* difference due to rounding

---

Where:

- $R_A$  = The arithmetic average
- $R_G$  = The geometric average
- $\sigma$  = The standard deviation of equity returns

Exhibit 10.15 presents the supply-side equity risk premium, on an arithmetic basis, beginning in 1926 and ending in each of the years from 2003 through 2016.<sup>10.11</sup>

---

<sup>10.10</sup> The 1926–2016 supply-side equity risk premia estimate (5.97%) is calculated by Duff & Phelps for the *2017 SBBi Yearbook* using (i) the same methodologies and (ii) the same data sources as were used in previous editions of this book.

<sup>10.11</sup> In last year's *2016 SBBi Yearbook*, Exhibit 10.15 included supply-side ERP estimates for the most recent 25 years, estimated using refreshed data inputs over the entire 1926–2015 time horizon. Starting with the *2017 SBBi Yearbook* (this book), this exhibit will only include the years for which supply-side ERP values were actually published in a hardcover book (instead of the most recent 25 years). As such, this exhibit will be made to match (i) the "as published" supply-side ERP values from the *2004–2013 SBBi Valuation Yearbooks* (see "Appendix C-1" in those books), and (ii) the "as published" values from the 2014 (and subsequent years) *Valuation Handbook – U.S. Guide to Cost of Capital* (see "Appendix 3" in those books).

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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 101

Page 1 of 1

Please provide copies of the popular press articles cited in Footnotes 9, 10, and 11.

RESPONSE:

Please refer to the attached copies.

# BUSINESS INSIDER

## Interest rate forecasters are shockingly wrong almost all of the time



AKIN OYEDELE  
JUL. 8, 2015, 8:25 AM

Most interest rate forecasters are wrong most of the time.

Very wrong.

The chart below is from [Jeff Gundlach's presentation on Tuesday](#), comparing the US 10-year yield to median economist forecasts over the past five years.

The black line is the 10-year yield, and the colored lines are the paths that economists thought rates would take.

Clearly, these forecasters were wrong most of the time, as there were only a few instances of convergence between both lines.

In 2012, forecasters were hugely bleak about the economy, and thought that interest rates would collapse the whole year. Rates ended the year higher than where they started.

Last year was particularly bad, when strategists became too optimistic that the Federal Reserve would hike rates.

This year, forecasters again thought rates would rise and as rates fell, so did those forecasts, which have now converged with interest rates.

