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### VIA OVERNIGHT DELIVERY

May 14, 2014

Jeff Derouen Executive Director Kentucky Public Service Commission 211 Sower Boulevard Frankfort, Kentucky 40602-0615

RECEN MAY 1 5 2014 PUBLIC SERVICE COMMISSION

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### Re: In the Matter of Application of Duke Energy Kentucky, Inc. to Implement a Hedging Program to Mitigate Price Volatility in the Procurement of Natural Gas, Case No. 2012-00180

Dear Mr. Derouen:

Enclosed please find an original and eleven copies of *Duke Energy Kentucky, Inc.'s* Annual Report on Hedging Activity for April 1, 2013 - March 31, 2014 and Report on Hedging Activity for Future Gas Deliveries and Petition for Confidential Treatment. Also enclosed is one copy of the Confidential Material to be Filed Under Seal as requested in the Petition for Confidential Treatment. Please note the Confidential Material has been highlighted for your reference.

Please date-stamp the extra copy of the letter, Petition, and Report and return to me in the enclosed package.

Sincerely,

Regan / ANIF

Kristen Ryan Senior Paralegal <u>kristen.ryan@duke-energy.com</u>

cc: Jennifer Hans (w/enclosures)

# RECEIVED

### COMMONWEALTH OF KENTUCKY

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MAY 15 2014

## BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION

In the Matter of:

PUBLIC SERVICE COMMISSION

APPLICATION OF DUKE ENERGY KENTUCKY, INC. TO IMPLEMENT A HEDGING PROGRAM TO MITIGATE PRICE VOLATILITY IN THE PROCUREMENT OF NATURAL GAS

Case No. 2012-00180

### PETITION OF DUKE ENERGY KENTUCKY, INC. FOR CONFIDENTIAL TREATMENT OF INFORMATION CONTAINED IN THE ANNUAL REPORT ON HEDGING ACTIVITY FOR APRIL 1, 2013 THROUGH MARCH 31, 2014, AND REPORT ON ONGOING GAS HEDGING ACTIVITY FOR FUTURE GAS DELIVERIES

Duke Energy Kentucky, Inc. (Duke Energy Kentucky or Company), pursuant to 807 KAR 5:001, Section 13, respectfully requests the Commission to classify and protect as confidential certain information that is contained in its Annual Report on Hedging Activity for April 1, 2013 through March 31, 2014 and Report on Ongoing Gas Hedging Activity for Future Gas Deliveries in this proceeding, which is being filed contemporaneously with this petition. In support thereof, Duke Energy Kentucky states:

1. Duke Energy Kentucky has filed today documents containing sensitive and confidential information relating to the volumes of gas that Duke Energy Kentucky purchased through the use of hedging instruments for its hedging plan. Disclosure of this information would damage Duke Energy Kentucky by alerting suppliers as to how much gas Duke Energy Kentucky intends to purchase through hedging instruments at any particular point in time, which could allow suppliers to raise the cost of their hedging instruments to Duke Energy Kentucky, thus making it more costly to Duke Energy Kentucky to acquire hedging instruments for future gas supply.

2. Certain attachments contain copyrighted documents published by PIRA Energy Group not available for reproduction to the general public. This information is subject to copyright protection and has been obtained through paid company subscriptions.

3. The Commission has treated the same information described herein as confidential in other responses to similar data requests such as Duke Energy Kentucky in Case Nos. 2011-00091<sup>1</sup> and 2012-00180.<sup>2</sup>

4. This information was, and remains, integral to Duke Energy Kentucky's effective execution of business decisions. And such information is generally regarded as confidential or proprietary. Indeed, as the Kentucky Supreme Court has found, "information concerning the inner workings of a corporation is generally accepted as confidential or proprietary." Hoy v. Kentucky Industrial Revitalization Authority, Ky., 904 S.W.2d 766, 768.

5. Duke Energy Kentucky does not object to limited disclosure of the confidential information described herein, pursuant to an acceptable protective agreement, with the Attorney General or other intervenors with a legitimate interest in reviewing the same for the purpose of participating in this case.

In accordance with the provisions of 807 KAR 5:001 Section 13(3), the Company is filing one copy of the Confidential Material highlighted, separately under seal, and ten (10) copies without the confidential information included.

<sup>&</sup>lt;sup>1</sup> Case No. 2011-00091, Letter granting confidential treatment, March 31, 2011.

<sup>&</sup>lt;sup>2</sup> Case No. 2012-00180, Letter granting confidential treatment, July 20, 2012.

7. Duke Energy Kentucky respectfully requests that the Confidential Material be withheld from public disclosure for a period of ten years. This will assure that the information - if disclosed after that time - will no longer be commercially sensitive so as to likely impair the interests of the Company or its customers if publicly disclosed.

8. To the extent the Confidential information becomes generally available to the public, whether through filings required by other agencies or otherwise, Duke Energy Kentucky will notify the Commission and have its confidential status removed, pursuant to 807 KAR 5:001 Section 13(10)(a).

WHEREFORE, Duke Energy Kentucky, Inc. respectfully requests that the Commission classify and protect as confidential the specific information described herein.

Respectfully submitted,

DUKE ENERGY KENTUCKY, INC.

Rocco O. D'Ascenzo (92796) Associate General Counsel Amy B. Spiller (85309) Deputy General Counsel Duke Energy Business Services, LLC 139 East Fourth Street, 1303 Main Cincinnati, Ohio 45201-0960 Phone: (513) 287-4320 Fax: (513) 287-4385 e-mail: rocco.d'ascenzo@duke-energy.com

### **CERTIFICATE OF SERVICE**

I certify that a copy of the foregoing Petition for Confidential Treatment was served to the parties listed below by regular United States mail, postage prepaid, this  $1471^{H}$  day of May 2014.

Rocco O. D'Ascenzo

Jennifer Hans Assistant Attorney General 1024 Capital Center Drive, Suite 200 Frankfort, Kentucky 40601-8204

# BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION

# Annual Report on Hedging Activity For April 1, 2013 – March 31, 2014 And Report on Hedging Activity For Future Gas Deliveries

By Duke Energy Kentucky

May, 2014

The Vice President Ohio and Kentucky Gas Operations, Manager of Gas Resources, the Lead of Gas Procurement and Analysis and other personnel (Natural Gas Hedging Committee) met on a regular basis to review current market conditions for natural gas, short and long-term weather forecasts, gas industry trade publications, and price estimates to determine whether to enter into any hedging transactions. These meetings were scheduled at least monthly, but can occur more frequently depending on the season and market conditions. A brief summary of the decision made at each of these meetings during the 12 months ended March 2014 is attached, along with the information reviewed during each meeting (see Attachment A).

A summary of the amounts hedged prior to March 31, 2014 for delivery at a later date is shown below, followed by details of the factors influencing Duke Energy Kentucky, Inc.'s ("Duke Energy Kentucky") decision to enter into the hedging agreements during the 12 months ended March 31, 2014.

Strike			Price	Delivery	Volume		Seasonal
Date	Supplier	Туре	Per Dth	Point	Dth/day	Month(s)	Volume
Summer 2013							
8/10/2011*		Fixed		CGT-M		Apr 12 Mar 14	
10/26/2011*		Fixed		CGT-M		Nov 12 – Oct 13	
Winter 2013/14							
8/10/2011*		Fixed		CGT-M		Apr 12 Mar 14	
11/21/2011*		Fixed		CGT-M		Nov 13 – Mar 14	
1/23/2012*		Fixed		CGT-M		Nov 13 – Mar 15	
8/14/2013		Fixed		CGT-M		Nov 13 – Mar 14	
Summer 2014					-		
1/23/2012*		Fixed		CGT-M		Nov 13 – Mar 15	
10/19/2012**		Fixed		CGT-M		Apr 14 – Oct 15	
8/8/2013		Fixed		CGT-M		Apr 14 – Mar 16	
		<u> </u>		· · · · · · · · · · · · · · · · · · ·			
Winter 2014/15							
1/23/2012*		Fixed		CGT-M		Nov 13 – Mar 15	
10/19/2012**		Fixed		CGT-M		Apr 14 – Oct 15	
8/8/2013		Fixed		CGT-M		Apr 14 - Mar 16	
3/28/2014		Fixed		CGT-M		Nov 14 – Mar 15	
Summer 2015							
10/19/2012**		Fixed		CGT-M		Apr 14 – Oct 15	
8/8/2013		Fixed		CGT-M		Apr 14 – Mar 16	
Winter 2015/16	<u> </u>						
8/8/2013		Fixed		CGT-M		Apr 14 – Mar 16	
2/21/2014		Fixed		CGT-M		Nov 15 – Oct 16	

Strike Date	Supplier	Туре	Price Per Dth	Delivery Point	Volume Dth/day	Month(s)	Seasonal Volume
Summer 2016							
2/21/2014		Fixed		CGT-M		Nov 15 - Oct 16	

\* See Annual Report on Hedging Activity for April 1, 2011 – March 31, 2012

\*\* See Annual Report on Hedging Activity for April 1, 2012 – March 31, 2013

CGT-M = Columbia Gulf Transmission Mainline

There were no transactional costs associated with any of these arrangements. When the natural gas is delivered, the suppliers simply invoice Duke Energy Kentucky based on the hedged price. The portions of system supply hedged for each season are listed in the table below, along with the percentage including storage:

Season As of March 31, 2014	Total System Supply	Total Hedged	% Hedged	% Hedged And Storage*
Summer 2013				
Winter 2013/14				
Summer 2014				
Winter 2014/15				
Summer 2015				
Winter 2015/16				
Summer 2016				

\* Includes Interstate Pipeline Storage and Supply Contracts that mimic Storage Service.

### 2 Year Fixed Price with August 8, 2013

During the hedging meeting on July 26, 2013, discussion focused on the fundamentals including weather, storage inventory levels, PIRA and EIA forecasts, independent analyst's projections of supply and demand and the impact on gas prices. technical analysis on Summer and Winter Strip prices, and current positions in the Hedging Program. Significant discussion took place regarding the latest storage injection report of 41 Bcf which was well below analysts' expectations and the impact on gas prices. In addition, discussed the below normal temperatures that have been forecasted for the eastern portion of CONUS and that impact of future storage injections. The decision was made not to hedge additional volumes; however, at that time it was determined that the market would be monitored for significant price movements. On August 8, 2013, the Vice President Ohio and Kentucky Gas Operations, Manager of Gas Resources, and the Lead of Gas Procurement met to discuss additional hedging in light of current market conditions. NYMEX prices for April 2014-March 2015 strip decreased significantly from the July 26, 2013 meeting of \$4.063 to \$3.790 based on August 8<sup>th</sup> price levels. Discussion focused on the volatility in the financial markets, the current mild weather (and expectation for more mild weather) and its impact on storage levels. After discussion, a determination was made to hedge additional volumes. Discussed several hedging opportunities and determined to lock in a fixed price for **Dth/day** 

for Duke Energy Kentucky with a term of April 2014 through March 2016. **Sector** bidwere contacted for bids at Columbia Gulf Mainline. **Sector** bid-bid-bid-was selected as the winning bidder based on lowest cost.

The EIA storage report released on August 8, 2013 indicated that as of August 2, 2013, total U.S. amount of gas in storage was 2,941 Bcf (72% full), which was 297 Bcf lower than the previous year and 20 Bcf higher than the five-year average. Duke Energy Kentucky's storage with Columbia Gas was approximately Bcf full on August 8, 2013.

The table below compares the futures price data for August 8th with the most recently available forecasts from PIRA and EIA and the locked in price that Duke Energy Kentucky agreed to pay for base gas to be delivered April 1, 2014 through March 31, 2016 at Columbia Gulf Mainline. Please note that PIRA's and EIA's forecasts were not available for the entire period.

	Price Forecasts		NYM	EX Futures	Price	Fixed
Month	PIRA	EIA	High	Low	Close	Price
Apr 14		\$3.690	\$3.634	\$3.580	\$3.634	
May 14		\$3.630	\$3.665	\$3.523	\$3.658	
Jun 14		\$3.790	\$3.700	\$3,583	\$3.691	
Jul 14		\$3.960	\$3.747	\$3.600	\$3.724	
Aug 14		\$4.000	\$3.756	\$3.650	\$3.740	
Sep 14		\$4.020	\$3.765	\$3.650	\$3.742	
Oct 14		\$4.050	\$3.780	\$3.627	\$3.763	
Nov 14		\$4.190	\$3.864	\$3.725	\$3.849	
Dec 14		\$4.280	\$4.040	\$3.900	\$4.021	
Jan 15			\$4.127	\$3.988	\$4.111	
Feb 15	· ·		\$4.119	\$4.000	\$4.096	
Mar 15			\$4.060	\$3.950	\$4.044	
Apr 15			\$3.898	\$3.800	\$3.875	
May 15			\$3.907	\$3.858	\$3.892	
Jun 15			\$3.922	\$3.850	\$3.922	
Jul 15			\$3.955	\$3.900	\$3.955	
Aug 15			\$3.973	\$3.935	\$3.973	
Sep 15	· ·		\$3.973	\$3.973	\$3.973	
Oct 15			\$3.994	\$3.969	\$3.994	
Nov 15			\$4.069	\$4.000	\$4.069	
Dec 15			\$4.241	\$4.200	\$4.241	
Jan 16			\$4.336	\$4.298	\$4.336	
Feb 16			\$4.321	\$4.285	\$4.321	
Mar 16			\$4.256	\$4.220	\$4.256	
2 Yr. Wtd. Ave.			\$3.962	\$3.877	\$3.953	

### Winter 2013-14 Fixed Price with August 14, 2013

In addition to the "2 Year Fixed Price with **Mathema**" discussed above, on August 8, 2013 a decision was made to convert 1,000 Dth/day of FOMI base gas to a fixed price at Columbia Gulf Mainline for November 2013 through March 2014. In accordance with the Asset Management Agreement, the Asset Manager must be contacted first to

determine their interest in providing gas during the Agreement's term. However, initial price seemed high, so Duke Kentucky contacted **Example 1** and a

allowed **second** to refresh their bid. **Second** revised bid was **second** and **second** bid was **second** and **second** bid was accepted.

Duke Energy Kentucky's storage with Columbia Gas was approximately Bcf full) on August 14, 2013.

The table below compares the futures price data for August 14th with the most recently available forecasts from PIRA and EIA and the locked in price that Duke Energy Kentucky agreed to pay for base gas to be delivered November 1, 2013 through March 31, 2014 at Columbia Gulf Mainline.

	Price Fe	Price Forecasts		NYMEX Futures Price			
Month	PIRA	EIA	High	Low	Close	Price	
Nov 13		\$3.790	\$3.517	\$3.433	\$3.487		
Dec 13		\$3.930	\$3.695	\$3.615	\$3.669		
Jan 14		\$4.030	\$3.787	\$3.711	\$3.761		
Feb 14		\$3.970	\$3.782	\$3.710	\$3.761		
Mar 14		\$3.840	\$3.750	\$3.685	\$3.725		
Weighted Ave.		\$3.912	\$3.706	\$3.631	\$3.680		

### 1 Year Fixed Price with \_\_\_\_\_ February 21, 2014

During the hedging meeting on February 20, 2014, discussion focused on current market conditions (continued run-up in prices), current weather forecasts (extended extreme cold), storage levels (including estimate of 1.1 to 1.2 Tcf balance by March 31, 2014), various analysts' projections, challenges of refilling storage as well as EIA's forecasts for Supply and Demand of the Natural Gas markets and Oil prices. Discussed the current hedging position for Duke Energy Kentucky. Significant discussion took place regarding the run-up of prices for the Summer 2014 and Winter 14/15 strips while pricing for the remaining strips in the Hedging Program were flat. Based on the discussion, a determination was made to hedge additional volumes for November 2015— October 2016. Three suppliers were contacted to determine interest in providing a Fixed Price deal for Dth/day at Columbia Gulf Mainline. , with and bidding and **set of** respectively. The fixed price with was selected as the lowest bid.

The EIA storage report released on February 20, 2014 indicated that as of February 14, 2014, total U.S. amount of gas in storage was Examples Bcf [100] full), which was 975 Bcf lower than the previous year and 741 Bcf lower than the five-year average. Duke Energy Kentucky's storage with Columbia Gas was approximately [10] Bcf (100] full).

The table below compares the futures price data for February 21st with the most recently available forecasts from PIRA and EIA and the locked in price that Duke Energy Kentucky agreed to pay for base gas to be delivered November 1, 2015 through October 31, 2016 at Columbia Gulf Mainline. Please note that EIA's forecast does not cover the entire term, and PIRA's forecast only goes out to December 2014.

	Price F	orecasts	NYME	EX Futures P	rice	Fixed	
Month	PIRA	EIA	High	Low	Close	Price	
Nov 15		\$4.290	\$4.062	\$4.051	\$4.062		
Dec 15		\$4.390	\$4.245	\$4.230	\$4.243		
Jan 16			\$4.400	\$4.396	\$4.396		
Feb 16			\$4.370	\$4.368	\$4.369		
Mar 16		·	\$4.311	\$4.311	\$4.311		
Apr 16			\$3.945	\$3.941	\$3.941		
May 16		1	\$3.951	\$3.951	\$3.951		
Jun 16		1 A.	\$3.975	\$3.975	\$3.975		
Jul 16			\$4.001	\$3.993	\$4.001		
Aug 16			\$4.016	\$4.008	\$4.016		
Sept 16			\$4.013	\$4.007	\$4.013		
Oct 16	2		\$4.041	\$4.035	\$4.041		
Weighted Ave.			\$4.111	\$4.105	\$4.110		

### Winter 2014-2015 Fixed Price with \_\_\_\_\_ – March 28, 2014

During the hedging meeting on March 27, 2014, discussion focused on the fundamentals of the market such as weather, storage levels, PIRA and EIA price forecasts, analyst's forecasts of supply and demand and the impact on gas prices, economic influences on supply, demand and technical analysis on Summer and Winter Strip prices and current position in the Hedging Program. Discussion focused on the Winter 2014-2015 strip, with significant discussion around the low storage level (below 0.9 Tcf which is the first time in 11 years that the level is below 1.0 Tcf) with 10 days in the withdraw season still to be reported, and the expected below normal weather for the next 6 to 10 days. After discussion, it was determined that additional hedging should take place and the suppliers should be contacted to determine interest in Fixed Price transactions for the Winter 2014-2015 (Dth/day). Three suppliers were contacted to provide simultaneous bids.

The EIA storage report released on March 27, 2014 indicated that as of March 21, 2014, total U.S. amount of gas in storage was 896 Bcf (22% full), which was 899 Bcf lower than the previous year and 926 Bcf lower than the five-year average. Duke Energy Kentucky's storage with Columbia Gas was approximately Bcf (1996) Bcf (1996).

The table below compares the futures price data for March 28th with the most recently available forecasts from PIRA and EIA and the locked in price that Duke Energy Kentucky agreed to pay for base gas to be delivered November 1, 2014 through March 31, 2015 at Columbia Gulf Mainline.

	Price Forecasts		NYME	rice	Fixed	
Month	PIRA	EIA	High	Low	Close	Price
Nov 14		\$4.360	\$4.600	\$4.589	\$4.589	
Dec 14		\$4.400	\$4.715	\$4.700	\$4.700	
Jan 15		\$4.330	\$4.839	\$4.768	\$4.780	
Feb 15		\$4.260	\$4.750	\$4.733	\$4.733	
Mar 15		\$4.110	\$4.657	\$4.605	\$4.620	
Weighted Ave.		\$4.292	\$4.712	\$4.679	\$4.684	

### Effect of Hedging Program on Gas Costs

The effect of the hedging activity on gas cost can be determined by comparing the price paid for any hedged gas with the published Inside FERC First of Month Index (FOMI) for the delivery point where physical delivery of the hedged gas was received (Columbia Gulf Mainline). The hedged price includes the basis from Henry Hub to the point of delivery. This analysis shows that for the 12 months ended March 31, 2014 gas costs were about million higher when comparing the hedged price with the FOMI at the time of physical delivery than they would have been if no hedging had taken place. The following tables list each package of hedged gas and the impact on the total gas cost resulting from that hedge.

Supplier	Туре	Dth/day	Total Dth	Receipt Point	Hedged Price \$/dth	IFERC FOMI \$/dth	Cost Increase/ (Savings)
April							
	Fixed			CGT-M			
	Fixed			CGT-M			
May							
	Fixed			CGT-M			
	Fixed			CGT-M			
June							
	Fixed			CGT-M			
	Fixed			CGT-M			
July							
	Fixed			CGT-M			
	Fixed			CGT-M			

### Summer Season 2013

### Summer Season 2013 (Continued)

Supplier	Туре	Dth/day	Total Dth	Receipt Point	Hedged Price \$/dth	IFERC FOMI \$/dth	Cost Increase/ (Savings)
August							
	Fixed			CGT-M			
	Fixed			CGT-M			
September							
	Fixed			CGT-M			
	Fixed			CGT-M			
October							
	Fixed			CGT-M			
	Fixed			CGT-M			
Season Total							

### Winter Season 2013-2014

Supplier	Туре	Dth/day	Total Dth	Receipt Point	Hedged Price \$/dth	IFERC FOMI \$/dth	Cost Increase/ (Savings)
November							
	Fixed			CGT-M			
	Fixed			CGT-M			
	Fixed			CGT-M			
	Fixed			CGT-M			
December							
	Fixed			CGT-M			
	Fixed			CGT-M			
	Fixed			CGT-M			
	Fixed			CGT-M			
January							
	Fixed			CGT-M			
	Fixed			CGT-M			
	Fixed			CGT-M			
	Fixed			CGT-M			
February							
<b></b>	Fixed			CGT-M			
	Fixed			CGT-M			
<b></b>	Fixed			CGT-M			
	Fixed			CGT-M			
March							
	Fixed			CGT-M			
	Fixed			CGT-M			
	Fixed			CGT-M			
	Fixed			CGT-M			
Season Total							

Due to the mechanics of the Gas Cost Adjustment (GCA) Clause, the effect of the hedging program on the gas cost portion of customer's bills will occur in stages. The Expected Gas Cost (EGC) component of each GCA included estimated gas costs based

on a combination of hedged gas and gas at estimated market prices. Absent the hedging program, the EGC would have been calculated on market prices alone. The Actual Adjustment (AA) component of each GCA also includes the effect of the hedging program reflected in the actual gas costs, which are compared to GCA revenues to calculate the AA.

When the monthly EGCs were calculated, the forecasted natural gas requirements were priced out based on the weighted average of known hedged prices and the NYMEX futures price on the day that the calculation was performed. To determine the impact of the hedging program on the EGC, the hedging transactions were removed from the original calculations to determine what EGC would have been filed if no hedging had taken place. This effect may differ from the ultimate impact on the GCA once actual costs are known and flow through the AA.

The following table shows the effect that hedging had on each separate GCA rate for the 12 months ending March 31, 2014. The prior year's hedging program continues to affect the AA portion of the GCA through August 31, 2013. Likewise, gas costs during the 12 months ended March 31, 2014 will continue to affect the AA portion of the GCA through August 31, 2014. A negative sign means that the rate was decreased due to the hedging program, and a positive indicates that the rate was increased. Rates are in dollars per ccf.

Month	Impact on EGC	Impact on AA *	Impact on GCA
April 2013	+\$0.0205	+\$0.0042	+\$0.0247
May 2013	+\$0.0209	+\$0.0042	+\$0.0251
June 2013	+\$0.0320	+\$0.0135	+\$0.0455
July 2013	+\$0.0354	+\$0.0135	+\$0.0489
August 2013	+\$0.0416	+\$0.0135	+\$0.0551
September 2013	+\$0.0551	+\$0.0098	+\$0.0649
October 2013	+\$0.0344	+\$0.0098	+\$0.0442
November 2013	+\$0.0238	+\$0.0098	+\$0.0336
December 2013	+\$0.0124	+\$0.0074	+\$0.0198
January 2014	+\$0.0033	+\$0.0074	+\$0.0107
February 2014	+\$0.0029	+\$0.0074	+\$0.0103
March 2014	-\$0.0075	+\$0.0043	-\$0.0032

\*Includes impact on AA from previous year's hedging activity.

To determine the ultimate effect on the price paid by customers subject to the GCA, the total difference in gas cost due to the hedging program was divided by the annual total Ccf used in the calculation of the EGC as part of the GCA filing effective March 1, 2014. Based on this calculation, GCA customers will pay approximately //Ccf more than they would have paid absent the hedging program for natural gas purchased between April 1, 2013 and March 31, 2014, as shown below:

### Effect of Hedging Program on Volatility

The hedging program increases costs when market prices are relatively low and decreases costs when market prices are high. This provides prima facie evidence that the hedging program meets its stated goal of reducing the volatility in gas prices and providing some protection against extremely high prices. Based on a more statistical definition of volatility, the hedging program reduced the standard deviation of the average commodity cost of gas by **prime**/dth over the 12 months ended March 31, 2014.

	Actual Averag Gas (In	ge Commodity cludes Hedgin			Estimated Average Commodit Gas Without Hedging		
	Commodity Cost	Dth	Wgt. Avg.	Cost/ (Savings)	Commodity Cost	Dth	Wgt. Avg.
Apr-13							
May-13							
Jun-13							
Jul-13							
Aug-13							
Sep-13							
Oct-13							
Nov-13							
Dec-13							
Jan-14							
Feb-14							
Mar-14							
Standard I	Deviation						
Reduction	in Standard Devi	iation					

### Weather Analysis

The table below lists heating degree days for November 2013 through March 2014 compared to normal.

	Nov	Dec	Jan	Feb	Mar	Total
Normal Heating Degree Days*	572	928	1,029	855	622	4,006
2013/2014						
Heating Degree Days	703	915	1,272	1,021	782	4,693
% Colder (Warmer) than Normal	23%	(1%)	24%	19%	26%	17%

\* Based on 10-year average 2004-2013.

### **Summary**

Due to the extreme cold weather during the Winter of 2013/14, gas prices spiked resulting in gas cost savings for February and March 2014. Although annually the hedging plan increased gas costs overall, the hedging strategy was in place to provide protection against extreme prices and reduce volatility. The hedging program was successful in reducing the impact of volatility on the GCA by 19%. While no purchasing

strategy or plan could guarantee saving every month, especially when weather, national storage levels, drilling activity and the economy are constantly applying pressure to natural gas prices, the hedging plan did achieve its stated goal of reducing volatility and insulating GCA customers from extreme price increases.

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# Attachment A

# Information Reviewed at Hedging Meetings

#### Gas Resources Hedging Program Market Indicators Summary April 18, 2013

	Price	Term	Comments	Page
Weather	Pressure	10111	Coninents	Ref
Long Term Forecast (Apr 13June 13)	<b></b>	Long	NOAA predicting above average temperatures for April 2013June 2013 for the majority of CONUS.	12
Mid Term Forecast (30-60 days)	<b></b>	Long	May is predicted to be 1.1% warmer than normal based on 10 year normals and June weather is predicted to be 6.4% warmer than normal.	13
Short Term Forecast (6-10 days)	<b></b>	Short	Below and Much Below temperatures moving East during the period being pushed by Above and Much Above on the West Coast.	14
Tropical Storm Activity	1	Short	WSI predicts above-average hurricane season with 16 named storms which is 4 named storms above a normal season. Season runs historically from June 1 through November 30.	
Storage Inventory				
EIA Weekly Storage Report	<b></b>	Long	Storage injections for the week ending April 12th were 31 Bcf. Storage levels are at 1,704 TCF which is 31.8% lower than last year and 4.2% lower than the 5 year average.	15
Industry Publications				
PIRA Energy Group Winter 2013/14: 4 Summer 2014: \$	↑↓	Long	GAS PRICE SCORECARD: Gas Price Outlook for April 2013-October 2013 "Bullish". Bullish fundamentals include Canadian Production/Exports, US Storage levels, Industrial and Residential/Commercial Demand.	16-17
Gas DallyGas Price Predictions		Long	Based on 2013,2014, and 2015 spreads 2015 presents buying opportunities because 2015 is undervalued. Drivers of price increases: 1.83 Bcf draw in March due to March weather, flat production, lower imports, higher industrial demand, freeze-offs and infrastructure bottlenecks. Wells Fargo-\$3.71 up 11%, Morgan Stanley-\$3.66 to \$3.93, Raymond James-\$3.25 to \$3.85, Goldman Sachs-\$4.40 up 17%	18-19
Gas DailyMiscellaneous Information		Long	Gas demand for power up 90% by 2040 to 40 Bcf/d due to coal plant retirements and gas prices. Strong Injections to erase deficit by Nov. 1st to 3.8 Bcf to 3.9 Bcf which would equal 2012 and be above the 5-year average. Due to strong expected injections Paribas expects a significant setback in prices during the 2nd quarter. Shell and TravelCenters to develop LNG fueling network. NGV's to capture 2% of transportation market by 2025. However, this demand is modest compared to the power sector.	20-21
Government Agencies				
Energy Information Administration Winter 2013/14: \$3.610 Summer 2014: \$3.543	+	Long	The projected Henry Hub natural gas spot price averages \$3.523/MMBtu for 2013 and \$3.603/MMBtu for 2014. EIA has increased its price for 2013 by \$.12 and decreased \$.03 for 2014.	22
Technical Analysis				
Winter 2013-14 Strip Chart	Ť	Short	Closed at \$4.45	23
Summer 2014 Strip Chart	1	Short	Closed at \$4.14	24
Winter 2014-15 Strip Chart	1	Short	Closed at \$4.45	25
Summer 2015 Strip Chart	$ \rightarrow $	Short	Closed at \$4.21	26
Winter 2015-16 Strip Chart	$\leftrightarrow$	Short	Closed at \$4.53	27
Summer 2016 Strip Chart	$\leftrightarrow$	Short	Closed at \$4.30	28
Economy				
Demand		Long	EIA projects total natural gas consumption will average 70.3 Bcf/d in 2013 and 70.1 Bcf/d in 2014. Increased usage for residential and commercial space heating being offset by declines in power generation.	29
Supply	<b>+</b>	Long	Total marketed production will increase from 69.1 Bcf/d in 2012 to 69.3 Bcf/d in 2013, and 69.4 Bcf/d in 2014. EIA expects end of season level at about 1,687 Bcf.	29
Oil Market	1	Long	EIA expects Brent crude to average of \$112 per barrel for 2012, \$108 per barrel in 2013, and \$101 per barrel in 2014.	29

Meeting Minutes: 426 Annex Conference Room - 1:00 pm

Attendees: Jim Mehring, Jeff Kern, Mike Brumback, Joachim Fischesser, Steve Niederbaumer

Reviewed fundamentals such as weather (current to L/T forecasts), storage levels, industry publications, governmental agency, technical analysis and supply and demand fundamentals. Discussed the Ohio and Kentucky Hedging Programs Including the addition of the 2015/2016 Winter season. Significant discussion took place regarding the recent run-up in NYMEX pricing (17.1 cent increase for May 2013 after a 31 Bcf injection--34 Bcf estimated) and the volatility in pricing. Due to concerns about volatility a decision was made that if prices for the November 2013–October 2015 strip increase by 10% prior to the next scheduled meeting we will effectuate a hedging deal for that period-

#### Duke Energy Kentucky Hedging Program - Current Position November 2012 - October 2013 As of 04/16/13

City Gate Load Forecast (Mc TCO FSS Injections (Mcf) Total Requirements (Mcf)

TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)

#### Amount Hedged (dth/day)

Fixed Price Fixed Price Fixed Price Fixed Price Cost Avg. ( Total Hedged (dth/day) Total Hedged (dth)

#### Types of Hedging Products (1)

Fixed Price Price Caps No-Cost Collars

5

#### Embedded Hedged Cost

Winter Summer

Estimated System Supply (Gross) Hedged % of System Supply Seasonal % of System Supply

#### Amt Hedged with Storage @ City Gate

Hedged (City Gate) (Dth) Storage Withdrawal (Dth) Market (Dth) Total (incl. Injections) (Dth) % Hedged & Storage Seasonal %

	Nov-12	Dec.12 Jan-	13 Feb-13	Mar-13. Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13
Mc1)										
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Gross) p <b>ply</b>										
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(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

#### Duke Energy Kentucky Hedging Program - Current Position November 2013 - October 2014 As of 04/16/13

Load Forecast	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14
City Gate Load Forecast (Mcf)												
TCO FSS Injections (McI) Total Requirements (McI)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
Fixed Price												:
Fixed Price												
Fixed Price												
Total Hedged (dth/day)												
Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer *												
Estimated System Supply (Gross)	1											
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												-
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth) % Hedged & Storage												
Seasonal %												
(1) Maximum percentade allowed per type	of bedging and	duct in 259 4	or Winter mo	the and 40%	Summer mor							

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

#### Duke Energy Kentucky Hedging Program - Current Position November 2014 - October 2015 As of 04/16/13

	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15
Load Forecast												
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (McI)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
Fixed Price												
TBD												
Total Hedged (dth/day)												
Total Hedged (dth)												
Total medged (only												
Types of Hedging Products (1)												
Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Ant Hadaad with Starsas O City Cata												
Amt Hedged with Storage @ City Gate Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												
(1) Maximum percentage allowed per type	of hedging pro	duct is 25% f	or Winter mo	nths and 40%	Summer mor	nths.						

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#### Duke Energy Kentucky Hedging Program - Current Position November 2015 - October 2016 As of 04/16/13

	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16
•												
of hedging	product is 25%	for Winter m	onths and 409	6 Summer mo	onths.	:						

#### Load Forecast

City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)

TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)

#### Amount Hedged (dth/day)

TBD TBD TBD Total Hedged (dth/day) Total Hedged (dth)

#### Types of Hedging Products (1) Fixed Price Price Caps

No-Cost Collars

#### Embedded Hedged Cost

Winter Summer

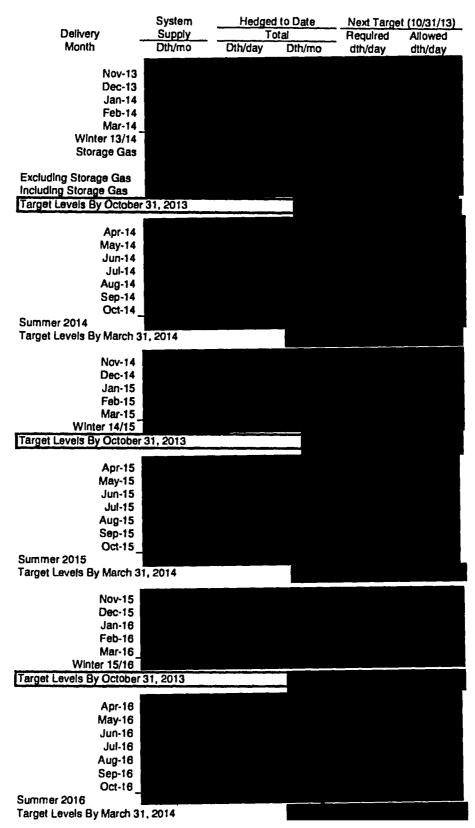
Estimated System Supply (Gross) Hedged % of System Supply Seasonal % of System Supply

#### Amt Hedged with Storage @ City Gate

Hedged (City Gate) (Dth) Storage Withdrawal (Dth) Market (Dth) Total (incl. Injections) (Dth) % Hedged & Storage Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

#### Duke Energy Kentucky Hedging Program Current Position

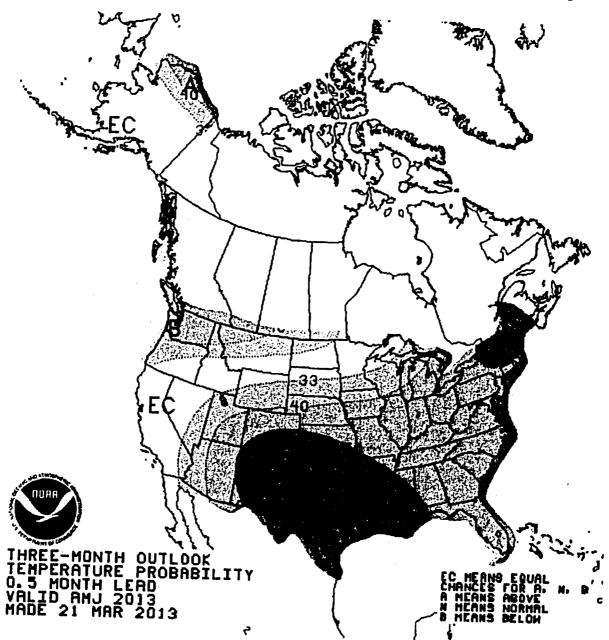


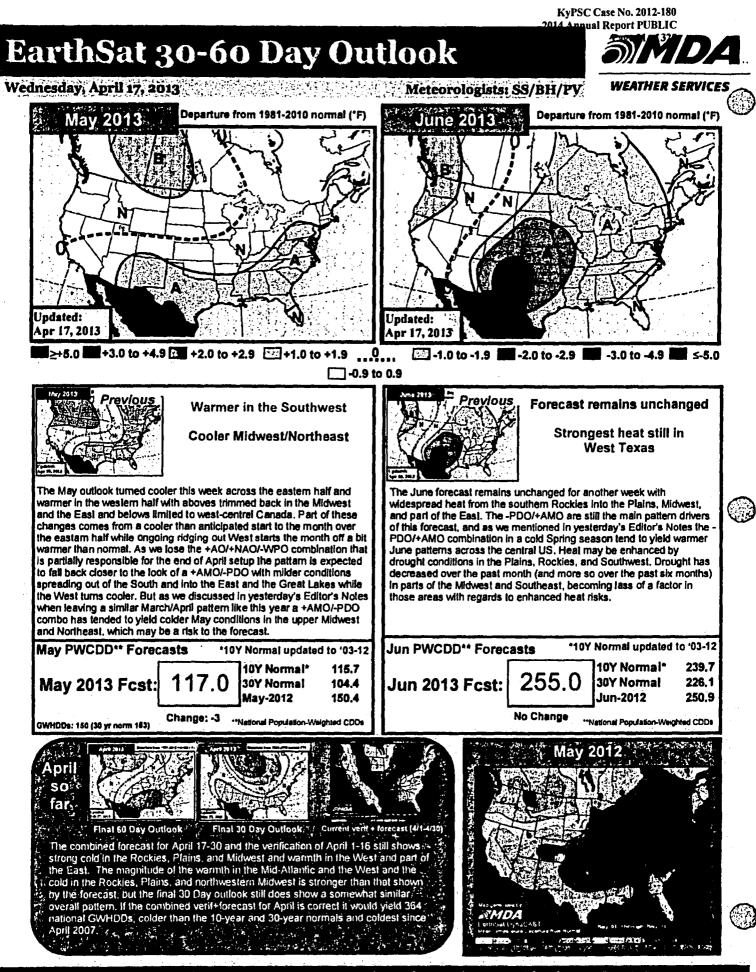
KyPSC Case No. 2012-180 2014 Annual Report PUBLIC Page 19 of 325

# COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

	Histori	e Prices:			······································	7
	NYMEX CI	osing Price				
	5-yr. avg.	Last Year	PIRA	EIA	NYMEX	Hedged Prices
	(08/09-12/13)	(2012-2013)	22-Mar-13	9-Apr-13	18-Apr-13	Ohio Kentucky
May	\$5.06	\$2.04		\$3.460	\$4.187	\$
Jun	\$5.27	\$2.43		\$3.450	\$4.217	9
July		\$2.77		\$3.500	\$4.262	5
Aug		\$3.01		\$3.510	\$4.291	\$
Sep	\$4.28	\$2.63		\$3.480	\$4.299	\$
Oct	\$4.36	\$3.02		\$3.500	\$4.295	s
Nov	\$4.21	\$3.47		\$3.560	\$4.356	\$
Dec	\$4.54	\$3.70		\$3.660	\$4.500	\$
Jan	\$4.52	\$3.35		\$3.720	\$4.600	\$
Feb	\$3.99	\$3.23		\$3.630	\$4.573	\$
Mar	\$3.71	\$3.43		\$3.480	\$4.472	s
Apr	\$3.58	\$3.98		\$3.390	\$4.125	\$
2 Month Avg	\$4.52	\$3.09		\$3.528	\$4.348	s
	r Average			\$3.470	\$4.239	\$
Winter A	verage			\$3.610	\$4.500	\$

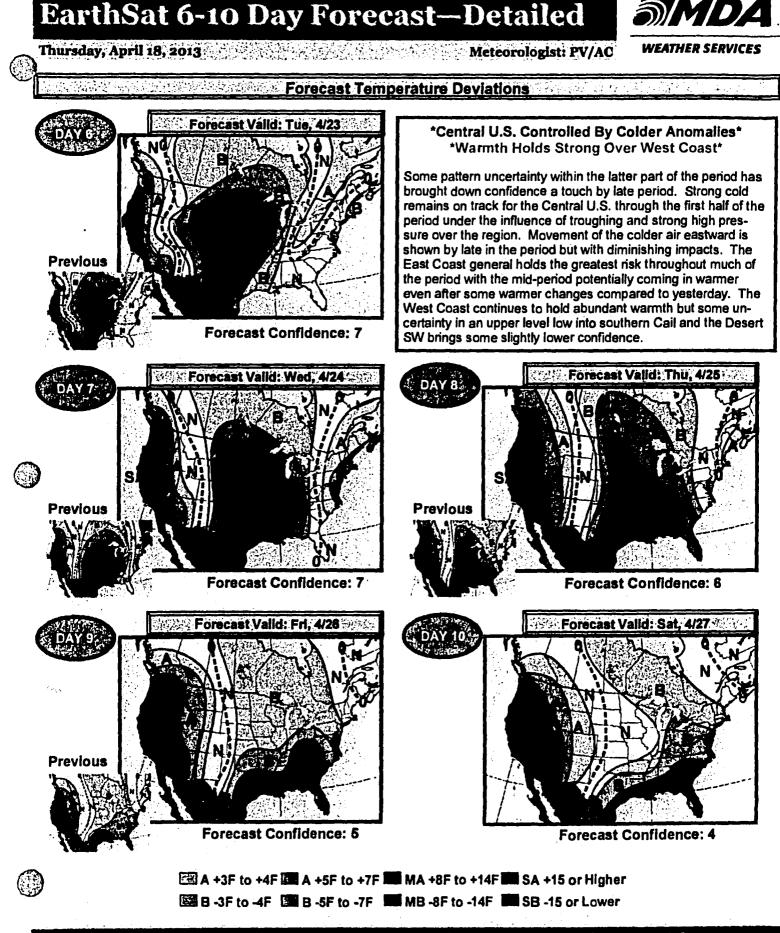
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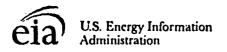


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### Weekly Natural Gas Storage Report

for week ending April 12, 2013 [] Released: April 18, 2013 at 10.30 a.m. [] Next Release: April 25, 2013

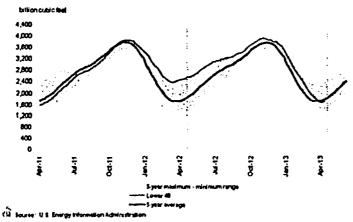
Summary text CSV JSNWorking gas in underground storage, lower 48 states

					Historical Co	mparisons		
	bd	Stocke ion cubic feet [	Bc()		r ago 12/12)	5-Year average (2008-2012)		
Region	04/12/13	04/05/13	change	(Bcf)	% change	(Bcf)	% change	
East	665	646	Ĩ19	1,101	-39 6	758	· 12 3	
West	336	337	-(	357	-5.9	269	24 9	
Producing	703	690	13	1.039	-32.3	751	-64	
Salt	179	168	11	259	-30 9	140	279	
Nonsalt	524	522	2	781	32 9	611	+14.2	
Total	1,704	1,673	31	2,498	-31.8	1,778	-4.2	

#### Summary

Working gas in storage was 1,704 Bcl as of Friday. April (2, 2013, according to EIA estimates. This represents a net increase of 31 Bcl from the previous week. Stocks were 794 Bcl leas than last year at this time and 74 Bcl below the 5yeal average of (,778 Bcl in the Enst Region, stocks were 93 Bcl below the 5 year average following net injections of 19 Bcl. Stocks in the Producing Region were 48 Bcl below the 5 year average of 751 Bcl after a net Injection of 13 Bcl. Stocks in the West Region were 67 Bcl above the 5 year average after a net drawdown of 1 Bcl. At 1,704 Bcl, total working gas is within the 5 year Mistoricat range

Working gas in underground storage compared with the S-year maximum and minimum



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2008 through 2012

Source: Form EIA 912 "Weekly Underground Natural Gas Storage Report". This dashed vertical lines indicate current and year ago weekly periode

# <u>PIRA</u> North American Gas Price Overview Per MMBTU March 22, 2013 Release

Jan-11	Jan-12	Jan-13	Jan-14	
Feb-11	Feb-12	Feb-13	Feb-14	
Mar-11	Mar-12	Mar-13	Mar-14	
Apr-11	Apr-12	Apr-13	Apr-14	
May-11	May-12	May-13	May-14	
Jun-11	Jun-12	Jun-13	Jun-14	
Jul-11	Jul-12	Jul-13	Jul-14	
Aug-11	Aug-12	Aug-13	Aug-14	i
Sep-11	Sep-12	Sep-13	Sep-14	
Oct-11	Oct-12	Oct-13	Oct-14	i
Nov-11	Nov-12	Nov-13	Nov-14	
Dec-11	Dec-12	Dec-13	Dec-14	
Average	Average	Average	Average	
2011	-	\$ 2013	\$ 2014	\$
Summer	Summer	Summer	Summer	
2011	2012	\$ 2013	\$ 2014	\$
, <u>-</u>	and the second			
Winter 2011-	Winter 2012-	Winter 2013-		
2012	2013	\$ 2014	\$	
			I	

North American Gas Forecast Monthly

March 22, 2013

NATURAL GAS

# U.S. GAS PRICE SCORECARD: APRIL 2013 - OCTOBER 2013

Bearish Neutral Bullish

PIRA Energy Group, 3 Park Avenue, 26<sup>th</sup> Floor, New York, NY 10016-5989 (Tel) 212-686-6808 (Fax) 212-686-6628 www.pira.com <sup>2</sup> For authorized subscribers only. Copyright © 2013 PIRA Energy Group. All rights reserved.

# Price Projections

# Calendar Spreads a Draw as Market Tightens—April 15

Seasonal spreads on the futures' forward curve have tighten and the spread between calendar years 2013, 2014 and 2015 presents trading opportunities given that 2015 is likely undervalued. Calendar 2015, currently at around \$4.43/MMBtu on average, is relatively inexpensive compared with calendar year 2013. "Our fundamental analysis suggests that the difference between the two calendar years should be substantially wider in the longer run because balances are poised to tighten for the next three years." Balances should tighten to bring 2015 prices closer to \$4.50/MMBtu. "We believe that at current levels the spread between the calendar 2014 and 2015 price strips does not fully reflect the tightening of balances in the two years, and recommend entering a widening spread trade, selling calendar 2014 and buying calendar 2015 strips."

# Wells Fargo Hikes Gas Price Call 11% to \$3.71/MMBtu-April 11

Citing March's cold weather and the impact on storage levels, Wells Fargo raised its 2013 price forecast 11% to \$3.71/MMBtu. According to Wells Fargo, "Few producers believe that the gas rally is sustainable, but many saw a great opportunity to layer on additional hedges." "Near term, based on our client conversations, consensus is that natural gas is overbought and most are expecting a pullback in the near term." Wells Fargo expects prices to average \$4.30/MMBtu in 2014 and \$4.50/MMBtu in 2015.

# Analysts Raise Prices After Frozen March Departs—April 9

Several analysts have raised their gas price forecasts citing the primary driver for price increases was the huge 1.83 Bcf of storage withdrawals in response to March cold. The first quarter 2013 draw was the largest during the last 10 years—400 Bcf above the 10-year average.

Morgan Stanley increased their 2013 estimate from \$3.66/Mcf to \$3.93/Mcf, citing March cold reducing storage and flat production.

Raymond James increased their 2013 forecast 18% from \$3.25/Mcf to \$3.85/Mcf. "While weather has been a large component in rebalancing the gas market, other factors have helped contribute to the gas storage reversal, including continued elevated levels of gas burn versus coal by electric power generation, lower net imports from Canada, higher industrial demand, and impacts to supply from freeze-offs and infrastructure bottlenecks." Raymond James analysis differs from others in the fact that they believe year-over-year gas supply growth will re-accelerate this summer due mainly to Marcellus gas growth.

# Prices to Rise, Tracking Production Costs—April 8

Cold weather in March aided by no production growth from US shales will cause prices of \$4.50/MMBtu in the second half of 2013 according to Goldman. This is an increase of 17% over the previous forecast. For the full year, Goldman predicts gas prices will average \$4.40/MMBtu. The cold weather in March, combined with the ongoing tightening shift in the underlying balance due to structural demand growth against stable production, means less than 1.7 Tcf in storage by the end of March. According to Goldman, it will take \$4.50/MMBtu prices or above to get producers moving rigs back to the dry gas plays such as Haynesville.

# **Miscellaneous Information**

# Gas Demand for Power to Double by 2040-April 17

Gas demand for electric generation in the US will increase by 90% to around 40 Bcf/d by 2040 according to Exxon. That increase is the result of retirement of coal plants, relative low cost of gas as well as increases in demand from residential, commercial, industrial customers as well as LNG exports and LNG as a replacement for diesel.

In 2008, Southern Company burned about 78 million tons of coal compared with 42 million tons in 2012. Meanwhile, Southern used 200 Bcf of natural gas in 2008 compared to 588 Bcf in 2012. "Our coal-based energy has dropped in half and our gas-based energy has tripled in a four-year period."

# Summer Injections May Erase Deficit—April 12

For the week ending April 5, 2013 EIA reported a deficit of 804 Bcf from a year ago and a 66 Bcf deficit from the 5-year average. Some analysts predict that strong injections will wipe out the year-over-year deficit by November 1 lifting inventories to around 3.8 Tcf to 3.9 Tcf by November 1 which is on par with last year and above the 5-year average.

"We anticipate that the industry will significantly trim the current year-on-year storage deficit by mid-season, resulting in a significant setback in prices during the second quarter" According to BNP Paribas. Bentek expects a storage level of 3.8 Tcf by the end of the season and Barclays expects the ending inventory to be 3.9 Tcf.

Jefferies and Company provided a lower estimate of 3.67 Tcf but they expect gas prices to fall from the current \$4/MMBtu level back to low \$3.00s/MMBtu. "The recent gas rally was caused by a deliverability crisis, and gas should fade back to the coal displacement orbit when the withdrawal season ends."

# Shell, TravelCenters to Develop LNG Fueling Network—April 16

Shell and TravelCenters announced plans to develop a nationwide network of LNG fueling centers for heavy-duty trucks at about 100 locations along the interstate highway system.



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# NGVs May Capture Just 2% of Market by 2025—April 12

NGV's are expected to capture 2% of the overall US transportation market by 2025 despite cost and environmental advantages over cars and trucks fueled by diesel and gasoline. The transportation sector's natural gas demand is expected to grow from 57 Bcf in 2013 to 711 Bcf in 2025.

Under the most optimistic scenario, roughly 2.4 million NGVs will be on the road by 2025, of which 480,000 will be heavy duty trucks. "Most people seem to think the vehicle section will be just a big gas hog but growth in the use of NGV's is just going to happen a lot more slowly. Compared to the demand for gas from the power sector, or even manufacturing, it will be pretty modest."

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# Energy Information Administration Henry Hub Pricing Per MMbtu April 9, 2013 Release

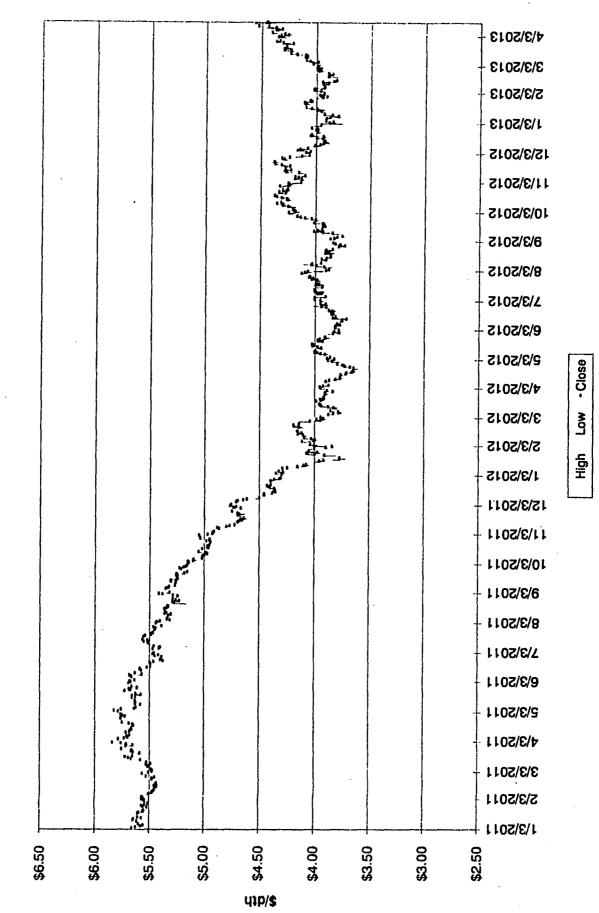
Jan-11		4.49	Jan-12	2.67	Jan-13	3.33	Jan-14	3.72
Feb-11		4.0 <del>9</del>	Feb-12	2.50	Feb-13	3.33	Feb-14	3.63
Mar-11		3.97	Mar-12	2.18	Mar-13	3.81	Mar-14	3.48
Apr-11		4.25	Apr-12	1.95	Apr-13	3.68	Apr-14	3.39
May-11	i	4.31	May-12	2.43	May-13	3.46	May-14	3.45
Jun-11	•	4.55	Jun-12	2.46	Jun-13	3.45	Jun-14	3.56
Jul-11		4.42	Jul-12	2.95	Jul-13	3.50	Jul-14	3.53
Aug-11	•	4.05	Aug-12	2.84	Aug-13	3.51	Aug-14	3.58
Sep-11	•	3.90	Sep-12	2.85	Sep-13	3.48	Sep-14	3.61
Oct-11	•	3.56	Oct-12	3.32	Oct-13	3.50	Oct-14	3.68
Nov-11	1	3.24	Nov-12	3.54	Nov-13	3.56	Nov-14	3.74
Dec-11	;	3.17	Dec-12	3.34	Dec-13	3.66	Dec-14	3.87
Average	:		Average		Average		Average	
2011	\$	4.000	2012	\$ 2.753	2013	\$ 3.523	2014	\$ 3.603
Summer 2011	\$	4.149	Summer 2012	\$ 2.686	Summer 2013	\$ 3.511	Summer 2014	\$ 3.543
Winter 2011- 2012	\$	2.752	Winter 2012- 2013	\$ 3.470	Winter 2013- 2014	\$ 3.610		