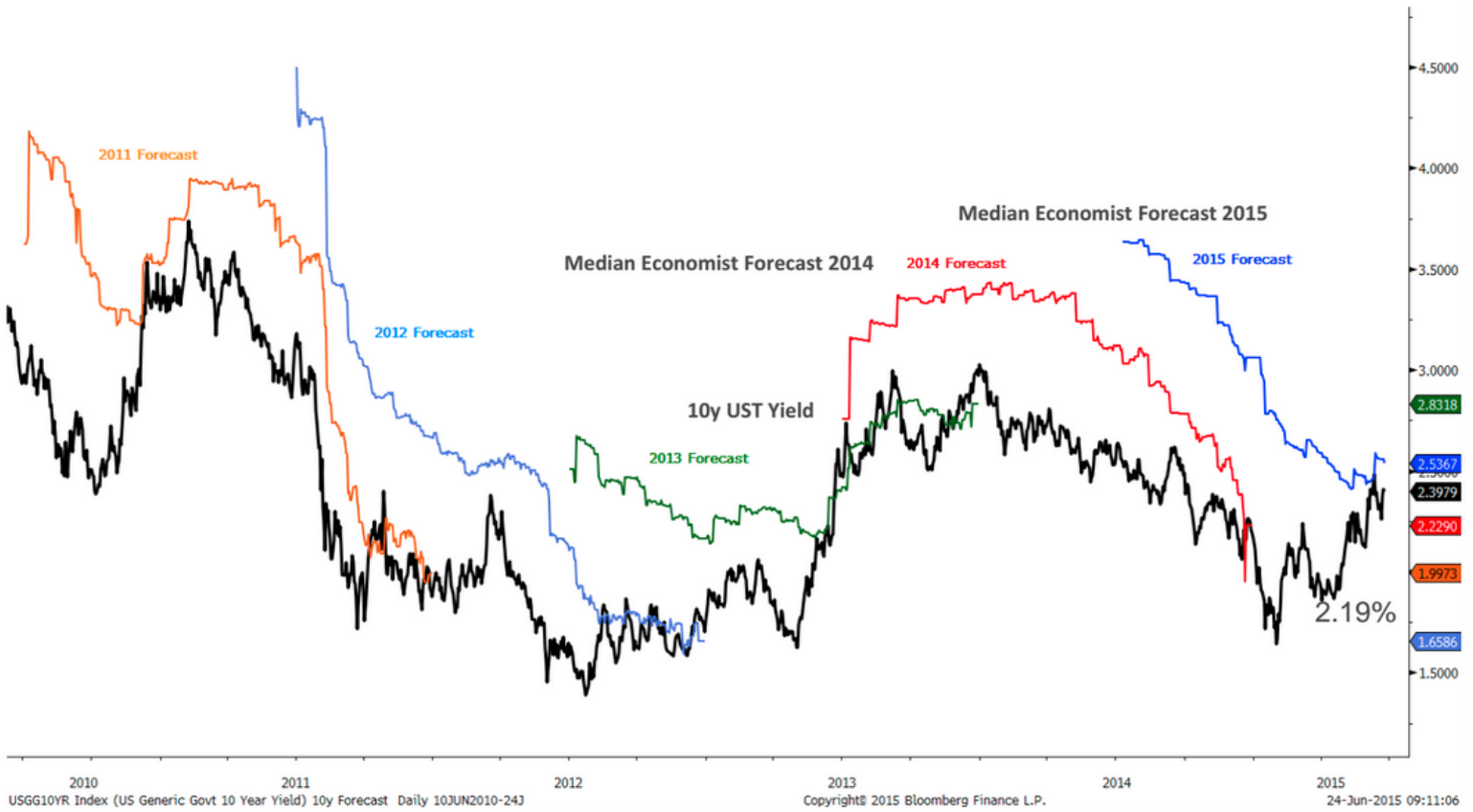


[Wikimedia Commons](#)



# 10y U.S. Treasury Yield Forecast for Year End 2015

June 10, 2010 through June 24, 2015



Notes: Median economist forecasts are based on Bloomberg survey data.  
Source: Bloomberg; Doubleline  
You cannot invest directly in an index.

7-7-15 Asset Allocation Webcast 29



## **The Upshot**

TODAY'S ECONOMIST

# We Keep Flunking Forecasts on Interest Rates, Distorting the Budget Outlook

Jared Bernstein @econjared FEB. 23, 2015

Government economists try to predict the future of lots of indicators, including G.D.P., unemployment and inflation. Their record isn't great, whether here or overseas. No less a figure than the Queen of England said to scholars at the London School of Economics about the deep recession in 2008: "Why did no one see it coming?"

One variable that our government economists keep missing, and it's an important one, is the interest rate of government bonds. That's a big deal because the bond rate determines how much it will cost the government to service our public debt. Interest payments on the debt are projected to be the fastest-growing part of government spending over the next decade.

Overestimate the cost of the debt, as has been the case in recent decades, and the government's future fiscal burden looks significantly worse than it is. That, in turn, creates pressure to cut spending on other priorities in order to set aside enough to service the debt.

In that regard, the picture of how well the economists in various administrations have predicted the rates on 10-year Treasury bonds is particularly

revealing. In the early 1980s, forecasters did a good job of predicting the path of bond rates, though their job was a bit easier than usual because rates were so highly elevated that it was a pretty sure bet they'd be headed back down. ("Regression to the mean," for all you statistics fans.)

But since the mid-1990s, government forecasters have consistently overestimated this critical variable.

This "consistently" point is essential. Most economic forecasts are off one way or the other — too high or too low, but they tend to be pretty much balanced in either direction. But on the 10-year bond rate, the errors are systemic.

Forecasters are regularly overestimating and thus regularly overstating, all else being equal, future interest payments on the debt.

Misses like this tell you that forecasters are missing a change in the structure of the economy. Two candidates for why this is happening are a significant increase in global liquidity and what the economist Larry Summers has dubbed "secular stagnation."

Globalization and the spread of so-called financialization — the growth of interconnected financial markets in economies across the globe — have led to a significant increase in the sheer amount of capital and thus the stock of loanable funds. That increased supply has lowered the cost of capital in ways the models are missing.

The stagnation point is more sobering. Bond rates are also pushed down by future expectations about growth and inflation. Especially in the case of longer-term yields like the 10-year bond, investors want to be paid more (that is, they want a higher yield) because of the opportunity cost of locking up their cash over a period when they think growth will be strong. Falling yields could thus signal lowered growth expectations.

This pattern is important because of what it says about future debt payments and pressures to cut the federal budget. Both recent forecasts on Treasury rates from the Congressional Budget Office and the Blue Chip (the consensus among private sector economists) are about the same as the administration's.

The forecasts implied by so-called “forward rates” — rates bond traders can lock in today — for the 10-year bond have adapted more rapidly to the systemic errors and have it sitting about where it is now, around 2 percent, for the next decade. If that’s right, it means, all else being equal, the debt-to-G.D.P. ratio will be six percentage points lower in 2025 than the administration is forecasting, a large and significant difference in coming fiscal pressures.

But this observation comes with numerous caveats, the first of which is most salient. Who knows where interest rates will be in 10 years? Even if the market forecasters are correct, our future debt burden is ameliorated, not erased, and so there are still good reasons to tread cautiously. From my own perspective, the point of these figures is not that we’re on a long-term, sustainable budget path. It’s simply to suggest that based on our recent track record, we may well be overestimating the cost of future debt service and demanding more budget restraint than is necessary.

Second, note the “all else being equal” clause above. If interest rates are coming in lower than predicted because growth is also coming in lower, low growth will cancel out some of the fiscal benefits of low rates. Forecasters have been less systematically wrong regarding G.D.P. growth, and they’ve broadly marked down future growth rates already. That’s led some economists, including Paul Krugman, to question why the lower growth forecasts don’t seem to square with the expectation that rates will bounce back up.

Our best move at this point seems to be to work to remove the systemic bias from the models. Economists would say it is probably non-random, that is, we may face an upside fiscal gift in the form of lower rates than we’re expecting and thus lower costs of debt service.

So draw in your talons, fiscal hawks. The future is unknowable, but it may be less expensive than we think.

Jared Bernstein is a senior fellow at the Center on Budget and Policy Priorities in Washington and a former chief economist to Vice President Joseph R. Biden Jr. Follow him on Twitter at @econjared.

The Upshot provides news, analysis and graphics about politics, policy and everyday life. Follow us on Facebook and Twitter. Sign up for our weekly newsletter.



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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 102

Page 1 of 1

Is it Mr. Baudino's contention that risk-mitigating mechanisms such as the DCI rider requested by the company is unique to the Company and is not reflected in capital market data such as bond ratings, stock prices?

RESPONSE:

This is not Mr. Baudino's contention. Since the DCI has not been approved by the Kentucky Public Service Commission, it would not be reflected in Duke Energy's capital market data.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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Case No. 2017-00321

Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 103

Page 1 of 1

Refer to Mr. Baudino's testimony Page 11. Are there any other explanations for the fact that utility bond yields are lower and the DJUA is higher during a time of rising Federal interest rates?

RESPONSE:

The purpose of Mr. Baudino's testimony on pages 10 through 11 was to show that although the Federal Reserve increased short-term interest rates since early 2016, the increases in short-term interest rates did not cause long-term interest rates to increase or have an adverse effect on utility stock prices. One factor that likely had an impact on utility stock prices and the DJUA would include investors seeking higher yielding and safe utility investments during a time of low interest rates. The supply of and demand for long-term bonds would have also played an important role in terms of the relative stability of long-term Treasury and utility bond yields since the beginning of 2016. In other words, long-term bond prices and the resulting yields reveal the preferences and required returns of bond sellers and purchasers in the market.



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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 104

Page 1 of 1

Refer to Mr. Baudino's testimony Page 18. What errors could occur in your DCF analysis since Duke Energy Kentucky is not a publically traded entity?

RESPONSE:

Mr. Baudino is not aware of any errors in his DCF analysis that could have occurred because of Duke Energy Kentucky's not being a publicly traded entity.

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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 105

Page 1 of 1

Refer to Mr. Baudino's testimony Page 21. What other major sources of analysts' forecasts for growth have you used in other DCF calculations?

RESPONSE:

Mr. Baudino has consistently used Value Line, Yahoo! Finance, and Zacks as sources of analysts' growth forecasts over the last 10 years.

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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 106

Page 1 of 1

Refer to Mr. Baudino's testimony Page 21. Why did you choose the three sources you used in this case?

RESPONSE:

Mr. Baudino has consistently used Value Line, Yahoo! Finance, and Zacks as sources of analysts' growth forecasts over the last 10 years.