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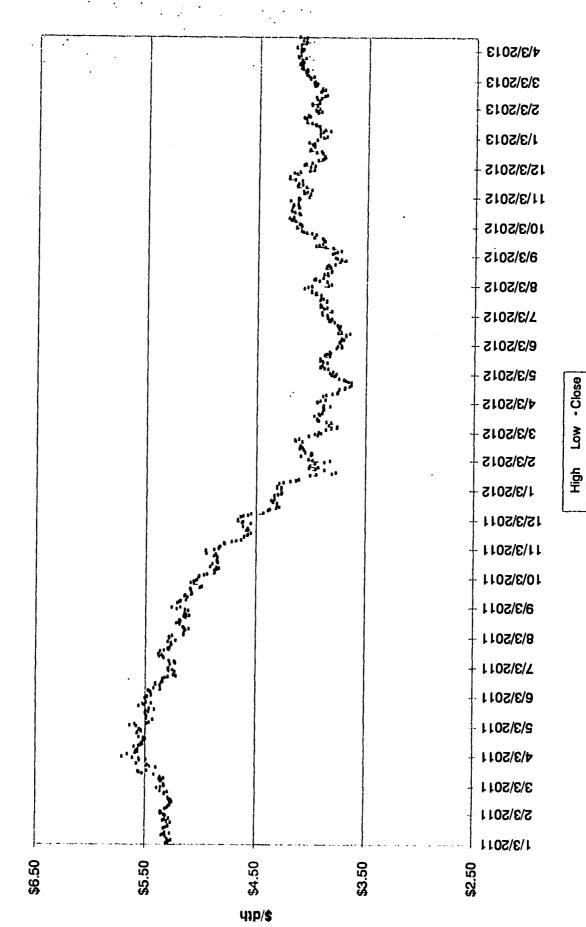
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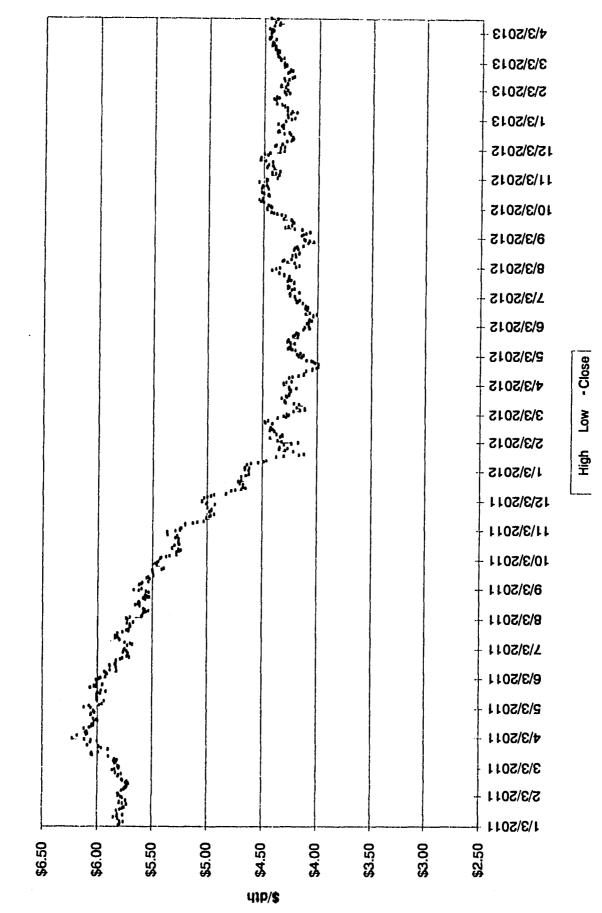
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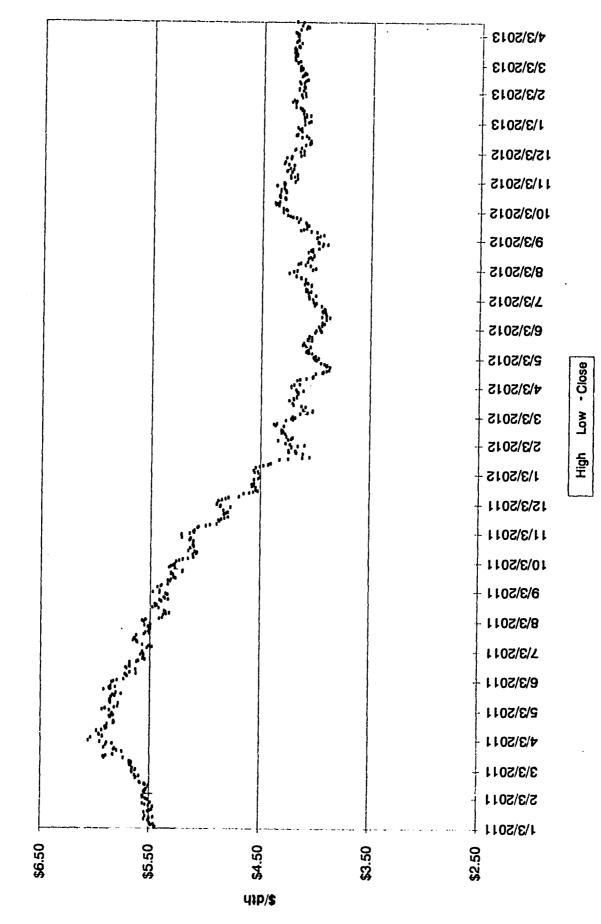
Winter Strip Nov13 - Mar14



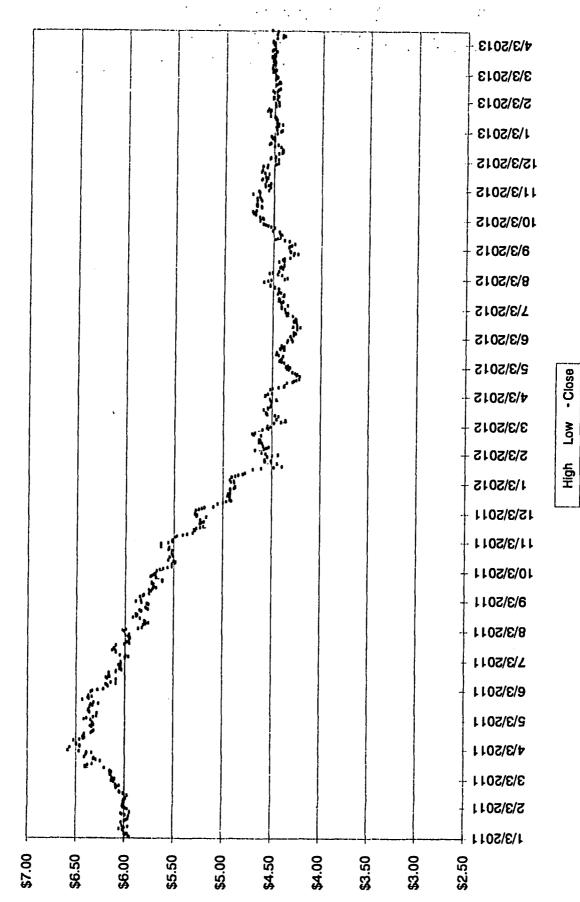
Summer Strip 2014



Winter Strip Nov14 - Mar15



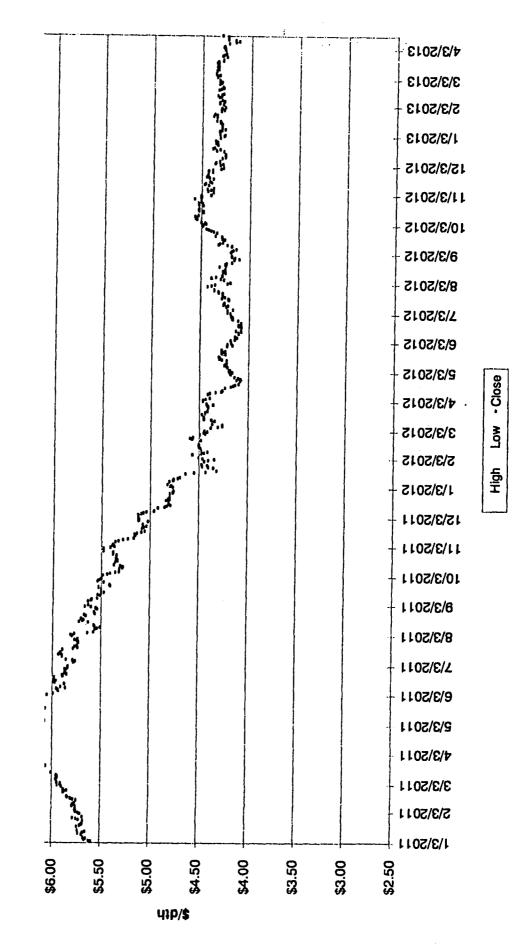
Summer Strip 2015



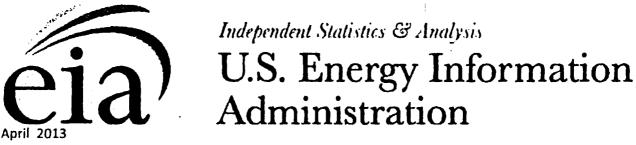
Winter Strip Nov15 - Mar16

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# **Short-Term Energy Outlook (STEO)**

# Natural Gas

#### **U.S. Natural Gas Consumption**

<u>ElA expects that natural gas consumption will average 70.3 Bcf/d and 70.1 Bcf/d in 2013 and 2014.</u> <u>respectively</u>. Forecasts for closer-to-average winter temperatures in 2013 and 2014 (compared with the record-warm temperatures in 2012) will lead to <u>increases in natural gas used for residential and</u> <u>commercial space heating</u>. The projected increase in natural gas prices contributes to a decline in <u>natural gas used for electric power generation from 25.0 Bcf/d in 2012 to 22.9 Bcf/d in 2013 and 22.8</u> <u>Bcf/d in 2014</u>.

#### **U.S. Natural Gas Production and Imports**

<u>Projected natural gas marketed production increases from 69.1 Bcf/d in 2012 to 69.3 Bcf/d in 2013, and 69.4 Bcf/d in 2014.</u> Onshore production increases slightly over the forecast period, while federal Gulf of Mexico production declines. <u>Natural gas pipeline gross imports, which have declined over the past five vears, are projected to remain near their 2012 level over the forecast period.</u> Liquefied natural gas (LNG) imports are expected to remain at minimal levels of less than 0.5 Bcf/d in both 2013 and 2014.

#### **U.S. Natural Gas Inventories**

As of March 29, 2013, working gas stocks totaled 1,687 Bcf, which is 779 Bcf less than at the same time in 2012, and 37 Bcf below the five-year (2008-12) average. EIA projects working gas stocks at the end of this summer's stock-build season (end of October) will reach 3,793 Bcf, about 137 Bcf below the level at the same time last year.

# **Crude Oil Prices**

ElA expects that the Brent crude oil spot price, which averaged \$112 per barrel in 2012 and rose to \$119 per barrel in early February 2013, will average \$108 per barrel in 2013 and \$101 per barrel in 2014. The projected discount of West Texas Intermediate (WTI) crude oil to Brent, which increased to a monthly average of more than \$20 per barrel in February 2013, is forecast to average \$14 per barrel in 2013 and \$9 per barrel in 2014, as planned new pipeline capacity lowers the cost of moving mid-continent crude oil to the Gulf Coast refining centers.

#### **Gas Resources** Hedging Program Market indicators Summary May 30, 2013

	Price Pressure	Term	Comments	Page Ref
Neather				
Long Term Forecast (Aug 13October 13)	1	Long	NOAA predicting above average temperatures for August 2013–October 2013 for the majority of CONUS.	12
Mid Term Forecast (30-60 days)	<b>+-&gt;</b>	Long	June is predicted to be 2.2% warmer than normal based on 10 year normals and July weather is predicted to be 1.1% warmer than normal.	13
Short Term Forecast (6-10 days)		Short	Above temperatures on both coasts with normal temperatures in the central portions of CONUS.	14
Tropical Storm Activity	t	Short	NOAA Indicates that the 2013 hurricane season will be "active or extremely active." 70% chance of the US experiencing 13 to 20 named storms, of which 7 to 11 could become hurricanes and 3 to 6 could become major hurricanes. Season runs historically from June 1 through November 30.	
Storage Inventory	·			
EIA Weekly Storage Report	<b></b>	Long	Storage injections for the week ending May 24th were 88 Bcf. Storage levels are at 2,141 TCF which is 23.7% lower than last year and 3.9% lower than the 5 year average.	15
ndustry Publications				
PIRA Energy Group Winter 2013/14: States Summer 2014: States	†↓	Long	GAS PRICE SCORECARD: Gas Price Outlook for May 2013October 2013 "Neutral". This month's scorecard has been revised from Buillsh to Neutral. Fundamentals supporting this change include Lower 48 Ges Production and Residential/Commercial Demand.	16-17
Gas DallyGas Price Predictions	↓	Long	Summer price forecast widely varying as analysts look at injections, weather and reduced gas fired generation. Summer Strip forecasts: Cit Futures-\$3.25, Bank of America-\$3.50, Bentek-\$3.40-\$3.90, Wells Fargo-\$4.00. 75% of energy executives surveyed expect prices will remain stable in the \$3 to \$4/MMBtu for rest of year.	18
Gas DallyLNG Exports	t	Long	Jordan Cove joins list of 20 projects to export LNG. DOE can deny or restrict exports to non-FTA nations if it is considered contrary to public interest. Dow is opposed to unlimited exports of LNG due to price volatility resulting from new demand from large projects, power generators and LNG exports. DOE gives Freeport LNG project approval to export LNG to non-FTA countries	19-20
Gas Daliy-Switching Coal to Gas	Ļ	Long	Coal will retain gains made in power generation market as a result of increased gas prices. Summer prices \$1.50/MMBtu above last year's price. Bentek estimates gas demand for power generation will drop 2.4 Bcf/d, EIA estimates gas demand will drop 2.18 Bcf/d for the year. According to Bernstein Research, longer term the switch to coal fueled generation will not continue due to more coal plants being retired.	21-2
Bovernment Agencles	T	r	T	<b></b>
Energy information Administration Winter 2013/14: \$4.010 Summer 2014: \$3.921	Ļ	Long	The projected Henry Hub natural gas spot price averages \$3.795/MMBtu for 2013 and \$3.999/MMBtu for 2014. EIA has increased its price for 2013 by \$.27 and increased \$.40 for 2014.	23
echnical Analysis				
Winter 2013-14 Strip Chart	<u>†</u>	Short	Closed at \$4.42	24
Summer 2014 Strip Chart	†	Short	Closed at \$4.23	25
Winter 2014-15 Strip Chart	<b>↑</b>	Short	Closed at \$4.52	26
Summer 2015 Strip Chart	1	Short	Closed at \$4.29	27
Winter 2015-16 Strlp Chart	1	Short	Closed at \$4.63	28
Summer 2016 Strip Chart	1 T	Short	Closed at \$4.43	29
Economy	· · · · · · · · · · · · · · · · · · ·	L		
Demand	<b></b>	Long	EIA projects total natural gas consumption will average 70.2 Bcf/d in 2013 and 69.6 Bcf/d in 2014. Increased usage for residential and commercial space heating being offset by declines in power generation.	30
Supply	<b></b>	Long	Total marketed production will increase from 69.2 Bcf/d in 2012 to 69.9 Bcf/d in 2013, and 70.1 Bcf/d in 2014. EIA expects end of season level at about 3,796 Bcf, about 134 Bcf below last year's level.	30
Oll Market	+	Long	Brent crude to averaged of \$112 per barrel for 2012. EIA expects Brent crude to average \$104 per barrel over the second half of 2013, and \$101 per barrel in 2014. US crude oil output hits 21-year high, driven by Bakken production.	30

Meeting Minutes: 426 Annex Conference Room - 1:00 pm

Attendees: Jeff Kern, Mike Brumback, Mitch Martin, Steve Niederbaumer

Reviewed fundamentals such as weather (current to L/T forecasts), storage levels, industry publications, governmental agency, technical analysis and supply and demand fundamentals. Discussed the Ohio and Kentucky Hedging Programs. Significant discussion took place regarding analyst price projections for the Summer Strip which is considerably lower than current NYMEX pricing. A decision was made not to hedge additional volumes at this time because of the divergence in analyst projections and NYMEX pricing. Due to concerns about pricing volatility(as discussed at the April 2013 meeting) a decision was made that if prices for the November 2013--October 2015 strip increase by 10% prior to the next scheduled meeting we will effectuate a hedging deal for that period-

#### Duke Energy Kentucky Hedging Program - Current Position November 2012 - October 2013 As of 05/23/13

	Nov-12	Dec-12 Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13
Load Forecast City Gate Load Forecast (Mcf)											
TCO FSS Injections (McI)											
Total Requirements (Mcf)											
•											
TCO FSS Withdrawals (Mcf)											
Other "Withdrawals" (Mcf)											
Total Withdrawals (Mcf)											
Amount Hedged (dth/day)											
Fixed Price											
Fixed Price											
Fixed Price											
Fixed Price Cost Avg. (											
Total Hedged (dth/day)											
Total Hedged (dth)											
Types of Hedging Products (1)											
Fixed Price											
Price Caps											
No-Cost Collars											
Embedded Hedged Cost											
Winter											
Summer											
Series.											
Estimated System Supply (Gross)											
Hedged % of System Supply											
Seasonal % of System Supply											
Arre Madaa d with Standard O City Cate											
Amt Hedged with Storage @ City Gate Hedged (City Gate) (Dth)											
Storage Withdrawal (Dth)											
Market (Dth)											
Total (incl. Injections) (Dth)											
% Hedged & Storage											
Seasonal %											
(1) Maximum percentage allowed per type o	f hedging proc	luct is 25% for Winter mo	nths and 40% S	Summer mor	iths.						

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5





#### Duke Energy Kentucky Hedging Program - Current Position November 2013 - October 2014 As of 05/23/13

	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14
Load Forecast												
City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
Total negoliements (mel)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
Fixed Price												
Fixed Price												
Fixed Price												
Total Hedged (onvoay)												
Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth) Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												
(4) Maximum concentration alternations from	of he dology and	ALLAN TO DEDU AL	a Million an an		C							

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

5

#### Duke Energy Kentucky Hedging Program - Current Position November 2014 - October 2015 As of 05/23/13

	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15
Load Forecast												
City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
Fixed Price												
Fixed Price												
TBD Total Hedged (dth/day)												
Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price												
Price Caps No-Cost Collars												
NO-COST COLLARS												
Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth) Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												
		tunt in OFA: f			0							
(1) Maximum percentage allowed per type	or neaging pro-	JUCT IS 25% 10	or winter mor	and 40%	Summer mor	າເກຣ.						

KyPSC Case No. 2012-180 2014 Annual Report PUBLIC Page 41 of 325

#### Duke Energy Kentucky Hedging Program - Current Position November 2015 - October 2016 As of 05/23/13

		Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16
1													
1	4 1												
hed	laina prod	uct is 25% to	or Winter mor	ths and 40%	Summer mon	ឋាន.							

#### Load Forecast

City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)

TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)

#### Amount Hedged (dth/day)

TBD TBD TBD Total Hedged (dth/day) Total Hedged (dth)

#### Types of Hedging Products (1)

Fixed Price Price Caps No-Cost Collars

#### Embedded Hedged Cost

Winter Summer

Estimated System Supply (Gross) Hedged % of System Supply Seasonal % of System Supply

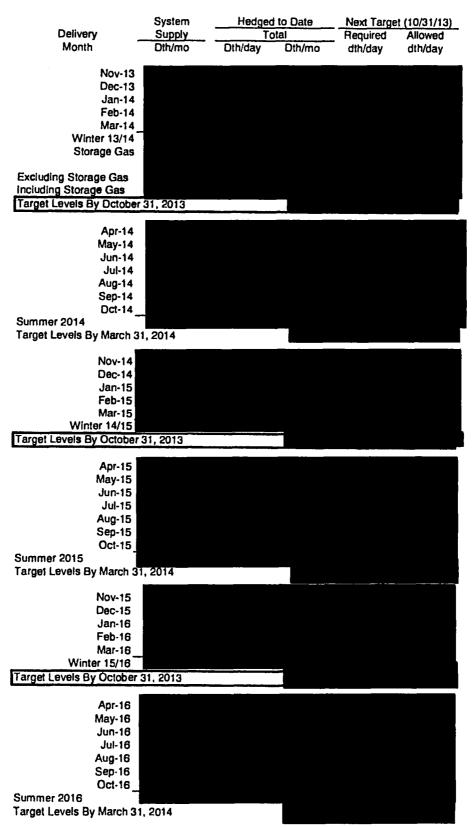
#### Amt Hedged with Storage @ City Gate

Hedged (City Gate) (Dth) Storage Withdrawal (Dth) Market (Dth) Total (incl. Injections) (Dth) % Hedged & Storage Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

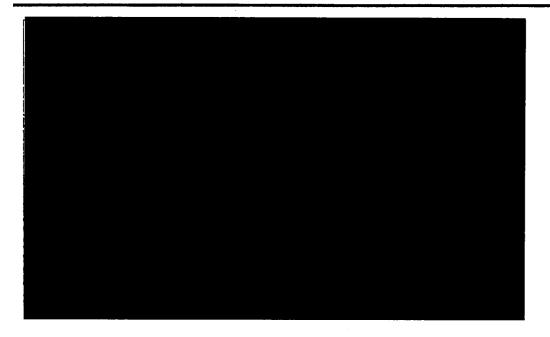
KyPSC Case No. 2012-180 2014 Annual Report PUBLIC Page 42 of 325

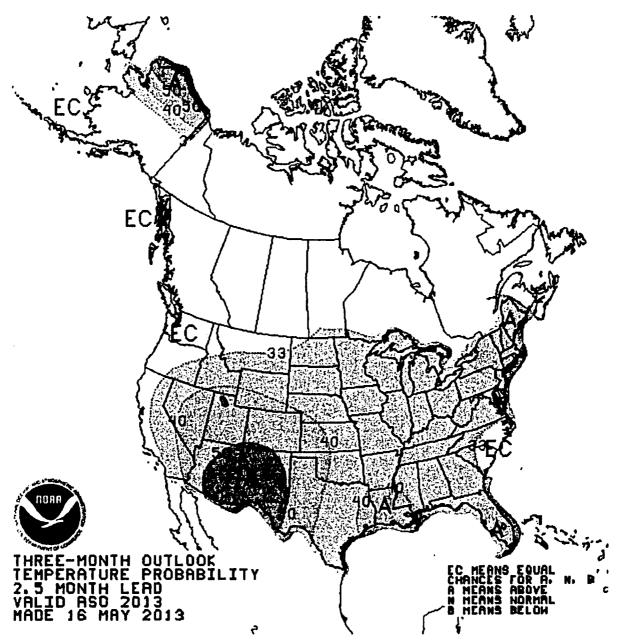
#### Duke Energy Kentucky Hedging Program Current Position



#### COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

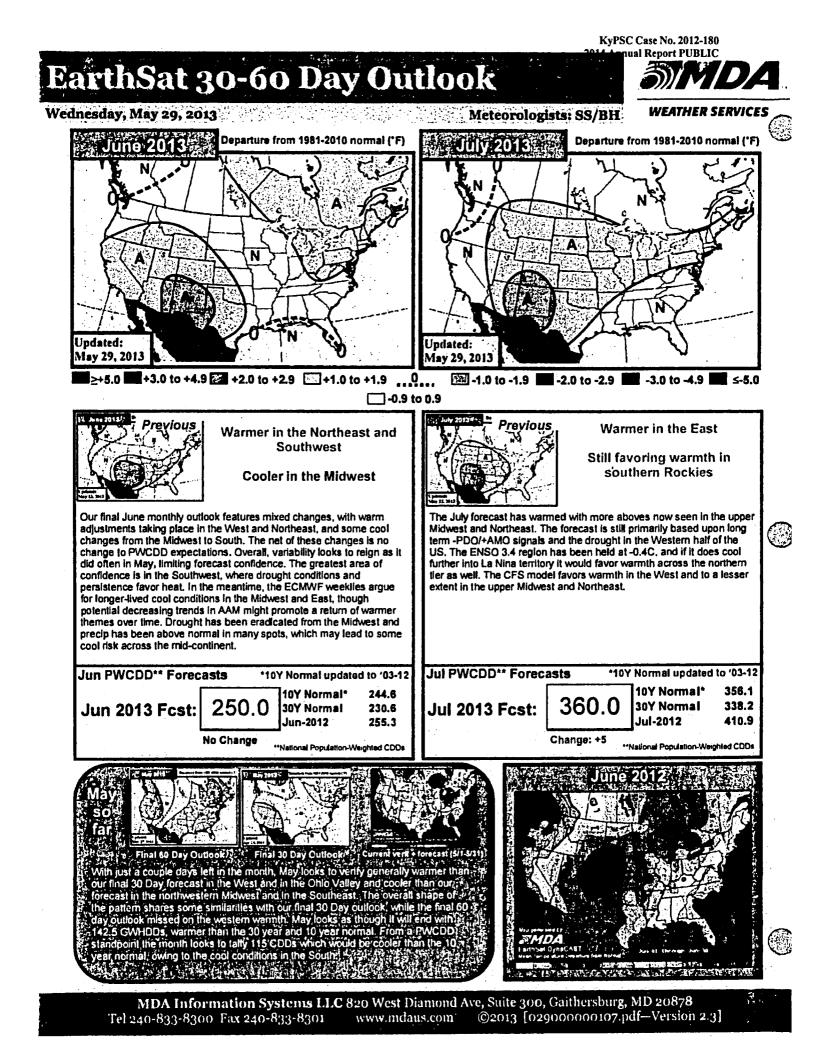
		ic Prices: osing Price					
	5-yr. avg.	Last Year	PIRA	EIA	NYMEX	Hedge	ed Prices
	(08/09-12/13)	(2012-2013)	24-May-13	7-May-13	30-May-13	Ohio	Kentuck
Jun	\$5.27	\$2.43		\$3.870	\$4.148	\$	
July		\$2.77		\$3.820	\$4.168	\$	
Aug		\$3.01		\$3.760	\$4.184	\$	
Sep		\$2.63		\$3.710	\$4.185	\$	
Oct	\$4.36	\$3.02		\$3.810	\$4.189	\$	
Nov	\$4.21	\$3.47		\$3.960	\$4.278	\$	
Dec	\$4.54	\$3.70		\$3.990	\$4.417	\$	
Jan	\$4.52	\$3.35		\$4.170	\$4.493	\$	
Feb	\$3.99	\$3.23		\$4.030	\$4.482	\$	
Mar	\$3.71	\$3.43		\$3.900	\$4.411	\$	
Apr	\$3.58	\$3.98		\$3.710	\$4.170	\$	
May	\$3.63	\$4.15		\$3.780	\$4.181	\$	
Month Avg	\$4.40	\$3.26		\$3.876	\$4.276	\$	
Summe	er Average			\$3.780	\$4.175		
Winter /	Average			\$4.010	\$4.416		



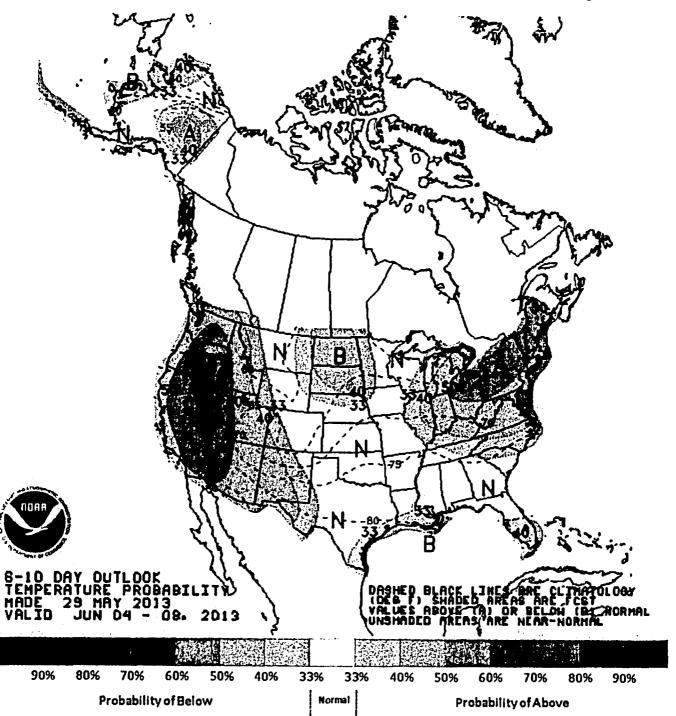


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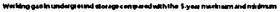
#### Weekly Natural Gas Storage Report

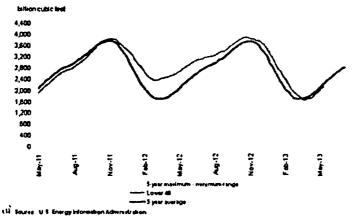
Summary lext CSV JSNWorking gas in underground storage, lower 48 states

				Historical Comparisons							
	bill	Stocks ion cubic feat (I	3c()		1 ago (4/12)	5-Year average (2008 2012)					
Region	05/24/13	05/17/13	change	(Bcf)	% change	(Bcf)	% change				
East	910	857	53	1.319	31 0	1 020	- 10 8				
West	380	368	12	408	69	333	14 1				
Producing	851	828	23	1.078	21.1	876	29				
Salt	243	239	4	260	-6.5	166	46 4				
Nonsalt	608	589	19	817	256	710	-14.4				
Total	2,141	2,053	88	2,805	23.7	2,229	-39				

#### Summary

Working yas in storage was 2.141 Bcl as of Friday, May 24, 2013, according to EIA estimates. This represents a net increase of 88 Bcl from the previous week. Stocks were 664 Bcl teas than last year at this time and 68 Bcl below this 5year average of 2.229 Bcl in the East Region, stocks were 110 Bcl below the 5-year average following net injections of 53 Bcl Stocks in the Producing Region were 25 Bcl below the 5-year average of 876 Bcl after a net injection of 23 Bcl. Stocks in the Wear Region were 47 Bcl above the 5-year average after a net addition of 12 Bcl. At 2,141 Bcl, total working year is within the 5-year historical range.

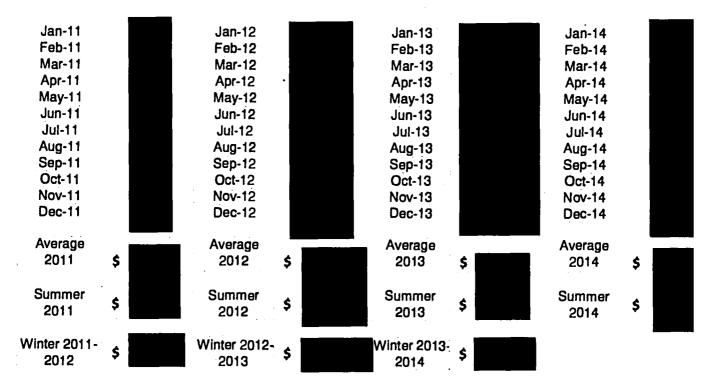




Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2008 through 2012.

Bourse: Form FIA-912, "Weekly Underground Natural Gas Storage Report \* The dashed vertical lates writcate concent and year ago weekly periods

# PIRA North American Gas Price Overview Per MMBTU May 24, 2013 Release



North American Gas Forecast Monthly

May 24, 2013

NATURAL GAS

# U.S. GAS PRICE SCORECARD: MAY 2013 - OCTOBER 2013

Bearish Neutral Bullish

PIRA Energy Group, 3 Park Avenue, 26<sup>th</sup> Floor, New York, NY 10016-5989 (Tel) 212-686-6808 (Fax) 212-686-6628 www.pira.com <sup>2</sup> For authorized subscribers only. Copyright © 2013 PIRA Energy Group. All rights reserved.

# **Price Projections**

## Analysts Diverge on Summer Gas Price Outlook-5/28/2013

Summer price forecasts are widely varying among analysts as they analyze injection forecasts, weather predictions and the return of more coal-fired generation. Prices should get a reality check as supplies should rise markedly and the growing inventories will bring the present back into focus referring to DOE's conditional approval to Freeport LNG's (exporting to begin in 2018) proposal to export gas to countries that do not have free trade agreement with the US.

Citi Futures analyst sees the summer strip to average \$3.25/MMBtu due to an expected narrowing of the storage deficit to the 5-year average. "In our view, extra gas demand in 2018 is poor support for the June 2013 delivery contract."

Another analyst sees summer fundamentals as supportive and sees prices in the \$4 to \$4.50/MMBtu range, citing both drilling and demand as relatively bullish.

Wells Fargo sees gas prices above \$4/MMBtu going forward. "Rapid transition from winter to summer-like conditions in many regions across the US and the ensuing increased power demand driving commodity higher."

Bank of America view \$3.50/MMBtu as the average price this summer based on storage levels and that the market is dependent on coal-to-gas switching for balancing.

Bentek forecasts summer prices to range from \$3.40 to \$3.90/MMBtu having "a bullish bias with dips expected."

# Energy Executives see US Gas Prices Stable this Year-May 20

Almost 75% of the global energy executives surveyed expect US gas prices will remain stable in the \$3/MMBtu to \$4/MMBtu range for the rest of the year. Citing greater assurance of supply as well as marginal production remains shut in which could be quickly brought on line has led to the stable pricing outlook.

The shale boom has convinced two-thirds of the respondents that the US will be energy-independent by 2030.

# LNG Exports

# Jordan Cove Files LNG Export Plan With FERC-May 23

Jordan Cove Energy Project joined a list of over 20 projects filed with FERC for approval to operate a LNG export facility. Jordan Cove is somewhat unique in that it is located in the Pacific Northwest, which would allow it to tap gas from the US Rockies and Canada and send it directly to buyers in Asia.

Under current law, DOE is required to quickly approve applications to export LNG to countries with FTAs, but it can deny of restrict proposed exports to non-FTA nations if they are considered contrary to public interest.

# LNG Exports Just Part of Larger Demand Bubble-May 22

Dow Chemical renewed its opposition to unlimited exports of LNG, citing the new demand would cause the kind of gas price spikes that sent petrochemical firms to move operations overseas.

"Dow worries that three streams of increased gas demand will converge to overwhelm the short-term ability of producers to create new gas supplies—thereby reintroducing gas buyers to the price volatility of 2000s." New demand comes from companies that have invested \$100 billion in projects using large volumes of natural gas and liquids, the power generation sector—replacing coal facilities, and LNG exports.

# DOE Gives Approval to Freeport LNG to Export Gas to Non-FTA Countries—May 20

The Department of Energy announced conditional approval for a second Gulf Coast terminal to export LNG to countries that do not have free trade agreements with the US. This facility will export up to 1.4 Bcf/d over 20 years from Quintana Island, Texas.

Freeport has agreements with BP, Japan's Osaka Gas and Chuba Electric Power for use of the facility and has said it is planned to launch exports in 2017.

DOE said the Freeport proposal was "Likely to yield net economic benefits to the United States. DOE wrote "We further find that granting the requested authorization is unlikely to affect adversely the availability of natural gas supplies to domestic customers or

result in natural gas price increases or increased price volatility such as would negate the net economic benefits to the United States."

DOE is reviewing 20 applications to ship LNG to non-FTA countries. Prior to Freeport, DOE had only approved Cheniere's Sabine Pass project in Louisiana.

# Switching—Coal to Gas

# Coal to Give Gas a Run for its Money this Summer-May 24

Coal appears poised to hold onto a large chunk of the gains made in the power generation market. Summer prices in various fuel-switching areas are sitting \$1.50/MMBtu above the same time last year.

According to Bentek, this year, total US power burn has averaged 19.7 Bcf/d, down 12.4% from 22.5 Bcf/d for the same time in 2012. For 2013, Bentek estimates gas demand for power generation will drop 2.4 Bcf/d from last year's levels—for the summer that decline is expected to be 3.2 Bcf/d from the summer of 2012. EIA projects for the entire year, gas demand for power generation will be down an average of 2.18 Bcf/d from 2012.

Based on the location of the coal plant and where the coal is being shipped from is very important in determining if switching will occur. For example, in the Carolinas, Duke Energy has experienced a large upward trend in the use of gas for power generation as a number of coal plants have been retired and more combined-cycle gas turbines have come online. According to Duke, it is not until gas hits \$4.50/MMBtu that their most efficient coal generator becomes economically competitive. On the other hand, Xcel Energy, which operates utilities in the Midwest and Westerns states, said delivered gas prices need to be south of \$3/MMBtu and probably less than \$2.50/MMBtu to be competitive with Powder River Basin coal.

# **Coal-Fired Generation on the Rise for Now—May 21**

"Coal-fired power generation will increase this year in the US as natural gas prices rise, but that trend will not continue, as many electric utilities find it less costly in the long run to stick with gas" according to Bernstein Research.

Bernstein expects a reduction in gas usage for generation by about 2.2 Bcf/d from 2012 levels due to rising gas prices. This will occur even though more gas generation capacity is coming online and more coal plants will be retired.

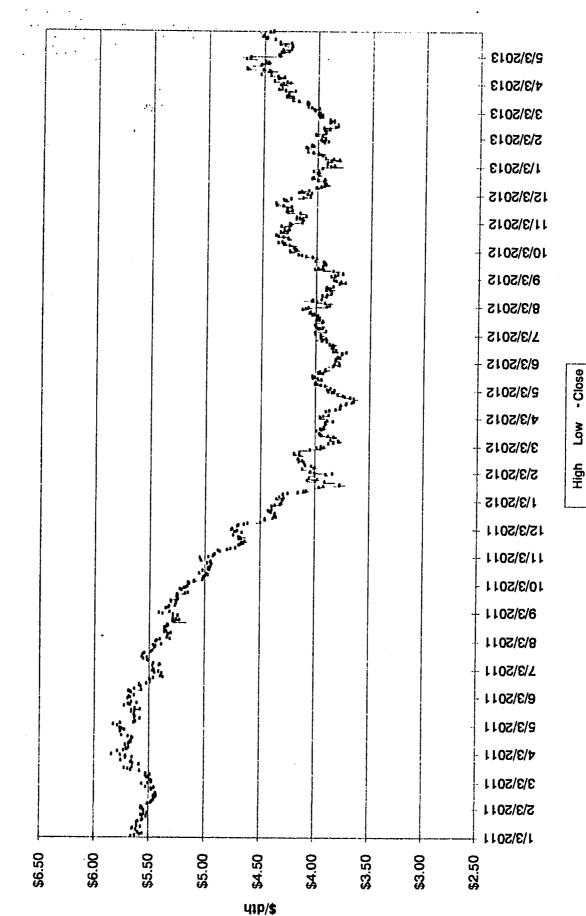
New Federal regulations such as the EPA's Mercury and Air Toxic Standards rule that goes into effect in 2015, utilities will find it cheaper to retire older smaller coal-fired units than to retrofit them with the required controls.

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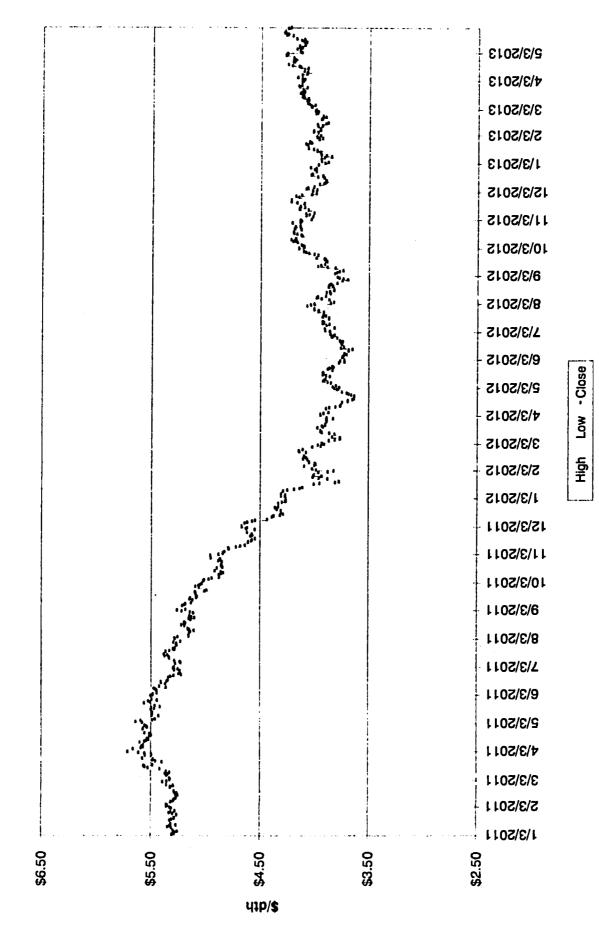
"The all-in cost of power from a new coal-fired power plant can be estimated at about \$65/MWh, but the all-in cost of a new combined-cycle gas turbine generator is only \$52/MWh at \$5/MMBtu gas, and can be as low as \$45/MWh at \$4/MMBtu gas."

# Energy Information Administration Henry Hub Pricing Per MMbtu May 7, 2013 Release

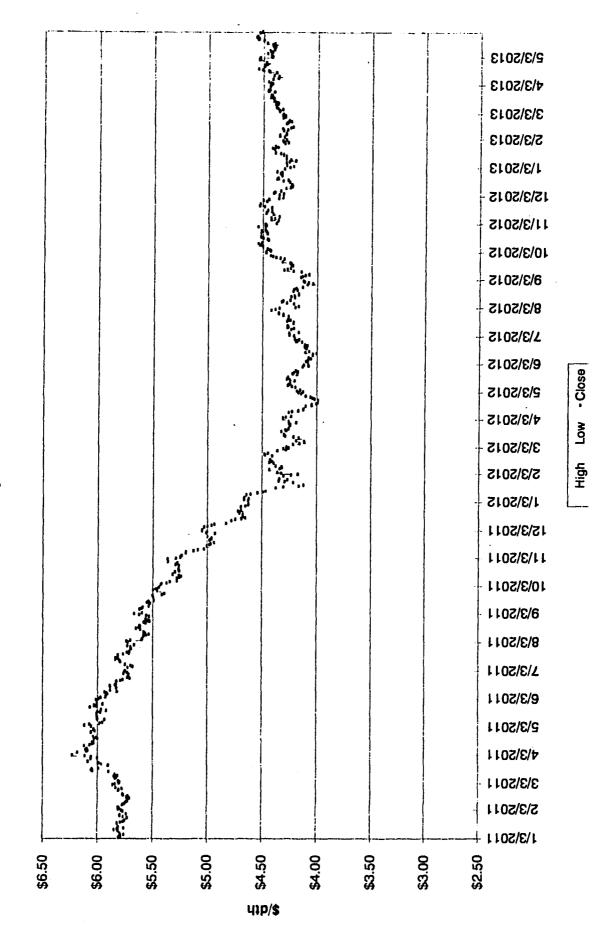
Jan-11	4.49	Jan-12	2.67	Jan-13	3.33	Jan-14		4.17
Feb-11	4.09	Feb-12	2.50	Feb-13	3.33	Feb-14		4.03
Mar-11	3.97	Mar-12	2.18	Mar-13	3.81	Mar-14	•	3.90
Apr-11	4.25	Apr-12	1.95	Apr-13	4.17	Apr-14		3.71
May-11	4.31	May-12	2.43	May-13	3.98	May-14		3.78
Jun-11	4.55	Jun-12	2.46	Jun-13	3.87	Jun-14		3.91
Jul-11	4.42	Jul-12	2.95	Jul-13	3.82	Jul-14		3.99
Aug-11	4.05	Aug-12	2.84	Aug-13	3.76	Aug-14		4.06
Sep-11	3.90	Sep-12	2.85	Sep-13	3.71	Sep-14		3.99
Oct-11	3.56	Oct-12	3.32	Oct-13	3.81	Oct-14		4.01
Nov-11	3.24	Nov-12	3.54	Nov-13	3.96	Nov-14		4.15
Dec-11	3.17	Dec-12	3.34	Dec-13	3.99	Dec-14		4.29
Average	•	Average		Average		Average		
2011	\$ 4.000	2012	\$ 2.753	2013	\$ 3.795	2014	\$	3.999
Summer 2011	\$ 4.149	Summer 2012	\$ 2.686	Summer 2013	\$ 3.874	Summer 2014	\$	3.921
Winter 2011- 2012	\$ 2.752	Winter 2012- 2013	\$ 3.470	Winter 2013- 2014	\$ 4.010			



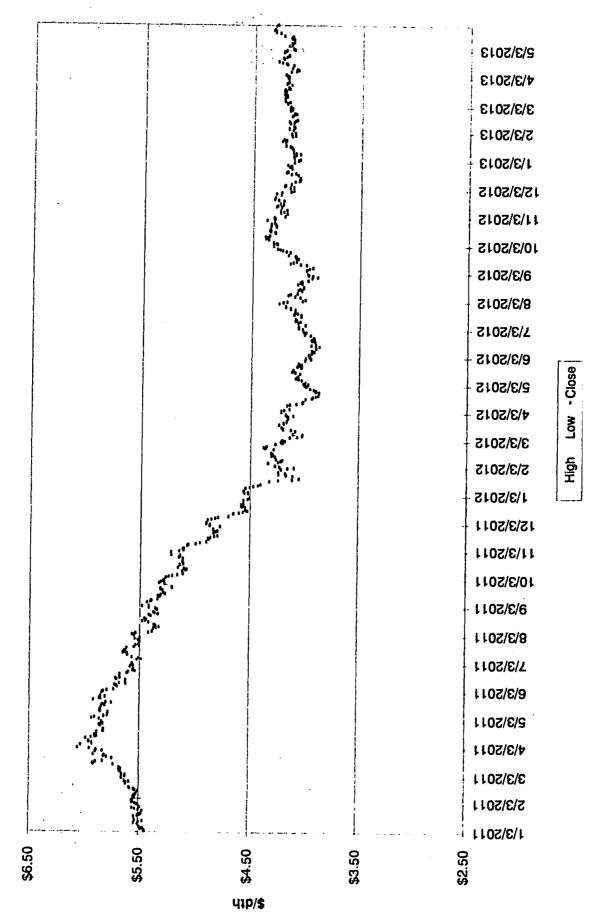
Winter Strip Nov13 - Mar14



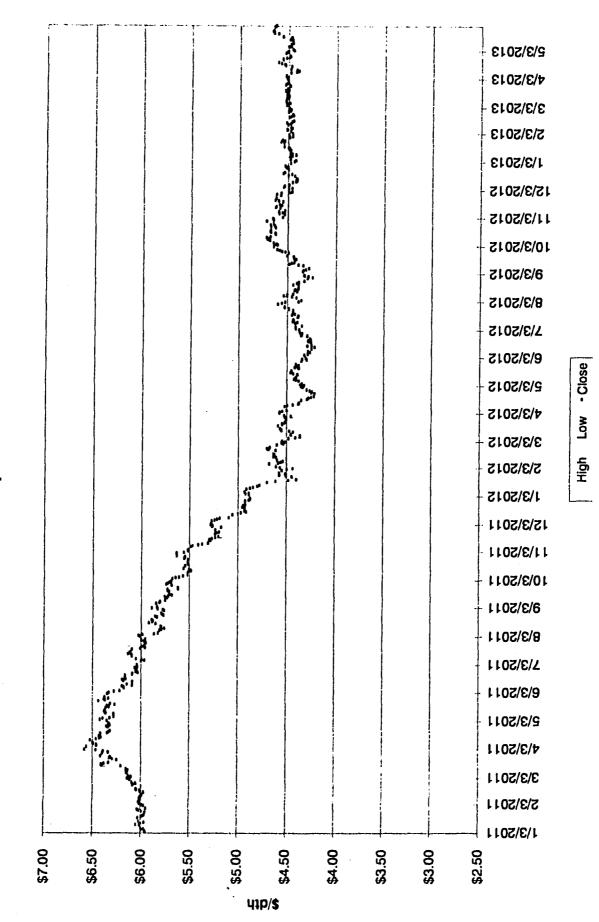
Summer Strip 2014



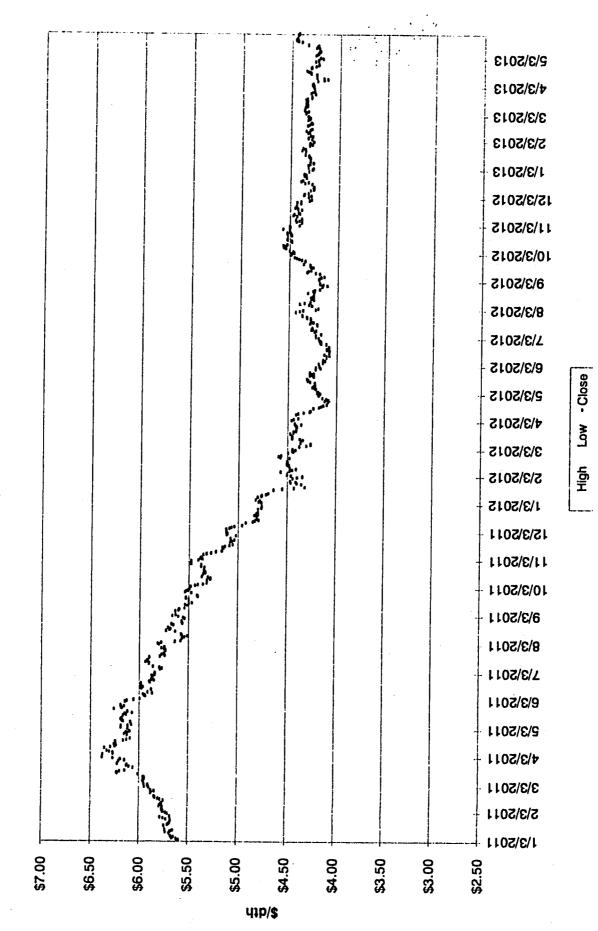




Summer Strip 2015



Winter Strip Nov15 - Mar16



Summer Strip 2016



# Independent Statistics & Analysis U.S. Energy Information Administration

# **Short-Term Energy Outlook (STEO)**

# **Natural Gas**

#### **U.S. Natural Gas Consumption**

ElA expects that natural gas consumption will average 70.2 Bcf/d and 69.6 Bcf/d in 2013 and 2014, respectively. Forecasts for closer-to-average winter temperatures in 2013 and 2014 (compared with the record-warm temperatures in 2012) will lead to increases in natural gas used for residential and commercial space heating. The projected increase in natural gas prices contributes to a decline in natural gas used for electric power generation from 25.0 Bcf/d in 2012 to 22.8 Bcf/d in 2013 and 22.2 Bcf/d in 2014.

#### U.S. Natural Gas Production and Imports

<u>Projected natural gas marketed production increases from 69.2 Bcf/d in 2012 to 69.9 Bcf/d in 2013, and 70.1 Bcf/d in 2014.</u> Onshore production increases slightly over the forecast period, while federal Gulf of Mexico production declines. <u>Natural gas pipeline gross imports, which have declined over the past five years, are projected to remain near their 2012 level over the forecast period.</u> Liquefied natural gas (LNG) imports are expected to remain at minimal levels of less than 0.5 Bcf/d in both 2013 and 2014.

### **U.S. Natural Gas inventories**

As of April 26, 2013, working gas stocks totaled 1,777 Bcf, which is 795 Bcf less than at the same time in 2012, and 11B Bcf below the five-year (2008-12) average. EIA projects working gas stocks at the end of this summer's stock-build season (end of October) will reach 3,796 Bcf, about 134 Bcf below the level at the same time last year.

# **Crude Oil Prices**

ElA expects that the Brent crude oil spot price, which averaged \$112 per barrel in 2012 and rose to \$119 per barrel in early February 2013, will average \$104 per barrel over the second half of 2013 and \$101 per barrel in 2014. The projected discount of West Texas Intermediate (WTI) crude oil to Brent, which increased to a monthly average of more than \$20 per barrel in February 2013, is forecast to average \$13 per barrel in 2013 and \$9 per barrel in 2014.

#### Gas Resources Hedging Program Market Indicators Summary June 20, 2013

	Price Pressure	Term	Comments	Page
Weather	Trassula			Ref
Long Term Forecast (Sep 13-Nov 13)	1	Long	NOAA predicting above average temperatures for September 2013 November 2013 for the majority of CONUS except for the Southeast.	12
Mid Term Forecast (30-60 days)	<b>+</b>	Long	July is predicted to be 1.1% warmer than normal based on 10 year normals and August weather is predicted to be 1.6% colder than normal.	13
Short Term Forecast (6-10 days)	1	Short	Above temperatures covers the majority of CONUS, Normal temperatures in the southern portion of CONUS.	14
Tropical Storm Activity	† <b>↓</b>	Short	The Attantic basin will see more activity late in the 2013 hurricane season according to StatWeather. In addition, StatWeather stales that sea surface temperatures are not yet high enough for hurricanes. According to Barclays, "Unless significant damage is done to production infrastructure in the area, disruptions to production are likely to be small and briel." Season runs historically from June 1 through November 30.	
Storage Inventory		r	Store as intertions for the week and ing tune 14th were 01 Ref. Stores	
EIA Weekly Storage Report	<b></b>	Long	Storage injections for the week ending June 14th were 91 Bcf. Storage levels are at 2,438 TCF which is 18.7% lower than last year and 1.9% lower than the 5 year average.	15
Industry Publications				·····
PIRA Energy Group Winter 2013/14: Summer 2014:	<b>†</b> ↓	Long	GAS PRICE SCORECARD: Gas Price Outlook for May 2013October 2013 "Neutral". This month's scorecard has been revised from Builish to Neutral. Fundamentals supporting this change include Lower 48 Gas Production and Residential/Commercial Demand.	16-17
Gas DallyDemand and Production	<b>†</b> ↓	Long	Demand to grow by 3% through 2017 as power generators and industrials take advantage of low-cost gas supplies. Gas producers will meet demand growth with prices of \$4.24/Mcf. Summer demand will average 1 Bcf/d lower than last year, due to more normal temperatures and higher prices. Industrial sector fastest growing due to low gas costs and rebounding economy. Production seen flat or rising this year and next due to high volumes of associated gas, increased pipeline takeaway, drilling efficiencies and leveling out of decline rates in maturing basins.	18-19
Gas DallyLNG Exports	t	Long	DOE approval is just the first hurdle to LNG exports. After DEO approval, a FERC review takes place. FERC review could last for 2 years. Longer that the Obama administration delays approval of LNG exports the more likely that US producers will lose to global competitors. EEI chairman down plays concerns that LNG exports will have a negative impact on the power-generation sector.	20-21
Government Agencies	····		······································	·
Energy Information Administration Winter 2013/14: \$4.170 Summer 2014: \$4.000	<b>†</b> +	Long	The projected Henry Hub natural gas spot price averages \$3.923/MMBtu for 2013 and \$4.105/MMBtu for 2014. EIA has increased its price for 2013 by \$.13 and increased \$.11 for 2014.	22
Technical Analysis	1		f	
Winter 2013-14 Strip Chart		Short	Closed at \$4.21	23
Summer 2014 Strip Chart	<u> </u>		Closed at \$4.11	24
Winter 2014-15 Strip Chart	+		Closed at \$4.38	25
Summer 2015 Strlp Chart		Short	Closed at \$4.17	26
Winter 2015-16 Strip Chart		Short	Closed at \$4.48	27
Summer 2016 Strip Chart	<u> </u>	Short	Closed at \$4.27	28
Demand		Long	EIA projects total natural gas consumption will average 70.0 Bcf/d in 2013 and 69.6 Bcf/d in 2014. Increased usage for residential and commercial space heating being offset by declines in power generation.	29-30
Supply	<b></b>	Long	Total marketed production will increase from 69.2 Bc1/d in 2012 to 70.0	29-30
Oll Market	ţ	Long	Brent crude to averaged of \$112 per barrel for 2012. EIA expects Brent crude to average \$105 per barrel and \$100 per barrel in 2013 and 2014, respectively.	29-30

Meeting Minutes: 426 Annex Conference Room - 1:00 pm

Attendees: Jim Mehring, Jeff Kern, Mike Brumback, Mitch Martin, Joachim Fischesser, Steve Niederbaumer

Reviewed fundamentals such as weather (current to L/T forecasts), storage levels, industry publications, governmental agency, technical analysis and supply and demand fundamentals. Discussed the Ohio and Kentucky Hedging Programs. Significant discussion took place regarding the demand and production information presented, specifically the increase in demand through 2017 and the analyst opinion that gas producers will meet the demand growth with prices in the \$4.25/Mcf range. A decision was made not to hedge additional volumes at this time. Due to concerns about pricing volatility(as discussed at the April 2013 meeting) a decision was made that if prices for the April 2014--March 2015 strip decreased to the sub \$4.00 range or increased to \$4.50 range a supplemental meeting would be called prior to the next scheduled meeting.

#### **Duke Energy Kentucky** Hedging Program - Current Position November 2012 - October 2013 As of 06/18/13

oad Forecast City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)	<u>Nov-12 í</u>	Dec-12	Jan-13 Fel	<u>)-13</u> Mar-1	3 Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	
TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)												
mount Hedged (dth/day) Fixed Price Fixed Price Fixed Price Fixed Price Cost Avg. ( Total Hedged (dth/day) Total Hedged (dth)												
vpes of Hedging Products (1) Fixed Price Price Caps No-Cost Collars												
mbedded Hedged Cost Winter Summer												
Estimated System Supply (Gross) Hedged % of System Supply Seasonal % of System Supply												
Int Hedged with Storage @ City Gate Hedged (City Gate) (Dth) Storage Withdrawal (Dth) Market (Dth) Total (incl. Injections) (Dth) % Hedged & Storage Seasonal %												
1) Maximum percentage allowed per type of	hedging produc	t is 25% for \	Vinter months an	d 40% Summer	months.							100

# Total Requirements (Mcf)

Load Forecast

#### Amount Hedged (dth/day)

#### Types of Hedging Products (\*

#### **Embedded Hedged Cost** Winter Summer

#### Amt Hedged with Storage @ Hedged (City Gate) (Dth) Storage Withdrawal (Dth) Market (Dth) Total (incl. Injections) (Dth) % Hedged & Storage Seasonal %

KyPSC Case No. 2012-180 2014 Annual Report PUBLIC Page 65 of 325

# Duke Energy Kentucky Hedging Program - Current Position November 2013 - October 2014 As of 06/18/13

Load Forecast	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jui-14	Aug-14	Sep-14	Oct-14
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
TCO FCC Mithdrawala (Mach												
TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
······												
Amount Hedged (dth/day)												
Fixed Price												
Fixed Price												
Fixed Price												
Total Hedged (onvoay)												
Total Hedged (dth)												
Turne of Medicine Broducte (d)												
Types of Hedging Products (1) Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter . Summer												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												
(1) Maximum percentage allowed per type of	of hedging pro	duct is 25% f	or Winter mor	ths and 40%	Summer mo	nths.						

Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

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#### Duke Energy Kentucky Hedging Program - Current Position November 2014 - October 2015 As of 06/18/13

	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15
Load Forecast City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
Fixed Price												
Fixed Price												
TBD												
Total Hedged (dth/day) Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price												
Price Caps No-Cost Collars												
NO-COST CONTRACT												
Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												
(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.												