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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 107

Page 1 of 1

Refer to Mr. Baudino's testimony Page 30. What is the basis for claiming that flotation costs are "likely" accounted for in stock prices?

RESPONSE:

Mr. Baudino explained the basis for excluding flotation costs on page 33. Also, please note that the Kentucky PSC explicitly rejected a flotation cost adjustment in its Order dated January 18, 2018 in Case No. 2017-00179, page 28.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 108

Page 1 of 1

Refer to Mr. Baudino's testimony Page 33. Why eliminate flotation costs in the DCF calculation; how "likely" is it that flotation costs are accounted for in stock prices?

RESPONSE:

Please refer to the response to Question No. 107.

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WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 109

Page 1 of 1

Would Mr. Baudino support the DCI if obtaining a Commission CPCN and having  
an annual true-up process was included?

RESPONSE:

No.

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WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 110

Page 1 of 1

Is it Mr. Baudino's contention that the Duff & Phelps 2017 SBBI Yearbook (formerly Morningstar, formerly Ibbotson Associates) referenced on Page 28, Lines 5 – 6 and at the bottom of Exhibit RAB-7 has been in error for all these years in recommending the arithmetic average returns rather than the geometric average returns when estimating the cost of common equity?

RESPONSE:

This is not Mr. Baudino's contention.

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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Counsel as to objection/Richard A. Baudino

QUESTION No. 111

Page 1 of 1

Please provide copies of, and citations, to any and all work papers, articles, textbooks, or publications (including but not limited to any electronic work papers, articles, or publications) of which Mr. Baudino is aware regarding the subject of issuance expenses (flotation costs).

RESPONSE:

The Attorney General objects to this data request as being overly broad and unduly burdensome. Notwithstanding said objection, generally speaking, Mr. Baudino is aware of the subject of issuance expenses and flotation costs from his experience in the regulated utility industry since 1982. Dr. Morin's book *New Regulatory Finance* also has a detailed discussion of flotation costs and Mr. Baudino is aware of Dr. Morin's view on flotation costs both from this book and from his Direct Testimony.



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WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 112

Page 1 of 1

Please provide copies of, and citations, to any and all textbooks, academic articles in refereed journals, or publications, relied upon by Mr. Baudino that substantiate his assertion on Page 35, Lines 14 – 15 that economists have overestimated interest rates in recent years.

RESPONSE:

Mr. Baudino supported his views on the accuracy of interest rate forecasts with the articles provided in response to Question No. 101.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 113

Page 1 of 1

Is it correct to assume that Mr. Baudino agrees with the Company's proposed capital structure?

RESPONSE:

Yes.

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And 5) All Other Required Approvals And Relief

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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 114

Page 1 of 1

Is Mr. Baudino currently teaching any college-level finance (corporate finance, investments, banking, etc.) courses?

- (a) If the answer is affirmative, please identify the subjects of such courses and the syllabus and a list of textbooks/readings used in each course identified.

RESPONSE:

No.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 115

Page 1 of 1

Has Mr. Baudino taught any college-level finance (corporate finance, investments, banking, etc.) courses in the last five years?

- (a) If the answer is affirmative, please identify the subjects of such courses and the syllabus and a list of textbooks/readings used in each course identified.

RESPONSE:

No.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
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New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 116

Page 1 of 1

Has Mr. Baudino ever presented formal cost of capital seminars to professional groups such as such as the National Association of Regulatory Commissioners, the National Association of State Utility Consumer Advocates, or any state regulatory commission? If so, please provide a syllabus, table of contents, and list of references used in those seminars.

RESPONSE:

No.

Electronic Application Of Duke Energy Kentucky, Inc. For: 1) An Adjustment Of The Electric Rates;  
2) Approval Of An Environmental Compliance Plan And Surcharge Mechanism; 3) Approval Of  
New Tariffs; 4) Approval Of Accounting Practices To Establish Regulatory Assets And Liabilities;  
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Attorney General's Responses to Data Requests of Duke Energy, Kentucky Inc.

WITNESS/RESPONDENT RESPONSIBLE:

Richard A. Baudino

QUESTION No. 117

Page 1 of 1

Please provide copies and/or summaries of any peer-reviewed book, monograph or article authored or co-authored by Mr. Baudino in the last five years dealing with the subject of finance and/or regulation.

RESPONSE:

Mr. Baudino does not have any peer-reviewed book, monograph, or article.