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KyPSC Case No. 2012-180 2014 Annual Report PUBLIC Page 67 of 325

#### Duke Energy Kentucky Hedging Program - Current Position November 2015 - October 2016 As of 06/18/13

Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

8

Load Forecast

TBD TBD TBD

Total Hedged (dth/day) Total Hedged (dth)

Embedded Hedged Cost

Market (Dth)

Fixed Price Price Caps No-Cost Collars

Winter Summer

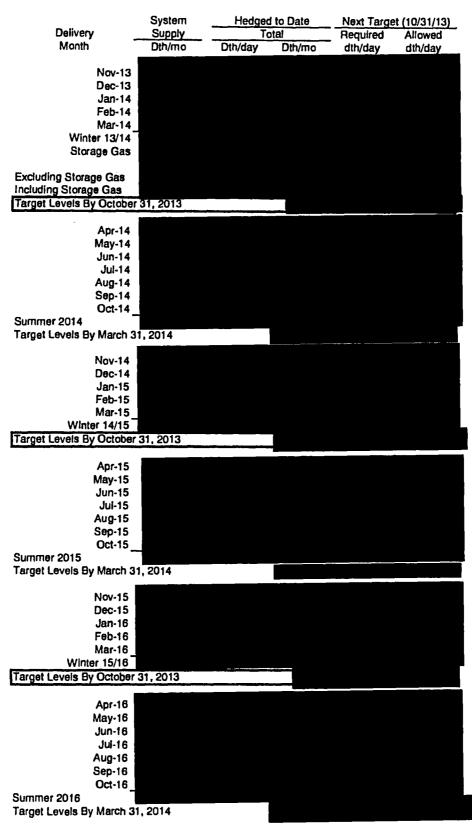
Types of Hedging Products (1)

Estimated System Supply (Gross) Hedged % of System Supply Seasonal % of System Supply Amt Hedged with Storage @ City Gate Hedged (City Gate) (Dth) Storage Withdrawal (Dth)

Total (incl. Injections) (Dth) % Hedged & Storage Seasonal %

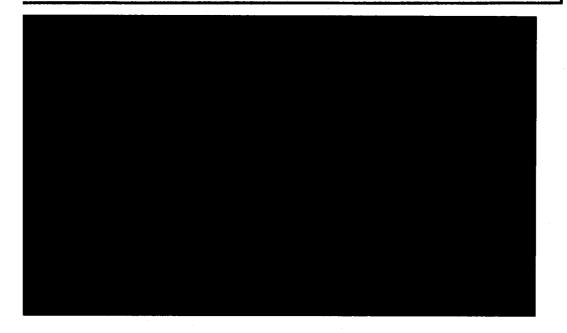
City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf) TCO FSS Withdrawais (Mcf) Other "Withdrawais" (Mcf) Total Withdrawais (Mcf) Amount Hedged (dth/day)

#### Duke Energy Kentucky Hedging Program Current Position

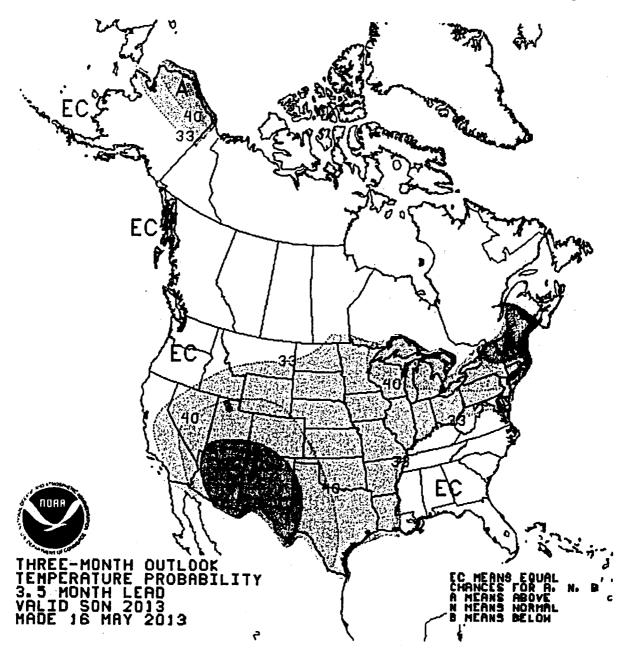


#### COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

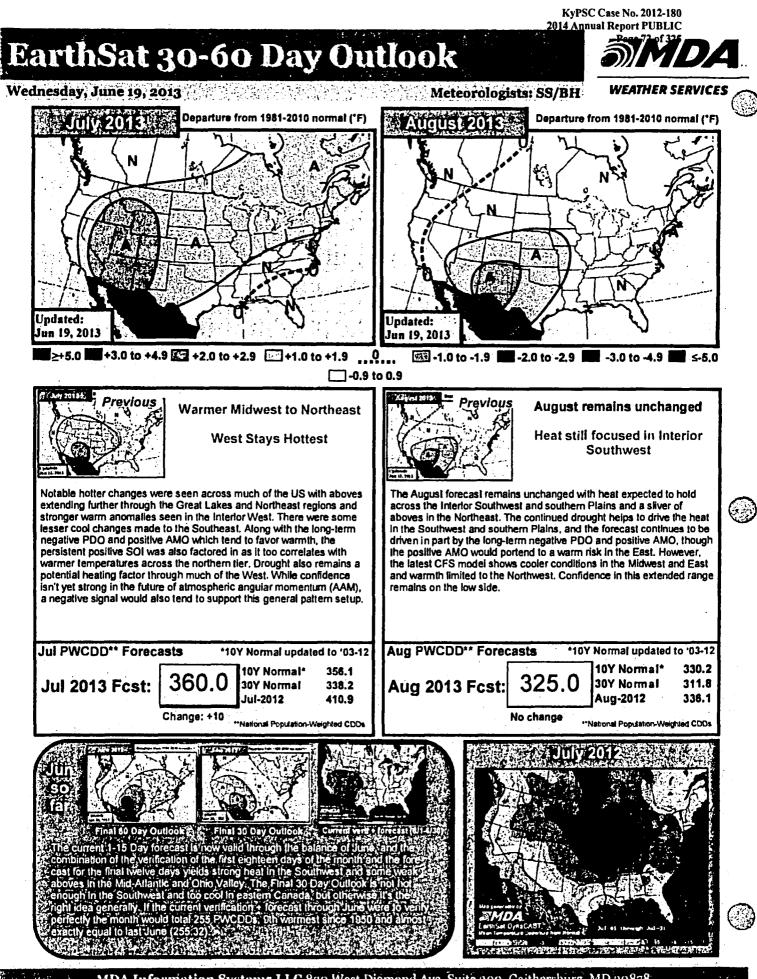
	Histori	c Prices:		بالبريان ومستشائلات				
	NYMEX CI	osing Price						
	5-yr. avg.	Last Year	4	PIRA	EIA	NYMEX	Hedge	ed Prices
	(08/09-12/13)	(2012-2013)	24-1	May-13	11-Jun-13	19-Jun-13	Ohio	Kentucky
July	\$5.78	\$2.77			\$4.030	\$3.952	\$	
Aug	\$4.95	\$3.01			\$4.080	\$3.974	\$	
Sep	\$4.28	\$2.63			\$4.030	\$3.974	\$	
Oct	\$4.36	\$3.02			\$3.960	\$3.981	\$	
Nov	\$4,21	\$3.47		-	\$4.170	\$4.048	\$	
Dec	\$4.54	\$3.70			\$4.150	\$4.202	\$	
Jan	\$4.52	\$3.35			\$4.270	\$4.270	\$	
Feb	\$3.99	\$3.23			\$4.210	\$4.280	\$	
Mar	\$3.71	\$3.43			\$4.050	\$4.222	\$	
Apr	\$3.58	\$3.98			\$3.810	\$4.055	\$	
May		\$4.15			\$3.740	\$4.075	\$	
Jun	\$3.72	\$4.15			\$3.920	\$4.092	\$	
12 Month Avg	\$4.27	\$3.41			\$4.035	\$4.094	\$	
Summe	r Average				\$3.939	\$4.015		
Winter A	verage	· · · · · · · · · · · · · · · · · · ·			\$4.170	\$4.204		



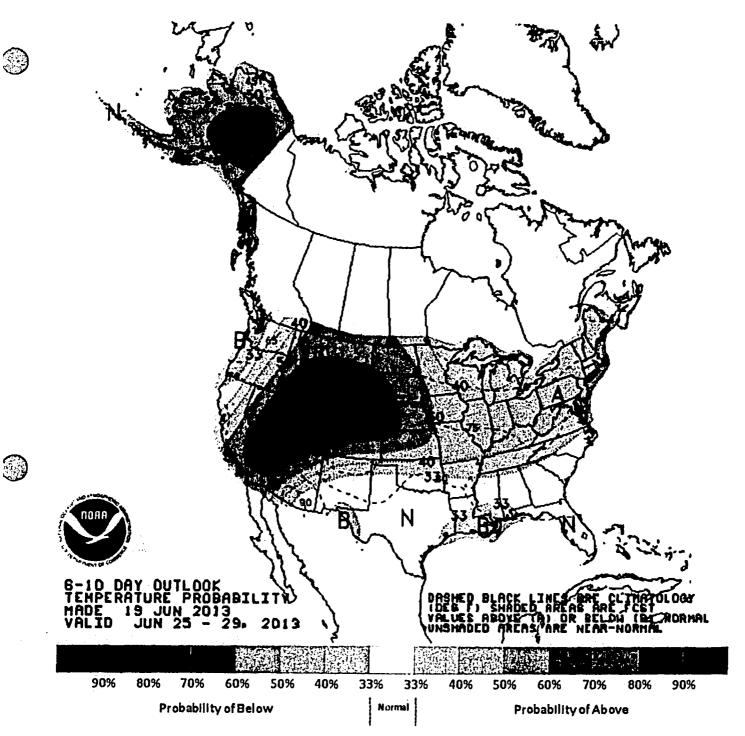
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MDA Information Systems LLC 820 West Diamond Ave, Suite 300, Gaithersburg, MD 20878 Tel 240-833-8300 Fax 240-833-8301 www.mdaus.com ©2013 [029000000107.pdf-Version 2.3]





#### Weekly Natural Gas Storage Report

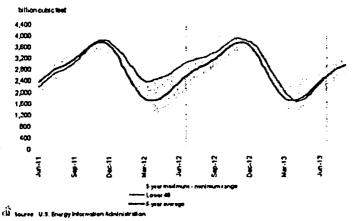
Summary text CSV JSNWorking gas in underground elorage, lower 48 states

				Historical Comparisons							
	Dili	Stocks ion cubic feet (I	Bcf)		r ago 14/12)		average 2012)				
Region	06/14/13	05/07/13	change	(Bcf)	% change	(Bcf)	% change				
East	1,085	1.025	60	1,438	-24 5	1,1/9	80				
West	420	409	11	445	-5.6	376	117				
Producing	933	913	20	1,114	-16.2	930	03				
Salt	261	259	2	264	-1.1	175	49.1				
Nonsal1	673	654	19	850	20.8	755	-10.9				
Total	2,438	2.347	91	2,997	-18.7	2,485	-1.9				

#### Summary

Working gas in storage was 2.438 Bct as of Fridey, June 14. 2013, according to EIA estimates. This represents a net increase of 91 Bct from the previous week. Stocks were 559 Bct less than fast year at this time and 47 Bct below the 5year average of 2.485 Bct. In the East Region, stocks were 94 Bct below the 5-year average following net injections of 60 Bct. Stocks in the Producing Region were 3 Bct above the 5-year average of 930 Bct after a net injection of 20 Bct. Stocks in the Wast Region were 44 Bct above the 5-year average after a net addition of 11 Bct. At 2,438 Bct, total working gas is writin the 5 year historical range.



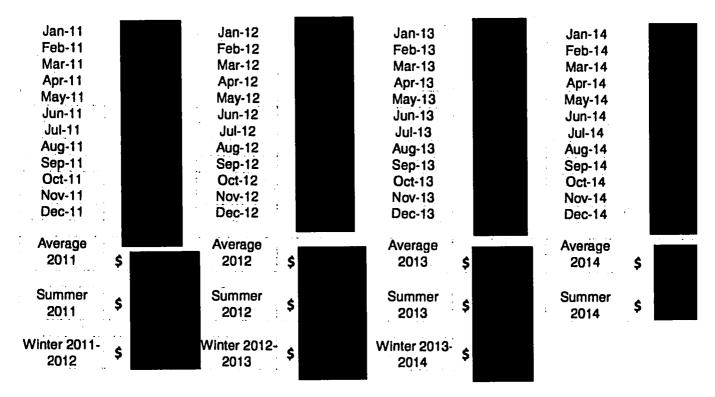


Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly asses from 2008 through 2012.

Source: Form EtA-812, 'Weekly Underground Natural Clas Storage Report." The destired vertical kines indicate current and year ago weekly periods.

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## PIRA North American Gas Price Overview Per MMBTU May 24, 2013 Release



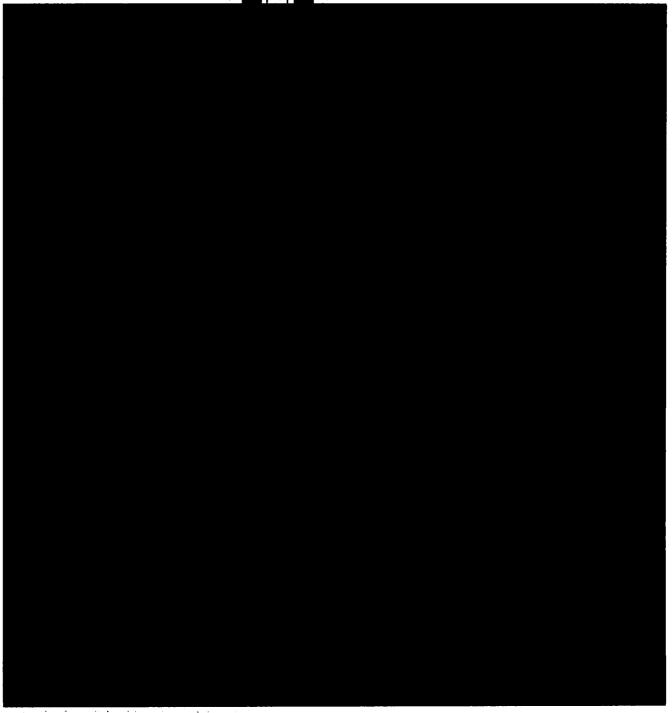
North American Gas Forecast Monthly

May 24, 2013

NATURAL GAS

## U.S. GAS PRICE SCORECARD: MAY 2013 - OCTOBER 2013

Bearish Neutral Bullish



PIRA Energy Group, 3 Park Avenue, 26<sup>th</sup> Floor, New York, NY 10016-5989 (Tel) 212-686-6808 (Fax) 212-686-6628 www.pira.com <sup>2</sup> For authorized subscribers only. Copyright © 2013 PIRA Energy Group. All rights reserved.

### Demand to Grow 3% per Year Through 2017—June 18, 2013

US natural gas demand will grow about 3% per year through 2017 as power generators and industrial end-users take advantage of low-cost gas supplies.

"No major economy in the world currently has more cheap and abundant gas supply than the US. More importantly, many of these global industries actually use much more expensive oil (currently 4 or 5 times more expensive than US gas) as feedstock for their operations. That means the US industrial gas consumers should be some of the biggest beneficiaries of this cheap US gas."

Ethane crackers and gas-to-liquids plants should increase industrial demand by 8 Bcf/d to around 27 Bcf/d in 2017 as firms continue building or expanding facilities. In addition, power demand is expecting to grow by 3% to 5%/year, or 650,000 Mcf/d to 1 Bcf/d annually by 2017.

Raymond James is confident that gas producers will meet the demand growth with prices in the \$4.25/Mcf area.

## Industrials, Not Power, to Drive Summer Demand—June 13, 2013

More normal temperatures and higher prices will drop electric-generation gas demand by about 10% this summer compared to last summer. According to Energy Ventures Analysis, overall gas demand for April through October will average 1 Bcf/d lower than last year. The drop-off is due in large part to a slowdown in price-driven coal-to-gas switching by power plants.

"The industrial sector is the fastest-growing part of the gas market thanks to relatively low gas costs and a rebounding economy that has led to a series of capacity expansions in the fertilizer, chemical, steel and gas-to-liquids industries. There have been 70 announced capacity expansion projects that could boost gas demand by 3.6 Bcf/d over the next year."

## Production Seen Flat or Rising this Year and Next—June 11, 2013

Rig counts are near 14-year lows and wellhead prices are having a hard time holding above \$4/MMBtu, yet many analysts see overall dry gas production holding steady or rising modestly in 2013 and 2014 driven by several factors.

These factors include: high volume of associated gas produced with oil and natural gas liquids, the construction of pipeline takeaway and processing capacity in the Appalachian Basin, which is expected to free up stranded Marcellus and Utica gas, increasing drilling efficiencies and the leveling out of decline rates in maturing basins.

Declines in some basins are being offset by the booming Marcellus gas. Marcellus and Utica volumes have grown from 4 Bcf/d at the first of 2011 to 6 Bcf/d in late 2011 to more than 11 Bcf/d today.

## LNG Exports

#### DOE Seen as 'Just the First Hurdle' to LNG Exports-June 19, 2013

"While the fight over LNG exports has been focused on the DOE's approval process, concerns are growing that the subsequent steps could drag on for years and keep US exporters out of a fast-changing global market indefinitely." After DEO approval, the Federal Energy Regulatory Commission reviews take place. FERC reviews could last more than two years. FERC must review and approve the actual export facilities.

For LNG <u>Import</u> facilities it took 18 to 24 months for approval by FERC. Because of the complexity of an export facility, approval by FERC could take much longer. DOE approval is just the first hurdle, there is a lot to go after that.

#### LNG Export Delays Hurt US Producers—June 17, 2013

According to ExxonMobil CEO the longer the Obama administration delays approval of expanded LNG exports, the more likely that US producers will lose out to global competitors as reserves are being developed in Australia and Mozambique. "This is a very competitive marketplace—It's not like people are just going to stand at our door like panting dogs waiting for us to give gas to them."

Opponents of LNG exports believe gas prices could rise domestically and harm the US economy, while proponents believe exports would actually lead to more jobs in the US. Exporting LNG could shore up the energy security of Asian allies and stimulate investment in domestic US production. The DOE is expected to rule on at least some of the approximately 20 pending LNG exports prior to year-end.

#### EEI Chief Downplays LNG Exports' Price Impact-June 13, 2013

EEI chairman downplayed concerns that LNG exports will have a negative impact on the power-generation sector. "I think LNG will become part of the mix, but I'm not terribly concerned what it's going to do to natural gas pricing." The chairman has had conversations with gas producers that have indicated that there is a lot of supply behind the pipe and very little upward movement in price would produce a lot more natural gas.

Southern Company's CEO stated that no one knows what's going to happen with natural gas prices as a result of LNG exports. Southern in 2013 expects to generate 46% of its electricity using natural gas compared with 16% six years ago. "I am all in on natural gas; we are the third largest consumer of natural gas in the US. We used to be known as a coal company."

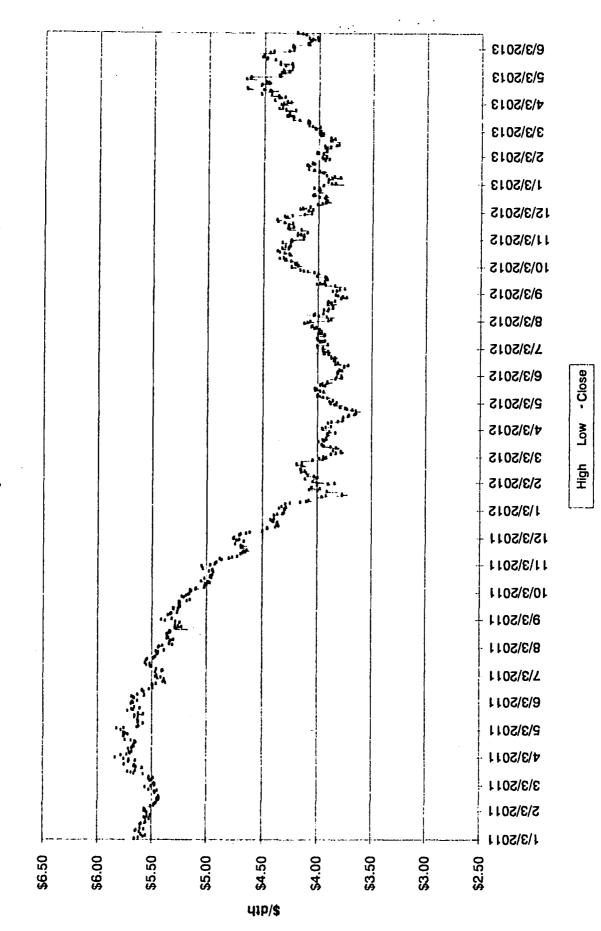
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## Energy Information Administration Henry Hub Pricing Per MMbtu June 11, 2013 Release

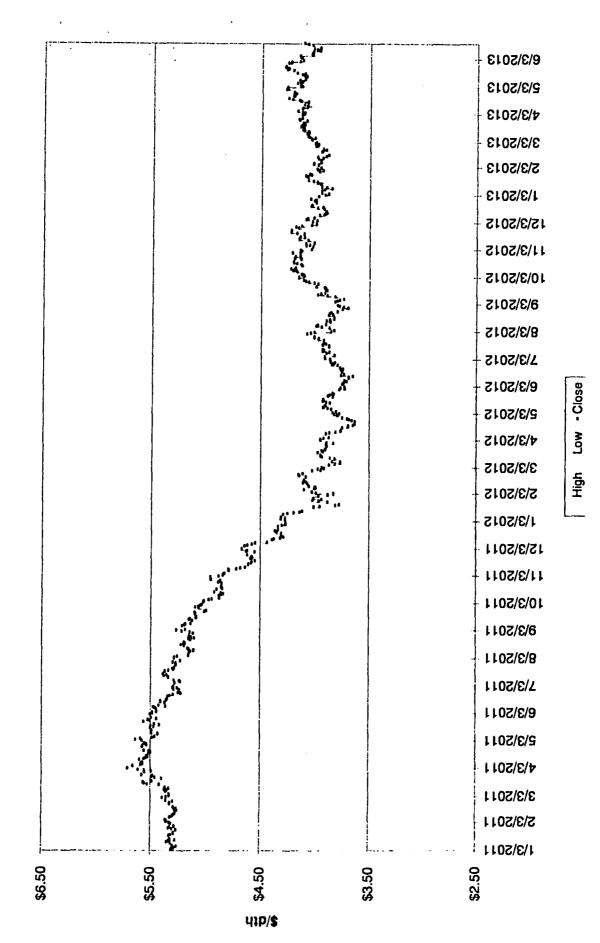
Jan-11		4.49	Jan-12	2.67	Jan-13	3.33	Jan-14	4.27
Feb-11		4.09	Feb-12	2.50	Feb-13	3.33	Feb-14	4.21
Mar-11		3.97	Mar-12	2.18	Mar-13	3.81	Mar-14	4.05
Apr-11		4.25	Apr-12	1.95	Apr-13	4.17	Apr-14	3.81
May-11		4.31	May-12	2.43	May-13	4.04	May-14	3.74
Jun-11		4.55	Jun-12	2.46	Jun-13	4.04 3.97	Jun-14	3.92
Jul-11	•	4.42	Jul-12	2.95	Jul-13	3.97 4.03	Jul-14	
Aug-11		4.05	Aug-12			-	· · ·	4.09
· · · · · · · · · · · · · · · · · · ·			-	2.84	Aug-13	4.08	Aug-14	4.13
Sep-11		3.90	Sep-12	2.85	Sep-13	4.03	Sep-14	4.14
Oct-11		3.56	Oct-12	3.32	Oct-13	3.96	Oct-14	4.17
Nov-11		3.24	Nov-12	3.54	Nov-13	4.17	Nov-14	4.31
Dec-11		3.17	Dec-12	3.34	Dec-13	4.15	Dec-14	4.42
Average			Average		Average	•	Average	- 1
2011	\$	4.000	2012	\$ 2.753	2013	\$ 3.923	2014	\$ 4.105
Summer 2011	\$	4.149	Summer 2012	\$ 2.686	Summer 2013	\$ 4.040	Summer 2014	\$ 4.000
Winter 2011- 2012	\$	2.752	Winter 2012- 2013	\$ 3.470	Winter 2013- 2014	\$ 4.170		



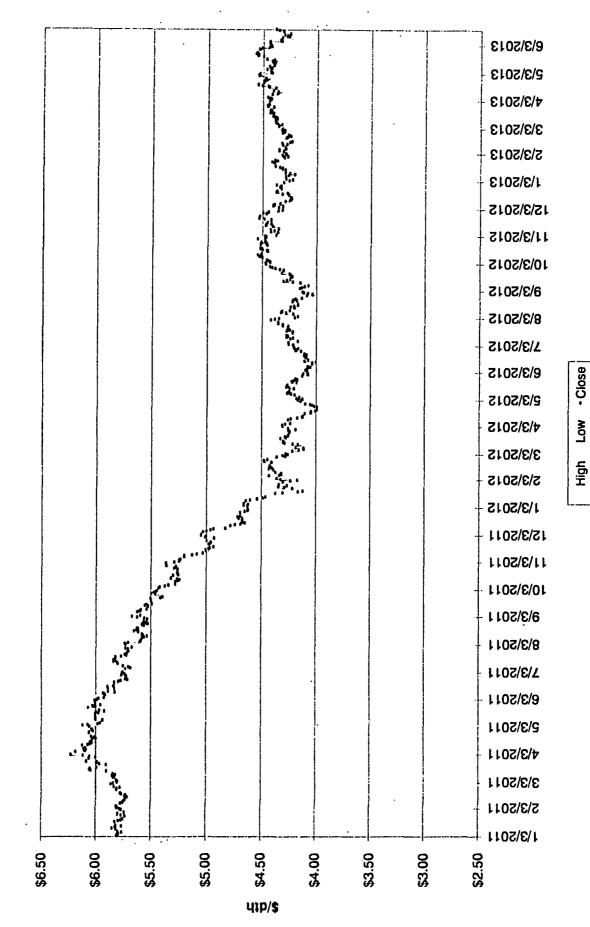
Hedging Meeting 6-20-2013.xlsx



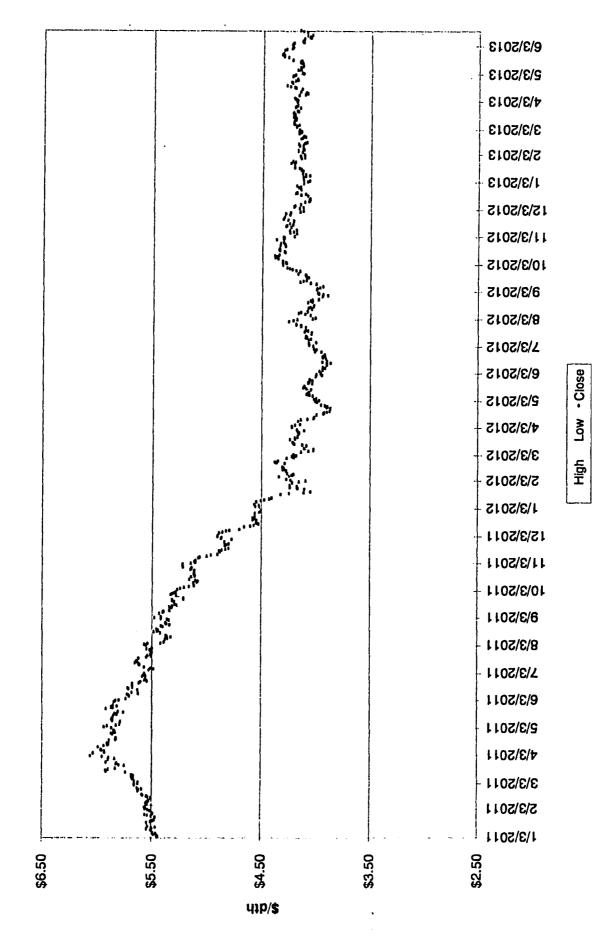




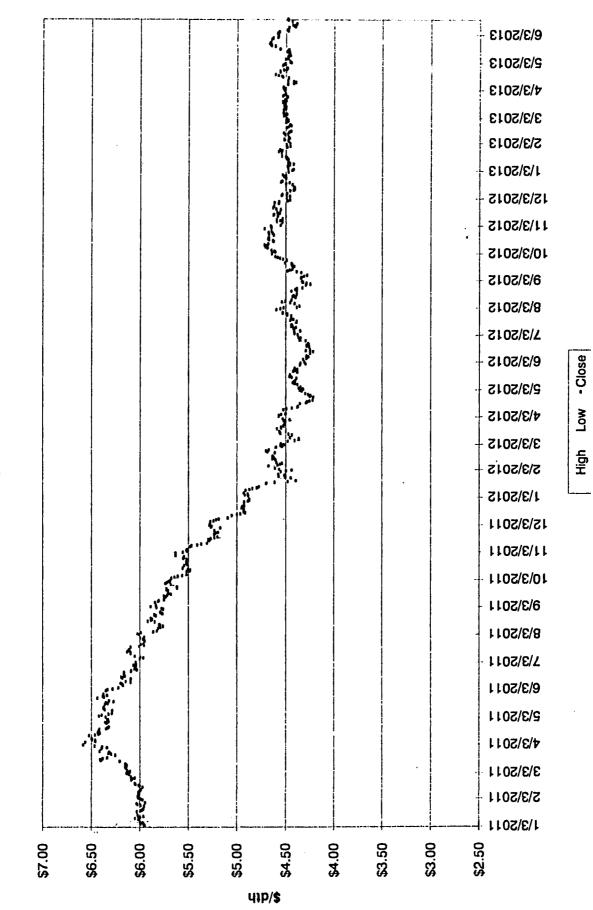
Summer Strip 2014



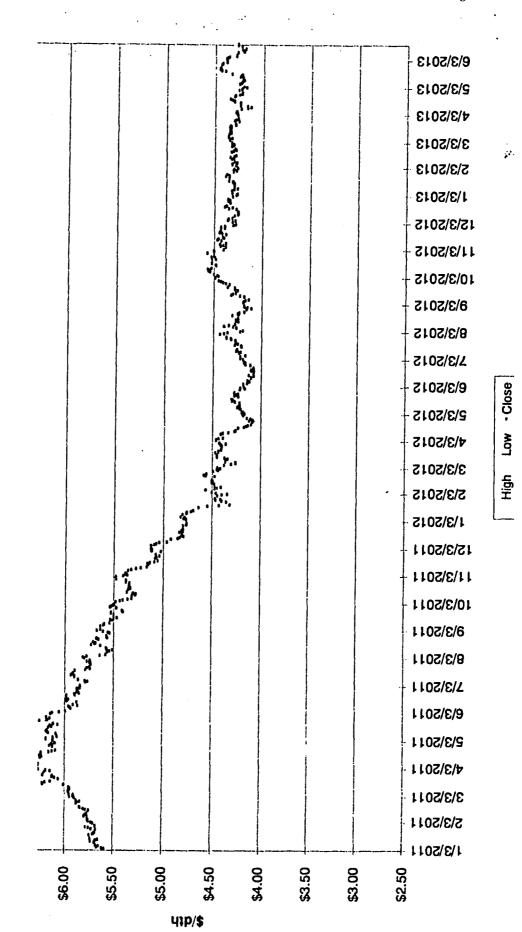
Winter Strip Nov14 - Mar15







Winter Strip Nov15 - Mar16





# Independent Statistics & Analysis U.S. Energy Information Administration

## **Short-Term Energy Outlook (STEO)**

### **Natural Gas**

#### **U.S. Natural Gas Consumption**

<u>ElA expects that natural gas consumption; which averaged 69.7 Bcf/d in 2012, will average 70.0 Bcf/d</u> and 69.6 Bcf/d in 2013 and 2014, respectively. <u>Colder winter temperatures forecast for 2013 and 2014</u> (compared with the record-warm temperatures in 2012) are expected to increase the amount of natural gas used for residential and commercial space heating. However, the projected year-over-year increases in natural gas prices contribute to declines in natural gas used for electric power generation from 25.0 Bcf/d in 2012 to 22.5 Bcf/d in 2013 and 22.1 Bcf/d in 2014, although these forecast levels are still high by historical standards.

#### **U.S. Natural Gas Production and Trade**

<u>Natural gas marketed production is projected to increase from 69.2 Bcf/d in 2012 to 70.0 Bcf/d in 2013,</u> and to 70.4 Bcf/d in 2014. Onshore production increases over the forecast period, while federal Gulf of Mexico production declines. Natural gas pipeline gross imports, which have fallen over the past five years, are projected to remain near their 2012 level over the forecast. LNG imports are expected to remain at minimal levels of around 0.4 Bcf/d in both 2013 and 2014.

<u>The NOAA Atlantic Hurricane Season Outlook predicts that the Atlantic Basin likely will</u> <u>experience above-normal tropical weather activity during the current hurricane season.</u> EIA estimates that the median outcome for shut-in natural gas production in the federally administered Gulf of Mexico as a result of disruptions during the 2013 hurricane season is 46 Bcf.

EIA's simulation results indicate a 58-percent probability of offshore natural gas production experiencing outages during the current hurricane season that are equal to or larger than the 32 Bcf of production shut in during the 2012 hurricane season.

## **Crude Oil Prices**

After declining to a 2013 year-to-date low of \$97 per barrel on April 17, Brent crude oil spot prices increased to an average of \$103 per barrel in May. <u>EIA projects the Brent crude oil spot price will fall</u> from an average of \$112 per barrel in 2012 to annual averages of \$105 per barrel and \$100 per barrel in 2013 and 2014, respectively, reflecting the increasing supply of liquid fuels from non-OPEC countries. After averaging \$94 per barrel in 2012, the forecast WTI crude oil spot price averages \$93 per barrel in

2013 and \$92 per barrel in 2014. By 2014, several pipeline projects from the midcontinent to the Gulf Coast refining centers are expected to come on line, reducing the cost of transporting crude oil to refiners, which is reflected in a narrowing in the price discount of WTH to Brent.

23

#### Gas Resources Hedging Program Market Indicators Summary July 26, 2013

	Price Pressure	Term	Comments	Page
Weather	Fressure	L	<u>1</u>	Ref
Long Term Forecast (Nov 13Jan 14)	ł	Long	NOAA predicting above average temperatures for November 2013 January 2014 for the majority of CONUS except for the coastal states in the Southeast.	12
Mid Term Forecast (30-60 days)	<b>~~</b>	Long	August is predicted to be 0.4% colder than normal based on 10 year normals and September weather is predicted to be normal.	13
Short Term Forecast (6-10 days)	+	Short	Below temperatures across the northern portion of CONUS. Above temperatures CO, NM, TX, OK, and KA. Normal temperatures cover the other portions of CONUS.	14
Tropical Storm Activity	<b>+-+</b>	Short	National Hurricane Center is issuing advisories on Tropical Storm Dorian. Tropical Storm Dorian is in the middle of the Atlantic.	
Storage Inventory				·
EIA Weekly Storage Report	ł	Long	Storage injections for the week ending July 19th were 41 Bcf. Storage levels are at 2,766 TCF which is 12.5% lower than last year and 1.6% lower than the 5 year average. Below-normal temps predicted in the eastern half of the US for the next few weeks "should enable the industry to rapidly pare the year-over-year storage deficitworking gas in storage should align nearer to the excess end-of-season levels maintained since 2009."	15
Industry Publications				
PIRA Energy Group Winter 2013/14: Summer 2014:	1	Long	GAS PRICE SCORECARD: Gas Price Outlook for July 2013-October 2013 "Builish". This month's scorecard has been revised from Neutral to Builish. PIRA's revision reflects lower NYMEX prices.	16-17
Gas Dalty~Price Projections	t	Long	Pricing upside limited to \$4/MMBtu over next 3 months due to gas-to-coal switching, cooler temperatures and producers willingness to keep drilling. BofA prices capped within the \$3.50 to \$4.00 MMBtu range in 3rd quarter due to increased output. If insufficient cooling demand for the rest of the summer prices may reach \$3.20/MMBtu. Goldman lowered 2013 forecast due to stronger-than-expected gas production due to reduction of bottlenecks in Marcellus. \$4.05/MMBtu for balance of 2013, \$3.85 for 3rd quarter, and \$4.25 for 4th quarter.	16
Gas DailyMiscellaneous Information	<b>†</b> ↓	Long	Output from nuclear fleet for the rest of 2013 should be much higher than 2012 reducing gas demand for power generation. Gas demand will fall 500,000 Mcl/d in 3rd quarter and 1.6 Bcl/d in 4th quarter. Longer-term gas generation will fill the gap left by plant retirements. "Nuclear renaissance in reverse"-Low gas prices creating competition to expand or retain nuclear fleet.	19
Government Agencies				
Energy Information Administration Winter 2013/14: \$3.916 Summer 2014: \$3.817	11	Long	The projected Henry Hub natural gas spot price averages \$3.762/MMBtu for 2013 and \$3.906/MMBtu for 2014. EIA has decreased its price for 2013 by \$.16 and decreased \$.20 for 2014.	20
Technical Analysia				
Winter 2013-14 Strip Chart			Closed at \$3.91	21
Summer 2014 Strip Chart	<b>++</b>	Short	Closed at \$3.95	22
Winter 2014-15 Strip Chart	<b>+-+</b>	Short	Closed at \$4.23	23
Summer 2015 Strip Chart	+	Short	Closed at \$4.08	24
Winter 2015-16 Strip Chart	<b>+</b> +	Short	Closed at \$4.37	25
Summer 2016 Strip Chart	-+	Short	Closed at \$4.16	26
Economy				L
Demand	+	Long	EIA projects total natural gas consumption will average 70.1 Bct/d in 2013 and 69.7 Bct/d in 2014. Increased usage for residential and commercial space heating being offset by declines in power generation.	27
Supply	<b>+-+</b>	Long	Total marketed production will increase from 69.2 Bcl/d in 2012 to 70.0 Bcl/d in 2013, and 70.4 Bcl/d in 2014.	27
Of Market	ţ	Long	Brent crude averaged \$112 per barrel for 2012. EIA expects Brent crude to average \$105 per barrel and \$100 per barrel in 2013 and 2014, respectively. WTI crude avaraged \$94 for 2012. EIA expecte WTI crude to average \$95 per barrel and \$92 in 2013 and 2014, respectively.	27

Meeting Minutes: 426 Annex Conference Room - 1:00 pm

Attendees: Jim Mehring, Jeff Kern, Mike Brumback, Joachim Fischesser, Steve Niederbaumer

Reviewed lundamentals such as weather (current to L/T forecasts), storage levels, industry publications, governmental agency, technical analysis and supply and demand fundamentals. Discussed the Ohio and Kentucky Hedging Programs. Significant discussion took place regarding the latest storage injection report of 41 Bct which was well below analysis expectations and the impact on gas price. In addition, discussed the below normal temperatures that have been forecasted for the eastern portion of CONUS and that impact on future storage injections. A decision was made not to hedge additional volumes at this time. Due to concerns about pricing volatility(as discussed at the April 2013 meeting) a decision was made that if prices for the April 2014--March 2015 strip decreased to the sub \$3.90 range or increased to \$4.25 range a supplemental meeting would be called prior to the next scheduled meeting.

#### **Duke Energy Kentucky** Hedging Program - Current Position November 2012 - October 2013 As of 07/24/13

	Nov-12	Dec-12 Jan-13	Feb-13	Mar-13 () Apr-13	3 May-13 Jun-13	Jul-13	Aug-13	Sep-13	Oct-13
Load Forecast									
City Gate Load Forecast (Mcf)									
TCO FSS Injections (Mcf)									
Total Requirements (Mcf)									
TCO FSS Withdrawals (Mcf)									
Other "Withdrawals" (Mcf)									
Total Withdrawals (Mcf)									
Amount Hedged (dth/day)									
Fixed Price									
Fixed Price									
Fixed Price									
Fixed Price									
Cost Avg.									
Total Hedged (dtrvday)									
Total Hedged (dth)									
Types of Hedging Products (1)									
Fixed Price									
Price Caps									
No-Cost Collars									
Embedded Hedged Cost									
Winter									
Summer									
Estimated Custom Custok (Cases)									
Estimated System Supply (Gross) Hedged % of System Supply									
Seasonal % of System Supply									
Seasonal > of System Supply									
Amt Hedged with Storage @ City Gate									
Hedged (City Gate) (Dth)									
Storage Withdrawal (Dth)									
Market (Dth)									
Total (incl. Injections) (Dth)									
% Hedged & Storage									
Seasonal %									

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

5

	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Åpr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14
Load Forecast											
City Gate Load Forecast (Mcf)											
TCO FSS Injections (Mcf)											
Total Requirements (Mcf)											
TCO FSS Withdrawals (Mcf)											
Other "Withdrawals" (Mcf)											
Total Withdrawals (Mcf)											
Amount Hedged (dth/day)											
Fixed Price											
Fixed Price											
Fixed Price											
Fixed Price	_										
Total Hedged (dth/day)											
Total Hedged (dth)											
Types of Hedging Products (1)											
Fixed Price											
Price Caps											
No-Cost Collars											
Embedded Hedged Cost	\$										
Winter											
Summer											
Estimated System Supply (Gross)											
Hedged % of System Supply											
Seasonal % of System Supply											
Amt Hedged with Storage @ City Gate											
Hedged (City Gate) (Dth)											
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Market (Dth)											
Total (incl. Injections) (Dth)											
% Hedged & Storage											
Seasonal %											
(1) Maximum percentage allowed per typ	e of hedging pro	duct is 25% f	or Winter mo	nths and 40%	Summer mor	nths.					

Oct-14

5

#### Duke Energy Kentucky Hedging Program - Current Position November 2014 - October 2015 As of 07/24/13

	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15
Load Forecast City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf) Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
Fixed Price Fixed Price TBD												
Total Hedged (dth/day)												
Total Hedged (dth)												
Types of Hedging Products (1)												
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No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross) Hedged % of System Supply												
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Seasonal %												
(1) Maximum percentage allowed per type	of hedging pro	tuct is 25% fo	r Winter mor	nths and 40%	Summer mor	iths.			_			

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#### Duke Energy Kentucky Hedging Program - Current Position November 2015 - October 2016 As of 07/24/13

	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16
1												
I												

Types of Hedging Products (1)

Fixed Price Price Caps No-Cost Collars

Total Hedged (dth/day) Total Hedged (dth)

Load Forecast

TBD TBD TBD

City Gate Load Forecast (Mcf) TCO FSS injections (Mcf) Total Requirements (Mcf) TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf) Amount Hedged (dth/day)

Embedded Hedged Cost Winter Summer

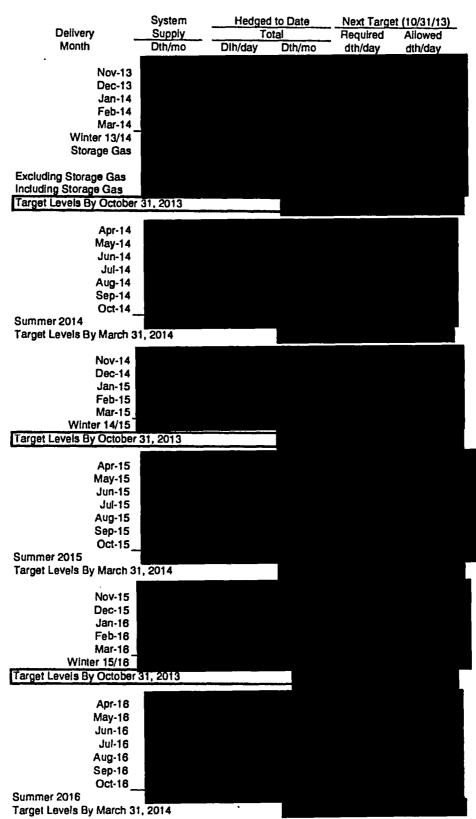
Estimated System Supply (Gross) Hedged % of System Supply Seasonal % of System Supply

Amt Hedged with Storage @ City Gate

Hedged (City Gate) (Dth) Storage Withdrawal (Dth) Market (Dth) Total (Incl. Injections) (Dth) % Hedged & Storage Seasonal %

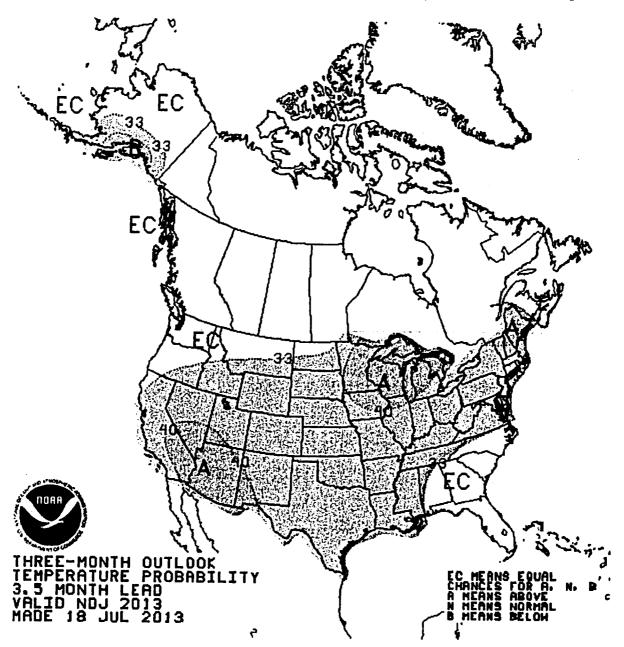
(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

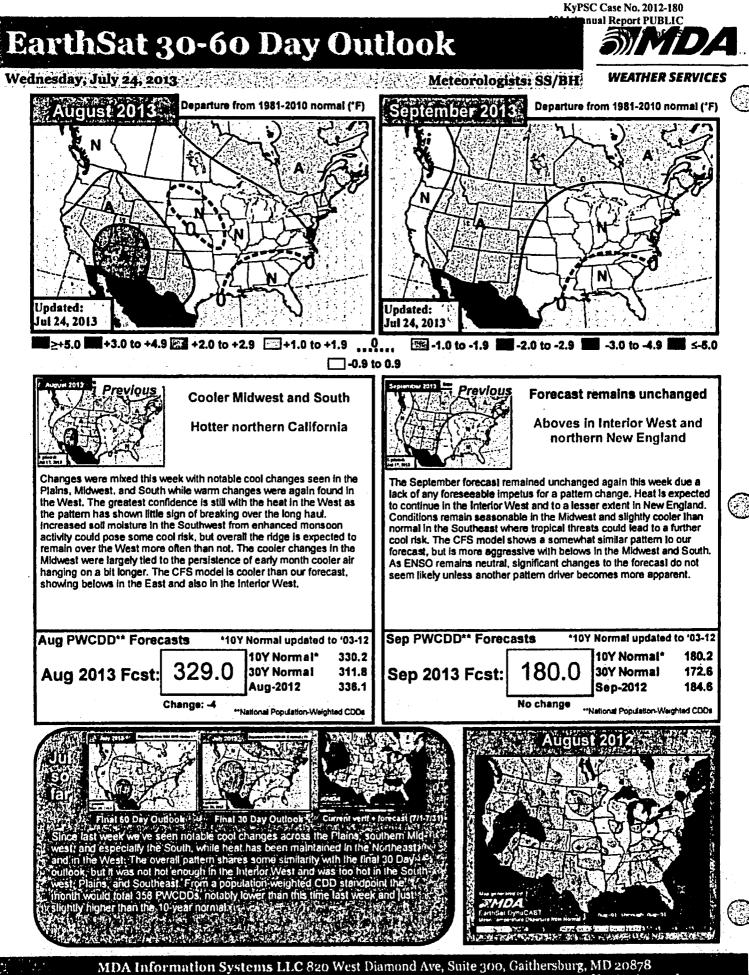
#### Duke Energy Kentucky Hedging Program Current Position



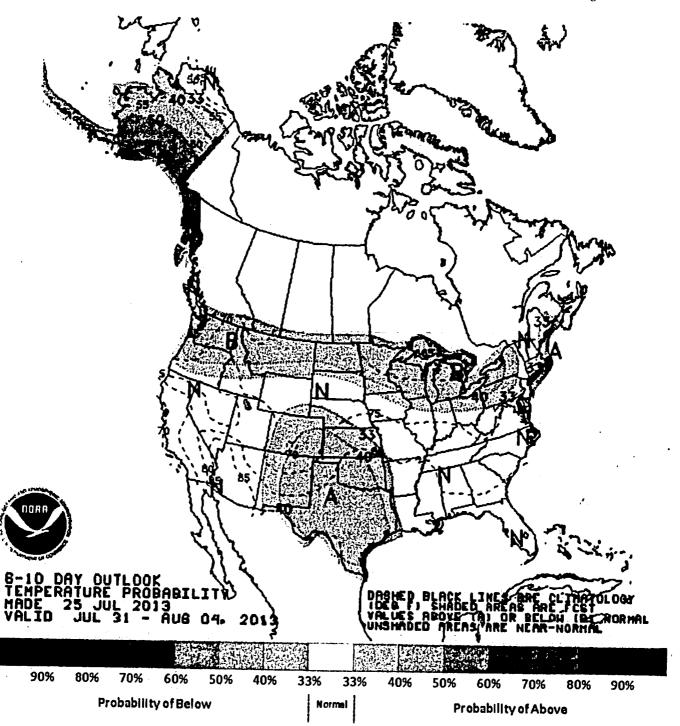
### **COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES**

	Histor	ic Prices:						
	NYMEX C	osing Price				ł		
•	5-yr. avg.	Last Year	PIRA	EIA	NYMEX		Hedge	ed Prices
	(08/09-12/13)	(2012-2013)	25-Jun-13	9-Jul-13	26-Jul-13		Ohio	Kentucky
<b>A</b> 110	\$4.95	\$2.01						
Aug	\$4.95	\$3.01		\$3.690	\$3.626		\$	
Sep		\$2.63		\$3.680	\$3.628		\$	
Oct	\$4.36	\$3.02		\$3.740	\$3.644		\$	
Nov	\$4.21	\$3.47		\$3.880	\$3.717		\$	
Dec	\$4.54	\$3.70		\$3.900	\$3.878		\$	
Jan	\$4.52	\$3.35		\$4.000	\$3.962		\$	
Feb	\$3.99	\$3.23		\$3.960	\$3.985		\$	
Mar	\$3.71	\$3.43		\$3.840	\$3.933		\$	
Apr	\$3.58	\$3.98		\$3.620	\$3.856		\$	
May	\$3.63	\$4.15		\$3.560	\$3.897		\$	
Jun	\$3.72	\$4.15		\$3.730	\$3.929		\$	
Jul	\$3.90	\$3.71		\$3.900	\$3.962		\$	
12 Month Avg	\$4.12	\$3.49		\$3.792	\$3.835		\$	
1	er Average			\$3.703	\$3.792			
Winter /	Average			\$3.916	\$3.895			





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#### Weekly Natural Gas Storage Report

for week ending July 19, 2013. | Released: July 25, 2013 ALIO 30 A.m. | Next Release: August 1, 2013

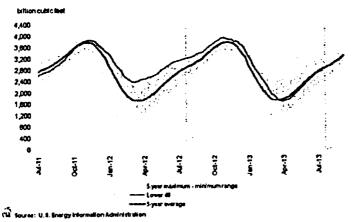
Cumeron Invi	rev	JSNWorking gas in underground storage, lower 48 states	

				Historical Comparisons								
	bill	Stocks ion cubic feet (8	Bcŋ		r ago 19/12)		-2012)					
Region	07/19/13	07/12/13	change	(Bcf)	% change	(Bcf)	% change					
East	1.306	1,281	25	1.572	-16 9	1,428	8.4					
West	455	451	4	494	-7.9	426	6.8					
Producing	1,025	1,013	12	t,119	84	980	4.6					
Salt	274	275	-1	243	128	172	59.3					
Nonsalt	75t	739	12	876	-143	807	-6.9					
Total	2,786	2,745	41	3,185	-12.5	2,832	-1.6					

#### Summary

Working gas in storage was 2,786 Bct as of Friday, July 19, 2013, according to EIA estimates. This represents a tell increase of 41 Bcf from the previous week. Stocks were 399 Bcf loss than hist year at this time and 46 Bcf bollow the 5year average of 2,832 Bcf. In the East Region, stocks were 120 Bcf below the 5-year average following net injections of 25 Bcf. Stocks in the Producing Region were 45 Bcf above the 5-year average of 080 Bcf after a net injection of 12 Bcf. Stocks in the West Region were 29 Bcf above the 5-year average after a net and/tion of 4 Bcf. At 2,786 Bcf, total working gas is within the 5 year historicet range.

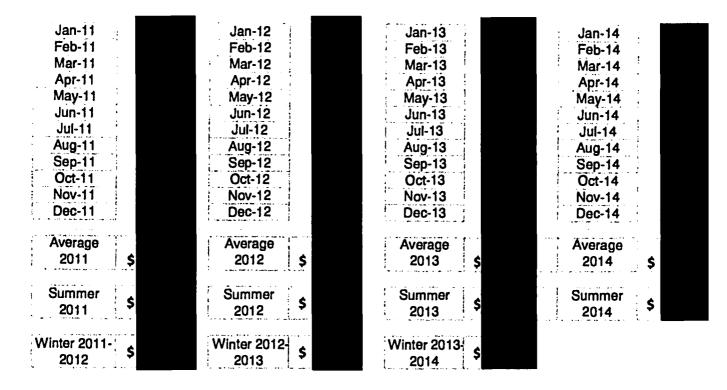




Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2006 shrough 2012

Source: Form EIA-912, "Weekly Underground Netural Gas Storage Report \* The dashed vertical lines indicate current and year upo weekly periods.

## PIRA North American Gas Price Overview Per MMBTU June 25, 2013 Release



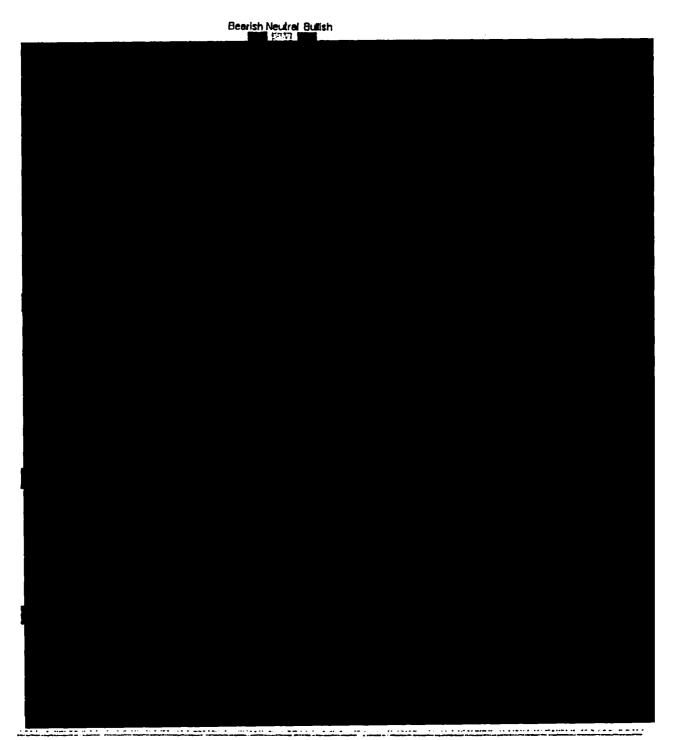
North American Gas Forecast Monthly

June 25, 2013

NATURAL GAS

## U.S. GAS PRICE SCORECARD: JULY 2013 - OCTOBER 2013

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PIRA Energy Group, 3 Park Avenue, 26<sup>th</sup> Floor, New York, NY 10016-5989 (Tel) 212-686-6808 (Fax) 212-686-6628 www.pira.com <sup>2</sup> For authorized subscribers only. Copyright © 2013 PIRA Energy Group. All rights reserved.

## **Price Projections**

### Analysts: \$4 Cap Likely on Supply, Coal Use-7/24/2013

Any upside for gas prices will be limited to around \$4/MMBtu over the next three months due to gas-to-coal switching, forecasts for cooler temperatures, and producers' willingness to keep drilling.

Bank of America predicts prices will be capped within the \$3.50-\$4/MMBtu range in the third quarter due to increased output and producers slowly adding drilling rigs. BofA has revised their production growth forecast from a 200,000 Mcf/d <u>decline</u> to 40,000 Mcf/d growth this year.

"Given the temperatures (NWS predicting below-average temps across the eastern half of the US in the next two weeks) and storage trends, I expect that the market will languish in current mode over the next 60-90 days. The near-term price range for the 12-month NYMEX strip is expected to be at \$3.75/MMBtu to \$4.25/MMBtu." If the remainder of the summer shows insufficient cooling demand, prices might reach a \$3.20/MMBtu handle during the shoulder season.

#### Goldman Cuts Price Outlook on Strong Production-7/9/2013

Goldman Sachs has lowered their 2013 gas price forecast due to stronger-thanexpected gas production resulting from the reduction of bottlenecks in the Marcellus shale. Goldman forecasts NYMEX gas futures to average \$4.05/MMBtu for the balance of 2013, \$3.85/MMBtu for the third quarter and \$4.25/MMBtu for the fourth quarter. Goldman had forecast a \$4.40/MMBtu average for the balance of 2013.

"As nationwide gas rig counts have remained stable, the analysts predicted that production growth will prove temporary. They said that for drilling activity to increase outside of the Marcellus, prices will need to average \$4.25--\$4.50/MMBtu for a sustained period."

## **Miscellaneous Information**

## Summer/Fall Nuke Output Seen Limiting Gas Need—July 24, 2013

According to Barclays, output from the nuclear fleet for the rest of 2013 should be much higher than the corresponding months of 2012, reducing gas demand for power burn.

Barclays estimates that monthly nuclear output will exceed last year's levels by 1.6 GW this month, quadrupling to 6.5 GW in December. Gas demand would fall an average of 500,000 Mcf/d year-over-year in the third quarter and 1.6 Bcf/d in the fourth quarter, assuming natural gas is the marginal fuel.

"History is unlikely to repeat itself this fall as last year saw an especially large number of planned outages, and the nuclear fleet in the Northeast was shuttered by Hurricane Sandy."

## Gas Demand Set to Galn From Nuke Retirements-July 18, 2013

"While gas-fired power generation has played a big role this year in filling the gap left by temporary nuclear outages, gas' share of the overall generation mix could grow a more permanent basis as nuclear plants are retired over the next several years." Everywhere that nuke plants end up retiring, there is a good chance that will be replaced by gas-fired generation.

Nuclear generation makes up 20% of the national fuel mix and is expected to remain at that level through 2017. Three plants (San Onofre, Crystal River-3, and Kewaunee) have been designated this year for retirement capable of producing around 3.7 GW of power. San Onofre has been offline since early 2012, Crystal River was shut down in the fall of 2009, and Kewaunee was shut down due to depressed power prices and low gas prices.

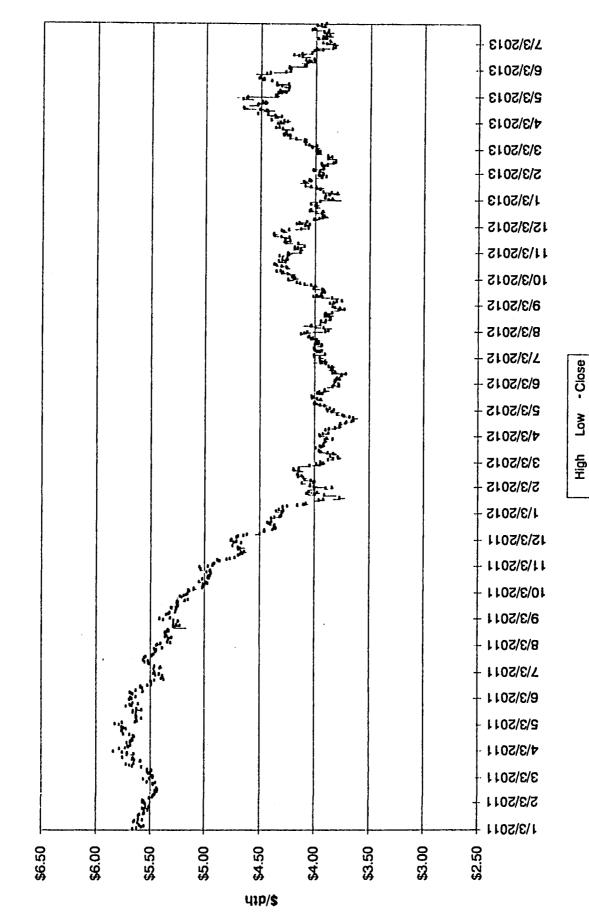
The nuclear industry "has reached a point of a nuclear renaissance in reverse. That is partially because of a consensus among analysts that a significant period of low gas prices is at hand, creating considerable competition for plans to expand or even retain the US nuclear fleet."

As much as 3,000 MW of nuclear generation, or about 3% of the 101,350 MW US fleet, could be at risk of retirement due to regulation-mandated investments and a low power price environment as a result of cheap gas.

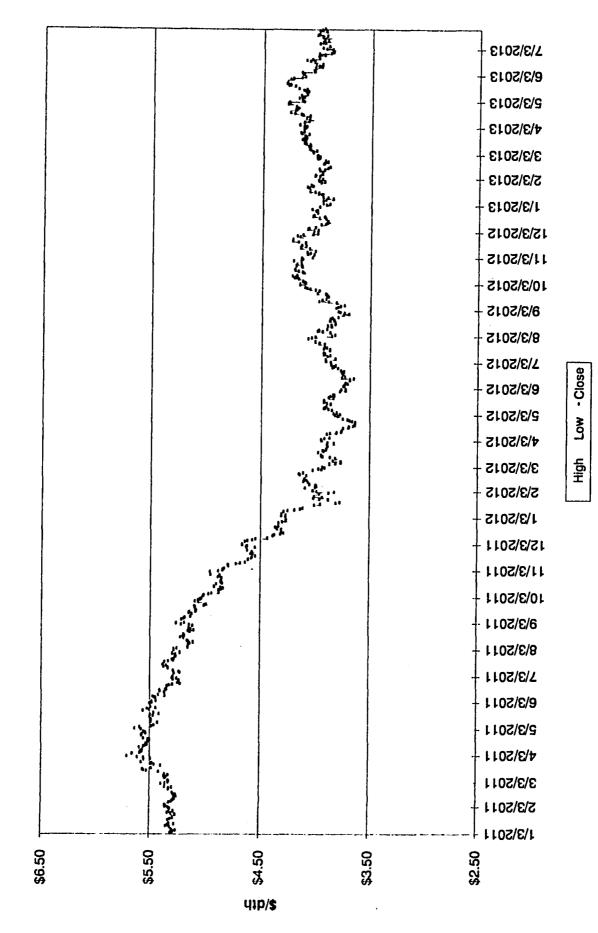
## Energy Information Administration Henry Hub Pricing Per MMbtu July 9, 2013 Release

inter 2011 2012	\$ 2.	752	Winter 2012- 2013	\$ 3.470	Winter 2013 2014	\$	3.916			
Summer 2011	\$ 4.	149	Summer 2012	\$ 2.686	Summer 2013	\$	3.841	Summer 2014	\$	3.817
Average 2011	\$ 4.	000	Average 2012	\$ 2.753	Average 2013	\$	3.762	Average 2014	\$	3.906
Dec-11	j 3	.17	Dec-12	 3.34	Dec-13	i	3.90	Dec-14	•	4.22
Nov-11	-4	.24	Nov-12	3.54	Nov-13		3.88	Nov-14		4.13
Oct-11	4	.56	Oct-12	3.32	Oct-13		3.74	Oct-14	:	4.00
Sep-11	3	.90	Sep-12	2.85	Sep-13		3.68	Sep-14	1	3.96
Aug-11	4	.05	Aug-12	2.84	Aug-13		3.69	Aug-14	•	3.95
Jul-11	4	.42	Jul-12	2.95	Jul-13		3.74	Jul-14		3.90
Jun-11	4	.55	Jun-12	2.46	Jun-13		3.83	Jun-14		3.73
May-11	j 4	.31	May-12	2.43	May-13	;	4.04	May-14		3.56
Apr-11	4	.25	Apr-12	1.95	Apr-13	1	4.17	Apr-14	:	3.62
Mar-11	3	.97	Mar-12	2.18	Mar-13	•	3.81	Mar-14	•	3.84
Feb-11	- 4	.09	Feb-12	2.50	Feb-13	;	3.33	Feb-14		3.96
Jan-11	; <b>4</b>	.49	Jan-12	2.67	j Jan-13	1	3.33	Jan-14		4.00

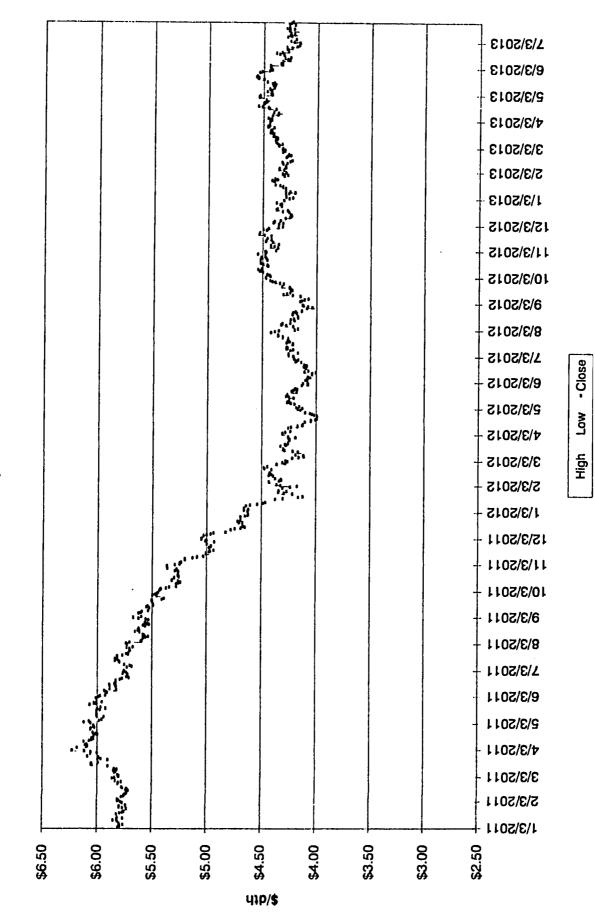




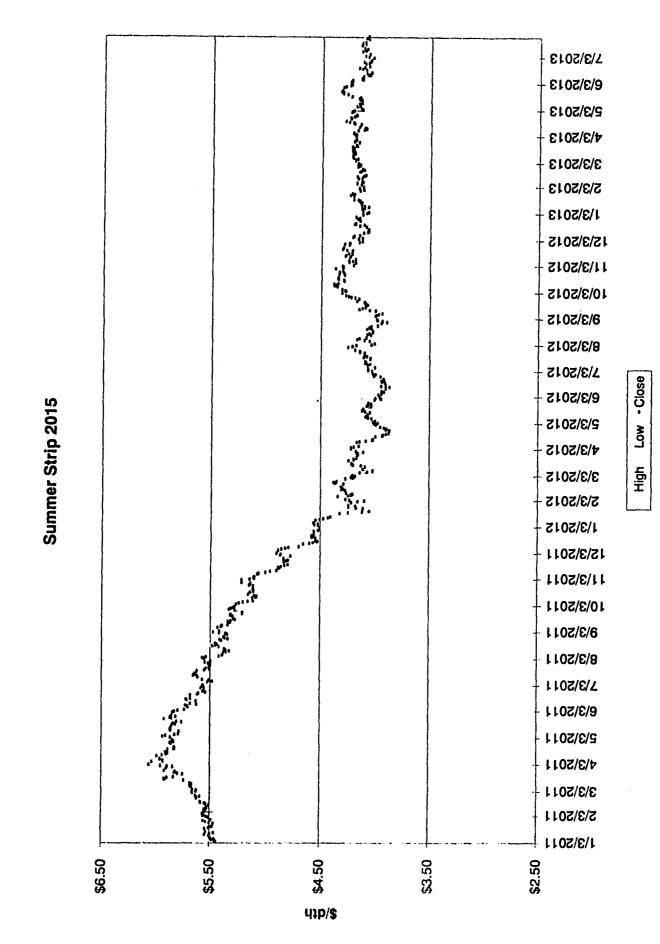
Winter Strip Nov13 - Mar14

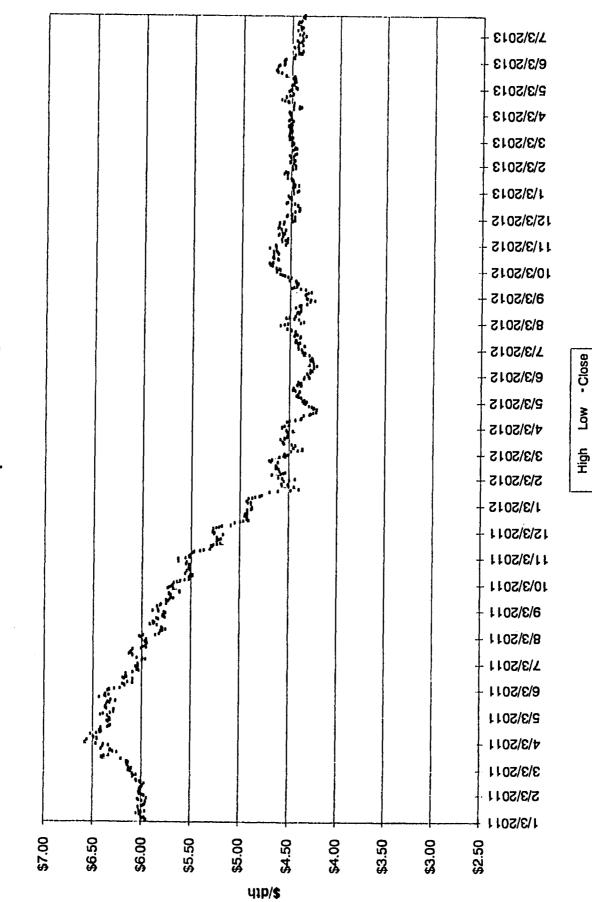


Summer Strip 2014

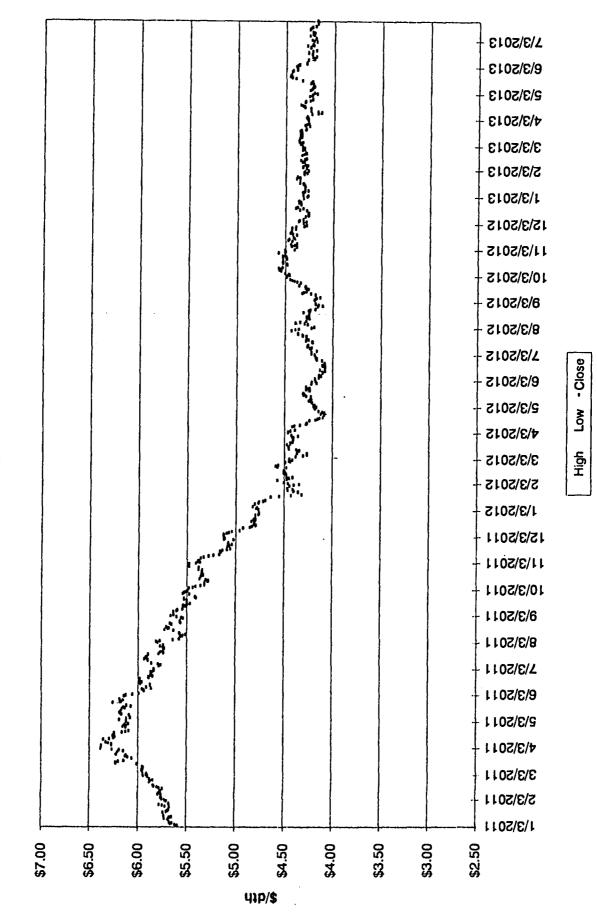












Summer Strip 2016



# Independent Statistics & Analysis U.S. Energy Information Administration

## **Short-Term Energy Outlook (STEO)**

## Natural Gas

### **U.S. Natural Gas Consumption**

<u>ElA expects that natural gas consumption, which averaged 69.7 Bcf/d in 2012, will average 70.1 Bcf/d and 69.7 Bcf/d in 2013 and 2014</u>, respectively: <u>Colder winter temperatures forecast for 2013 and 2014</u> (compared with the record-warm temperatures in 2012) are expected to increase the amount of natural gas used for residential and commercial space heating. However, the projected year-over-year increases in natural gas prices contribute to declines in natural gas used for electric power generation from 25.0 Bcf/d in 2012 to 22.4 Bcf/d in 2013 and 22.2 Bcf/d in 2014, although these forecast levels are still high by historical standards.

According to BP Statistical Review of World Energy, the US recorded the world's largest increase in natural gas consumption and production in 2012, while also witnessing the highest drop in coal use.

### **U.S. Natural Gas Production and Trade**

<u>Natural gas marketed production is projected to increase from 69.2 Bcf/d in 2012 to 70.0 Bcf/d in 2013</u> and to 70.4 Bcf/d in 2014. Onshore production increases over the forecast period, while federal Gulf of Mexico production from existing fields declines as the economics of onshore drilling remain more favorable. Natural gas pipeline gross imports, which have fallen over the past five years, are projected to remain near their 2012 level over the forecast. LNG imports are expected to remain at minimal levels of around 0.4 Bcf/d in both 2013 and 2014.

## **Crude Oil Prices**

After declining to a 2013 year-to-date low of \$97 per barrel on April 17, Brent crude oil spot prices increased to an average of \$103 per barrel in both May and June. <u>EIA projects the Brent crude oil spot</u> price will fall from an average of \$112 per barrel in 2012 to annual averages of \$105 per barrel and \$100 per barrel in 2013 and 2014, respectively, reflecting the increasing supply of liquid fuels from non-OPEC countries.

After averaging \$94 per barrel in 2012, the forecast WTI crude oil spot price averages \$95 per barrel in 2013 and \$92 per barrel in 2014. By 2014, several pipeline projects from the Midcontinent to the Gulf Coast refining centers are expected to come on line, reducing the cost of transporting crude oil to refiners, which is reflected in a narrowing in the WTI price discount to Brent next year.

## **Duke Energy**

## Hedging Meeting—August 8, 2013

- At the July 26, 2013 Hedging Meeting, a decision was reached not to hedge additional volumes, however, due to concerns about pricing volatility a decision was made to monitor the market for significant price movements.
- NYMEX prices for April 2014—March 2015 strip have decreased significantly from the July 26, 2013 meeting of \$4.063 to \$3.790 based on August 8<sup>th</sup> pricing levels.
- On August 8, 2013, Jim Mehring, Jeff Kern and Steve Niederbaumer met to discuss additional hedging in light of current market conditions.
- Information reviewed included pricing information and the current position of the Ohio and Kentucky Hedging Programs. Discussion focused on the volatility in the financial markets, the current mild weather (and expectation for more mild weather) and its impact on storage levels.
- After discussion, a determination was made to hedge additional volumes in Ohio and Kentucky.
- were contacted for Dth/day for Ohio and Dth/day for Kentucky for Apr 14---Mar 16 on Columbia Gulf Mainline.
   bid--\$
   bid--\$
- was selected as the winning bidder based on the lowest price.
- and and were contacted to convert FOMI base gas
   to a fixed price. bid--\$
   bid--\$
- Description of the second secon

#### **Duke Energy Kentucky** Hedging Program - Current Position November 2012 - October 2013 As of 08/08/13

	Nov-12	Sep-13	Oct-13
Load Forecast			
City Gate Load Forecast (Mcf)			
TCO FSS Injections (Mcf)			
Total Requirements (Mcf)			
TCO FSS Withdrawals (Mcf)			
Other "Withdrawals" (Mcf)			
Total Withdrawals (Mcf)			
Amount Hedged (dth/day)			
Fixed Price			
Cost Avg. (			
Total Hedged (dth/day)			
Total Hedged (dth)			
Types of Hedging Products (1)			
Fixed Price			
Price Caps			
No-Cost Collars			
Embedded Hedged Cost			
Winter			
Summer			
Estimated System Supply (Gross)			
Hedged % of System Supply			
Seasonal % of System Supply			
Amt Hedged with Storage @ City Gate			
Hedged (City Gate) (Dth)			
Storage Withdrawal (Dth)			
Market (Dth)			
Total (incl. Injections) (Dth)			
% Hedged & Storage			
Seasonal %			
(1) Maximum percentage allowed per type	of hedging product is 25% for Winter months and 40% Summer months.		

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Total Hedged (dth/day)												
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Winter												
Summer												
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Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												
					0	- 44 -						
(1) Maximum percentage allowed per type	e or nedging pro	ouct is 25% f	or Winter Mo	nths and 40%	Summer mo	ntris.						

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Load Forecast City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
Fixed Price												
TBD												
Total Hedged (dth/day)												
Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage Seasonal %												
30450121 76			_									
(1) Maximum percentage allowed per type of	of hedging proc	luct is 25% fo	or Winter mor	iths and 40%	Summer mor	iths.						

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KyPSC Case No. 2012-180 2014 Annual Report PUBLIC Page 116 of 325

## Duke Energy Kentucky Hedging Program - Current Position November 2015 - October 2016 As of 08/08/13 Nov-15 Dec-15 Jan-16 Feb-16 Mar-16 Apr-16 May-16 Jun-16 Jul-16 Aug-16 Sep-16 Oct-16

Load Forecast

City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)

TCO FSS Withdrawais (Mcf) Other "Withdrawais" (Mcf) Total Withdrawais (Mcf)

Amount Hedged (dth/day)

TBD TBD TBD Total Hedged (dth/day) Total Hedged (dth)

#### Types of Hedging Products (1)

Fixed Price Price Caps No-Cost Collars

#### Embedded Hedged Cost Winter

Summer

Estimated System Supply (Gross) Hedged % of System Supply Seasonal % of System Supply

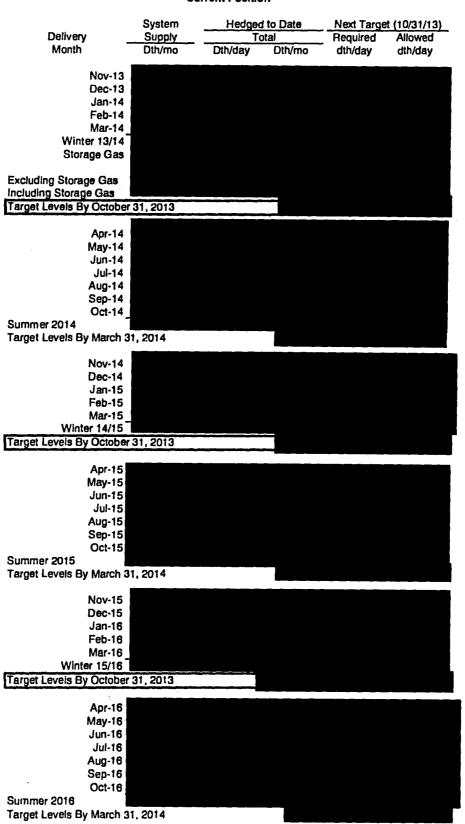
#### Amt Hedged with Storage @ City Gate

Hedged (City Gate) (Dth) Storage Withdrawal (Dth) Markel (Dth) Total (incl. hijections) (Dth) % Hedged & Storage Seasonal %

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

KyPSC Case No. 2012-180 2014 Annual Report PUBLIC Page 117 of 325

#### Duke Energy Kentucky Hedging Program Current Position



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## COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

		c Prices: osing Price						
	5-yr. avg.	Last Year		PIRA	EIA	NYMEX	]	Hedged Prices
	(08/09-12/13)	(2012-2013)		28-Jul-13	9-Jul-13	8-Aug-13		Ohlo Kentucky
Sep	\$4.28	\$2.63		·	\$3.680	\$3.235		S
Oct	\$4.36	\$3.02			\$3.740	\$3.261		\$
Nov	\$4.21	\$3.47			\$3.880	\$3.381		\$
Dec	\$4.54	\$3.70	· ·		\$3.900	\$3.562		\$
Jan	\$4.52	\$3.35			\$4.000	\$3.656		<b>S</b>
Feb	\$3.99	\$3.23	$e_{1}^{i}$		\$3.960	\$3.662		\$
Mar	\$3.71	\$3.43			\$3.840	\$3.630		\$
Apr	\$3.58	\$3.98			\$3.620	\$3.577		\$
May	\$3.63	\$4.15	de la case		\$3.560	\$3.603		\$
Jun	\$3.72	\$4.15	1.1	1. A.	\$3.730	\$3.635		\$
Jui	\$3.90	\$3.71		ħ.	\$3.900	\$3.670	{	\$
Aug	\$3.80	\$3.46			\$3.950	\$3.690		\$
2 Month Avg	\$4.02	\$3.52			\$3.813	\$3.547		\$ -
	er Average	e en anti- anti- en anti-			\$3.740 \$3.916	\$3.524 \$3.578	], [	
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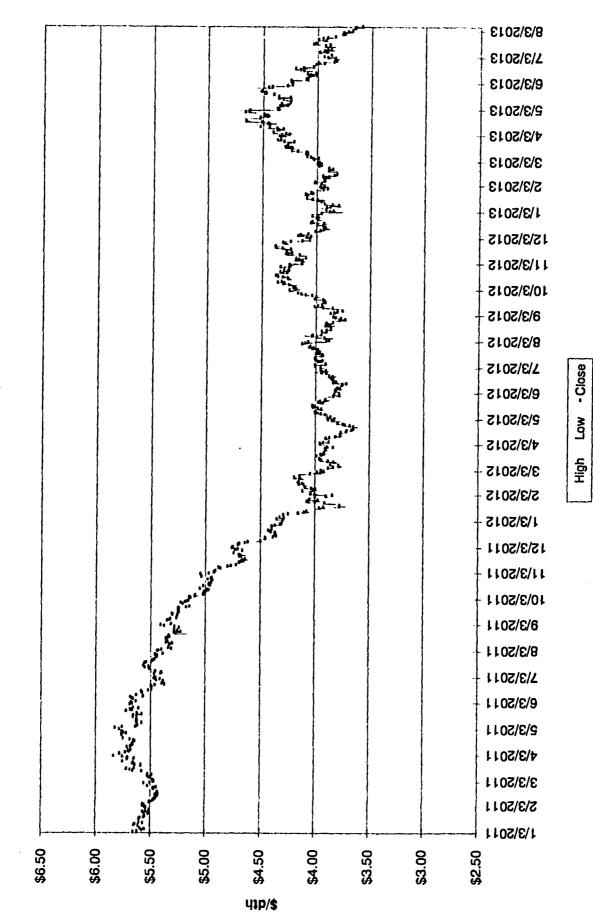
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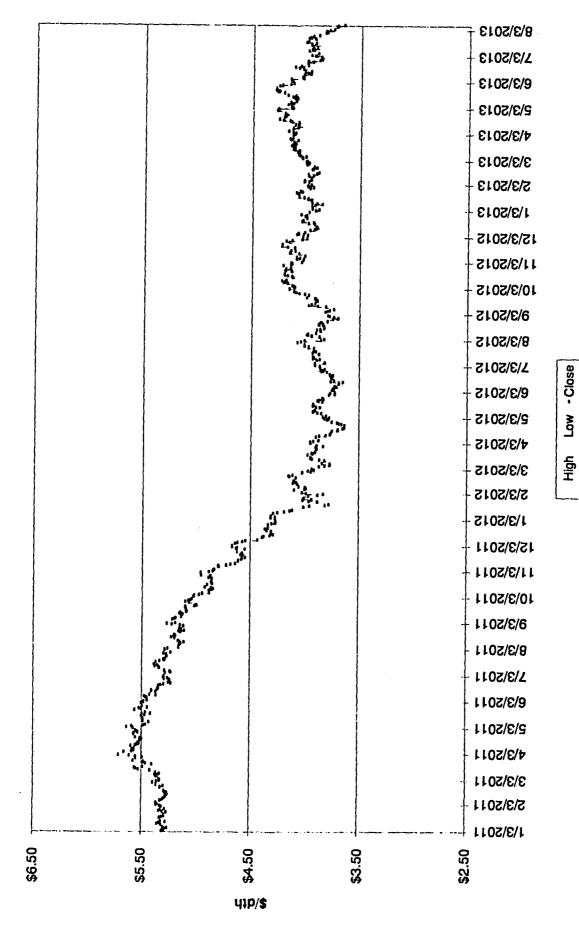
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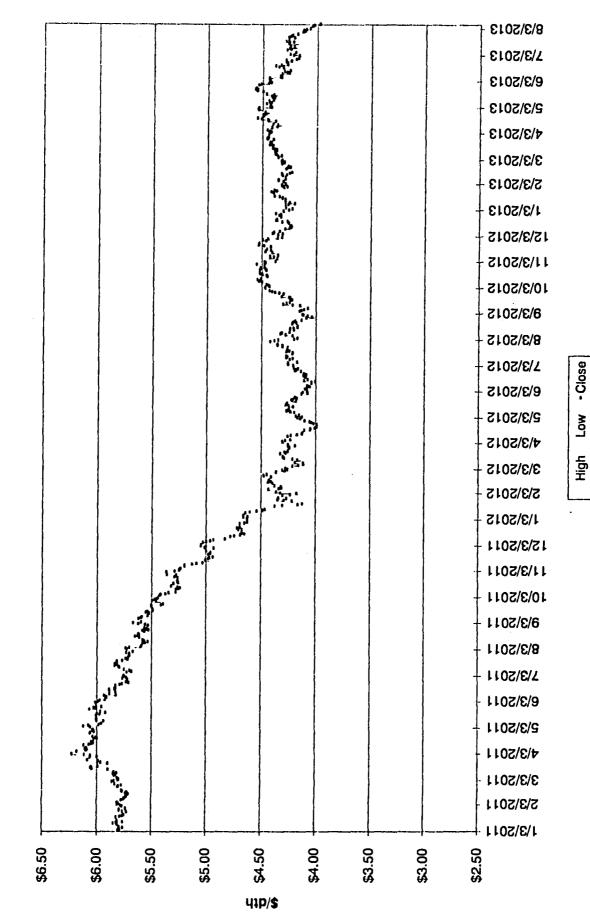
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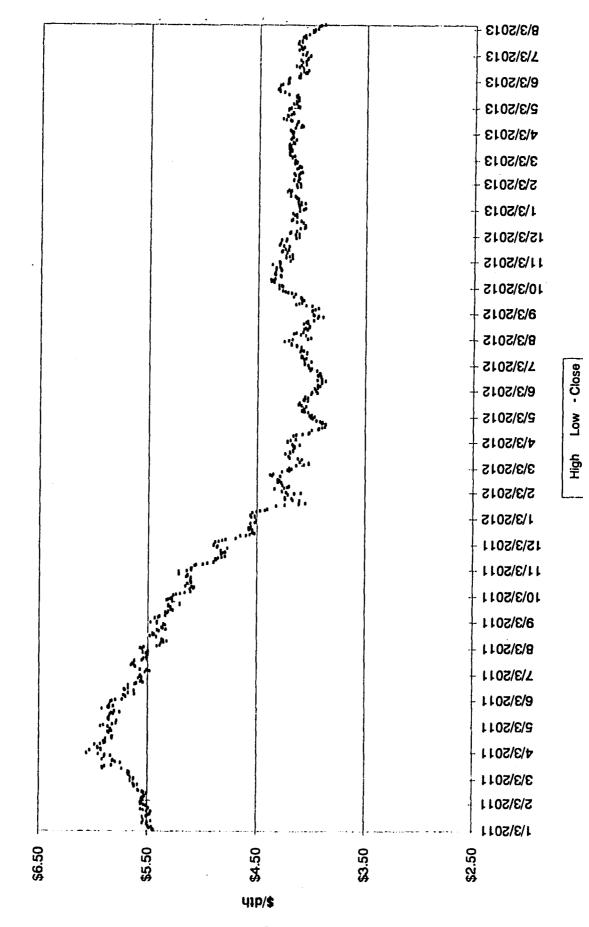




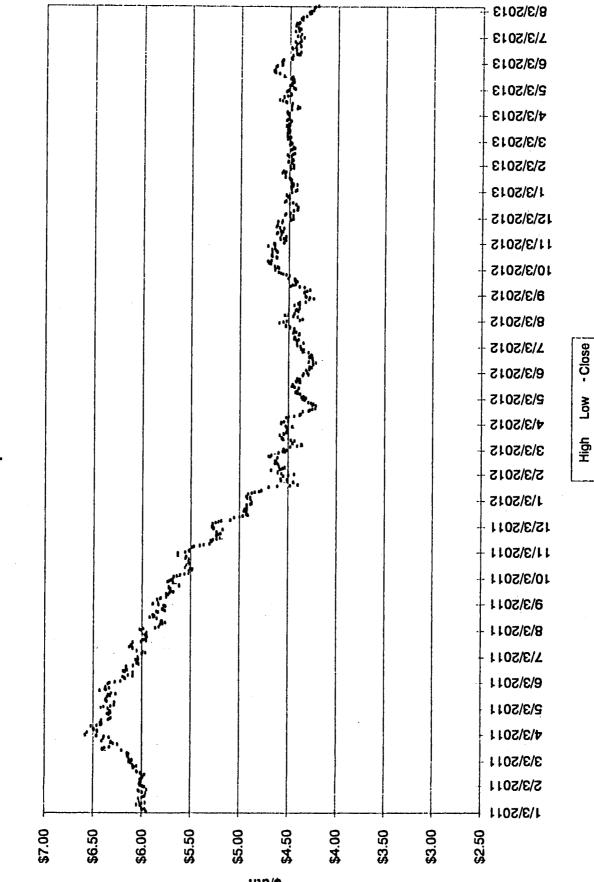
Summer Strip 2014





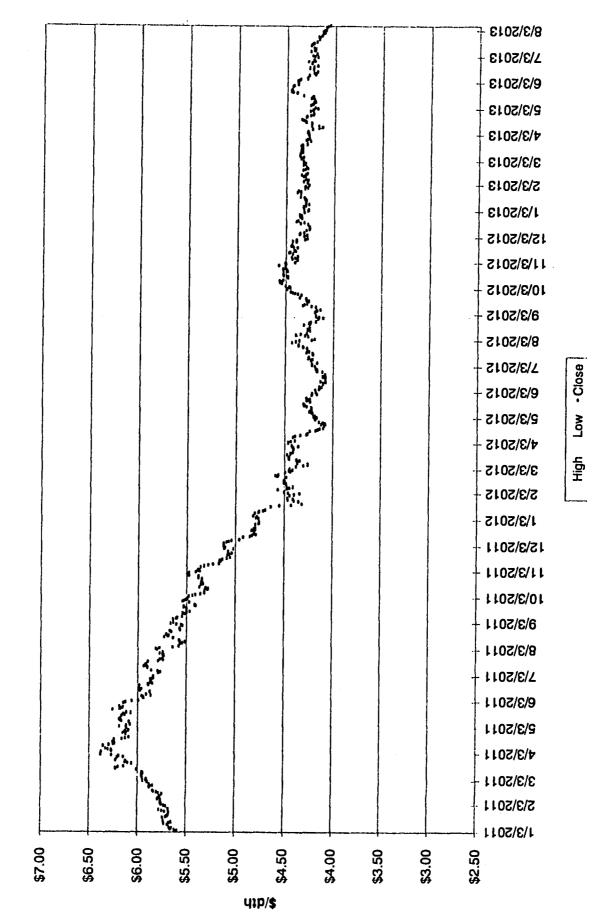


Summer Strip 2015



Winter Strip Nov15 - Mar16

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Summer Strip 2016

#### Duke Energy Hedging Program Remaining Base Not Yet Locked in Winter 2013-14

		Dth/Day				∽ System
November	December	January	February	March	Total	Supply

### Duke Energy Ohio

Previously Hedged



Col Gulf Mainline Col Gulf Mainline Col Gulf Mainline Gulf South Tex Gas Zone 1

Col Gulf Mainline Col Gulf Mainline Col Gulf Mainline

Total System Supply

### Duke Energy Kentucky

Previously Hedged

Total

System Supply

Duke Energy-Total Previously Hedged Total





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#### Gas Resources Hedging Program Market Indicators Summary August 26, 2013

	Price	Term	Comments	Page
Weather	Pressure			Ref
Long Term Forecast (Nov 13Jan 14)	<b>↑</b> ↓	Long	NOAA predicting above average temperatures for November 2013 January 2014 for the majority of CONUS except for the coastal states in the Southeast. "Farmer's Almanac" predicts a colder-than-normal winter for two-thirds of the country.	12
Mid Term Forecast (30-60 days)	<b>~~</b>	Long	September is predicted to be 2.3% colder than normal based on 10 year normals and October weather is predicted to be 0.6% warmer than normal.	13
Short Term Forecast (6-10 days)	1	Short	Above temperatures across the CONUS except on the West Coast.	14
Tropical Storm Activity		Short	Gas market less prone to price spikes due to tropical storm activity. Production from the Gulf now accounts for just 6% of US production compared to 20% 10 years ago. Tropical cyclone formation is not expected during the next 48 hours.	
Storage Inventory				<b></b>
EIA Weekly Storage Report	<b></b>	Long	Storage injections for the week ending August 16th were 57 Bcf. Storage levels are at 3,063 TCF which is 7.2% lower than last year and 1.5% higher than the 5 year average.	15
Industry Publications				
PIRA Energy Group Winter 2013/14: Summer 2013/14: Summer 2014: Summer	<b>†</b>	Long	GAS PRICE SCORECARD: "Early Bird" Gas Price Outlook for 2014 "Builish". Current prices cannot be sustained given the 2014 injection season.	16-17
Gas DallyPrice Projections		Long	Marcelius shale production seen glutting the market. Marcellus is a monster and production keeps growing. According to Bank of America, it may be hard for US prices to push higher than the current \$3.90/MMBtu for 2014 due to drilling efficiencies, remarkable well performance and higher recoverable gas estimates. Coal-to-gas switching still provides the lower boundry for gas prices at \$3.50/MMBtu. Fitch has set their 2014 gas price estimate at \$4.00.	18
Gas Dally–Miscellaneous Information	↓↓	Long	There are over 1,500 wells awaiting completion or pipeline connection. If these wells go online production could exceed growth experienced in 2012. Barclay's expects output from Marcellus and Utica shales to grow by 46%, or 3.6 Bct/d in 2013 to 11.44 Bcf/d and another 29%, or 3.3 Bcf/d in 2014.	19
Government Agencies				
Energy Information Administration Winter 2013/14: \$3.912 Summer 2014: \$3.877	Ļ	Long	The projected Henry Hub natural gas spot price averages \$3.711/MMBtu for 2013 and \$3.954/MMBtu for 2014. EtA has decreased its price for 2013 by \$.05 and increased \$.05 for 2014.	20
Technical Analysis				
Winter 2013-14 Strip Chart	1	Short	Closed at \$3.82	21
Summer 2014 Strip Chart	↑	Short	Closed at \$3.87	22
Winter 2014-15 Strip Chart	1	Short	Closed at \$4.16	23
Summer 2015 Strip Chart	1	Short	Closed at \$4.04	24
Winter 2015-16 Strip Chart	1.1	Short	Closed at \$4.33	25
Summer 2016 Strip Chart	1	Short	Closed at \$4.15	26
Economy				
Demand	<b></b>	Long	EIA projects total natural gas consumption will average 69.9 Bct/d in 2013 and 69.3 Bct/d in 2014. Increased usage for residential and commercial space heating being offset by declines in power generation.	27
Supply	<b></b>	Long	Total marketed production will increase from 69.2 Bcf/d in 2012 to 69.9 Bcf/d in 2013, and 70.5 Bcf/d in 2014.	27
Oll Market	ł	Long	Brent crude averaged \$112 per barrel for 2012. EIA expects Brent crude to average \$106 per barrel and \$100 per barrel in 2013 and 2014, respectively. WTI crude averaged \$94 for 2012. EIA expects WTI crude to average \$97 per barrel and \$93 in 2013 and 2014, respectively.	27

Meeting Minutes: 426 Annex Conference Room - 1:00 pm

Attendees: Jim Mehring, Jeff Kern, Mike Brumback, Joachim Fischesser, Mitch Martin, Steve Niederbaumer

#### **Duke Energy Kentucky** Hedging Program - Current Position November 2012 - October 2013 As of 08/26/13

<u>Load Forecast</u> City Gate Load Forecast (McI) TCO FSS Injections (McI) Total Requirements (McI)	Nov-12 Dec-12 Jan-13 Feb-13 Mar-13 A	pr-13 May-13 Jun-13 Jul-13 Aug-13	Sep-13	Oct-13
TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)				
Amount Hedged (dth/day) Fixed Price Fixed Price Fixed Price Fixed Price Cost Avg. (C Total Hedged (dth/day) Total Hedged (dth)				
<u>Types of Hedging Products (1)</u> Fixed Price Price Caps No-Cost Collars				
Embedded Hedged Cost Winter Summer				
Estimated System Supply (Gross) Hedged % of System Supply Seasonal % of System Supply				
Amt Hedged with Storage @ City Gate Hedged (City Gate) (Dth) Storage Withdrawal (Dth) Market (Dth)				
Total (incl. Injections) (Dth) % Hedged & Storage Seasonal %				
(1) Maximum percentage allowed per ty	e of hedging product is 25% for Winter months and 40% Summer months.			

(1) Maximum p wea per type of neoging pa ng 40% Summer months.



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#### Duke Energy Kentucky Hedging Program - Current Position November 2013 - October 2014 As of 08/26/13

	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14
Load Forecast City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf) Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
Amount Hedged (dth/day) Fixed Price												
Fixed Price												
Fixed Price												
Fixed Price												
Total Hedged (dirvday)												
Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter Summer												
Estimated System Supply (Gross) Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth) Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage Seasonal %												
(1) Maximum percentage allowed per type	of hedging pro	duct is 25% f	or Winter mor	ths and 40%	Summer mor	nths.						je 129
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KyPSC Case No. 2012-180 2014 Annual Report PUBLIC e 129 of 325

#### Duke Energy Kentucky Hedging Program - Current Position November 2014 - October 2015 As of 08/26/13

Load Forecast	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
Fixed Price												
Fixed Price												
Fixed Price												
Total Hedged (dth/day)												
Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												
(1) Maximum percentage allowed per type (	of bedging pro-	duct is 25% fo	winter mor	the and 40%	Summer mor	the						

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.





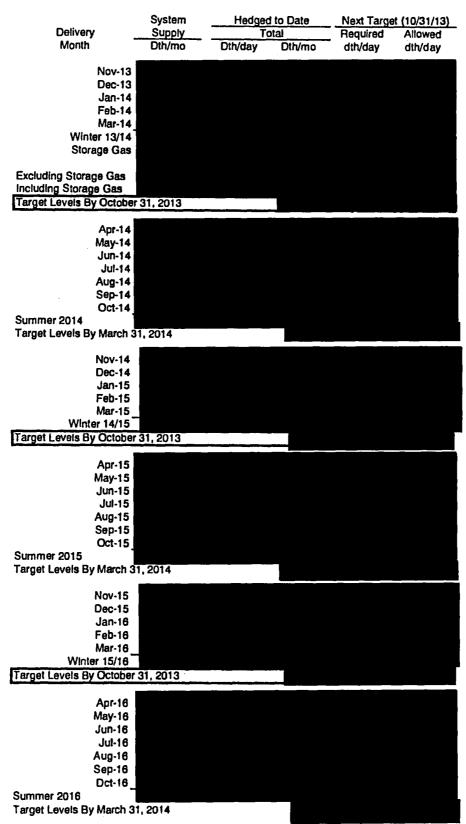
#### Duke Energy Kentucky Hedging Program - Current Position November 2015 - October 2016 As of 08/26/13

Load Forecast	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (McI)												
Total Withdrawais (Mcf)												
Amount Hedged (dth/day)												
Fixed Price												
TBD												
Total Hedged (dth/day)												
Total Hedged (dth)												
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Types of Hedging Products (1)												
Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												
(1) Maximum percentage allowed per type	of bedaing pro	duct is 25% fo	r Winter mor	ths and 40%	Summer mor	ths						

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

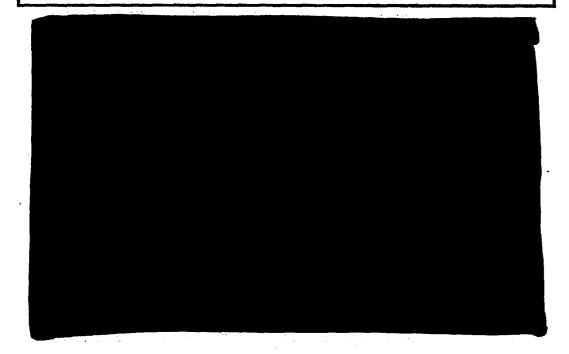
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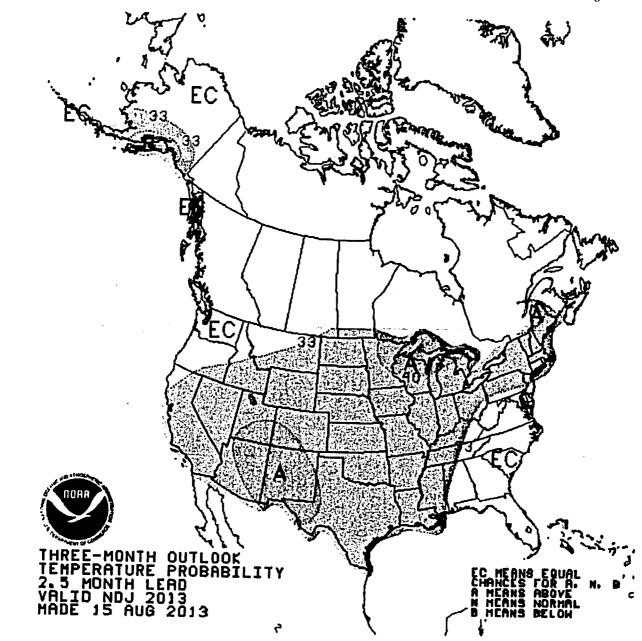
#### Duke Energy Kentucky Hedging Program Current Position



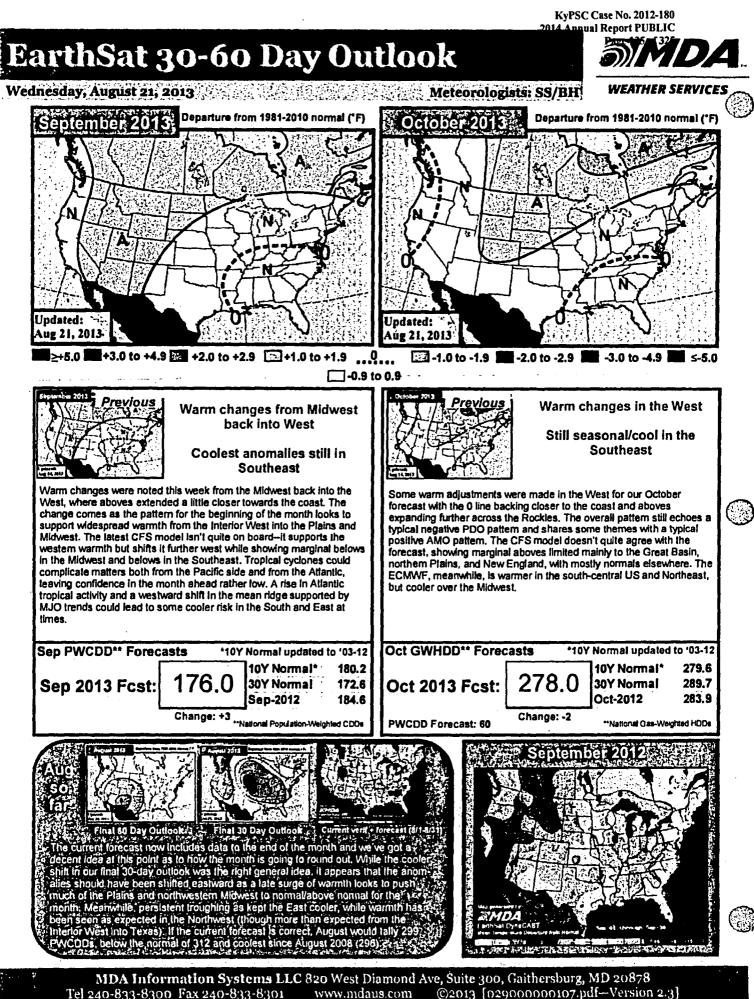
1		osing Price					
•	5-yr. avg.	Last Year	PIRA	EIA	NYMEX	Hedg	ged Prices
	(08/09-12/13)	(2012-2013)	26-Jul-13	6-Aug-13	26-Aug-13	Ohio	Kentuck
Sep	\$4.28	\$2.63		\$3.540	\$3.525	\$	
Oct	\$4.36	\$3.02		\$3.590	\$3.565	\$	
Nov	\$4.21	\$3.47		\$3.790	\$3.683	\$	
Dec	\$4.54	\$3.70		\$3.930	\$3.854	\$	
Jan	\$4.52	\$3.35		\$4.030	\$3.939	\$	
Feb	\$3.99	\$3.23		\$3.970	\$3.930	\$	
Mar	\$3.71	\$3.43		\$3.840	\$3.666	\$	
Apr	\$3.58	\$3.98		\$3.690	\$3.847	\$	
May	\$3.63	\$4.15	j j	\$3.630	\$3.850	\$	
Jun	\$3.72	\$4.15		\$3.790	\$3.690	\$	
Jui	\$3.90	\$3.71		\$3.960	\$3.889	\$	
Aug	\$3.80	\$3.46		\$4.000	\$3.905	\$	
2 Month Avg	\$4.02	\$3.52		\$3.813	\$3.612	\$	

### COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES



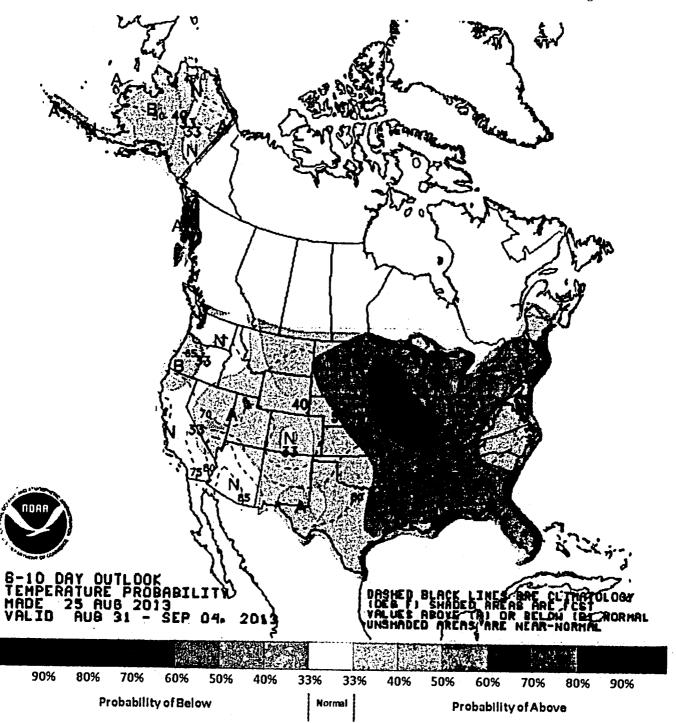


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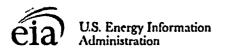


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#### Weekly Natural Gas Storage Report

for week ending August 16, 2013. | Released: August 22, 2013 at 10:30 a m | Next Release: August 29, 2013

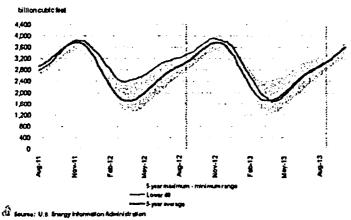
Summary lext	CSV	JSNWorking gas in underground storage, lower 48 states

				Historical Comparisons			
	Stocks billion cubic leet (Bcf)			Year ago (0//16/12)		5-Year average (2008-2012)	
Region	08/16/13	08/09/13	change	(Bcŋ	% change	(Bcf)	% change
East	1,506	1,459	47	1,705	-117	1,609	-64
West	500	494	6	489	22	441	13.4
Producing	1,057	1.053	4	1,107	45	969	9.1
Sall	258	261	-3	218	183	154	87 5
Nonsalt	709	792	7	889	-10.1	815	-20
Total	3,063	3,006	57	3.301	-7.2	3,019	1.5

#### Summary

Working ges in storage was 3,063 Bcf as of Friday, August 16, 2013, according to EIA estimates. This represents a net increase of 57 Bcf from the previous week. Stocks were 238 Bcf less than last year at this time and 44 Bcf above the 5year average of 3.019 Bcf. In the East Region, stocks were 103 Bcf below the 5-year average following net injections of 47 Bcf. Stocks in the Producing Region were 88 Bcf above the 5-year average of 969 Bcf after a net injection of 4 Bcf. Stocks in the Wost Region were 59 Bcf above the 5-year average after a net addition of 6 Bcf. At 3,063 Bcf, total working gas is writin the 5-year historical range.





Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2008 shrough 2012.

Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year ago weekly periods.

## PIRA North American Gas Price Overview Per MMBTU July 26, 2013 Release

		l i se a se se se la	
Jan-11	Jan-12	Jan-13	Jan-14
Feb-11	Feb-12	Feb-13	Feb-14
Mar-11	: Mar-12	Mar-13	Mar-14
Apr-11	Apr-12	Apr-13	Apr-14
May-11	1 May-12	May-13	May-14
: Jun-11	Jun-12	Jun-13	Jun-14
Jul-11	Jul-12	Jul-13	Jul-14
Aug-11	Aug-12	Aug-13	Aug-14
Sep-11	Sep-12	Sep-13	Sep-14
Oct-11	Oct-12	Oct-13	Oct-14
Nov-11	Nov-12	Nov-13	Nov-14
Dec-11	Dec-12	Dec-13	Dec-14
Average	Average	Average	Average
2011 \$	2012 \$	2013 \$	2014 \$
Summer	Summer	Summer	Summer
2011 \$	2012	2013 \$	2014
Winter 2011-	Winter 2012	Winter 2013	
2012	2013	2014	
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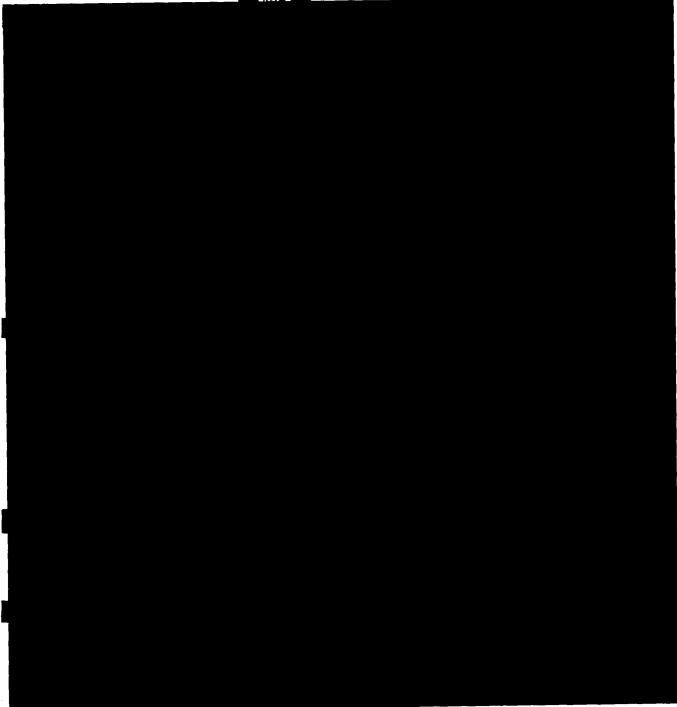
North American Gas Forecast Monthly

July 26, 2013

NATURAL GAS

## "EARLY BIRD" U.S. GAS PRICE SCORECARD: 2014

Bearish Neutral Bullish



PIRA Energy Group, 3 Park Avenue, 28<sup>th</sup> Floor, New York, NY 10016-5989 (Tel) 212-686-6808 (Fax) 212-688-6828 www.pira.com <sup>2</sup> For authorized subscribers only. Copyright © 2013 PIRA Energy Group. All rights reserved.

## **Price Projections**

#### Marcellus Seen Glutting Market, Capping Prices--8/23/2013

Two analysts reduced their expectations for gas prices, resulting from Marcellus Shale production glutting an already crowded market.

"The Marcellus is a monster and production keeps on growing. We believe it may be hard for US natural gas prices to push much higher than the current \$3.90/MMBtu for the calendar-year 2014 strip and see some downside risks to our \$4.20/MMBtu for next year."

Producers in the Marcellus report remarkable well performance, improved drilling efficiencies, and increasing estimates of recoverable gas on their acreage.

"Some producers show internal rates of return in the Marcellus of 96% at \$4/MMBtu. The strong results are now leading us to upgrade our dry production growth forecast to 600,000 Mcf/d in 2013 and to 1.5 Bcf/d in 2014, likely placing a cap on US natural gas prices for the time being" according to Bank of America. Coal-to-gas switching by power generators still provides the lower boundary for gas prices at \$3.50/MMBtu.

"Switching picks up exponentially at low prices but comes to a sudden halt at higher prices. Below \$3.50/MMBtu, every 10-cent decline in gas generates a 350,000 Mcf/d increase in gas demand, while above \$3.50/MMBtu the additional demand generated falls to 200,000 Mcf/d."

## Fitch Says Gas is Range-Bound, Will Average \$4/Mcf in 2014-8/13/2013

Fitch Ratings has set their 2014 gas price estimate at \$4/Mcf with a longer-term price of \$4.50/Mcf.

"While weather will continue to play a role in daily prices, Fitch said coal prices will set gas' lower price deck at \$3/Mcf, while the ability of producers to crank up production quickly sets the higher end of the range at \$4.50."

# **Miscellaneous Information**

## 

According to Barclays the number of wells awaiting completion or a pipeline grew 8% to 1,546 in the first six months of 2013 compared to 2012.

"With more than 1,500 wells in the backlog, if all the wells in the backlog were brought online within a year production growth could exceed the growth experienced in 2012."

Barclay's expects output from Marcellus and Utica shales to grow by 46%, or 3.6 Bcf/d in 2013 to 11.44 Bcf/d and another 29%, or 3.3 Bcf/d, in 2014.

"Given the infrastructure expansions that we are expecting to see in the Marcellus, we believe that production growth in the Marcellus should outpace last year's level."

## Marcellus/Utica to Grow 7 Bcf/d by 2015—August 15, 2013

Production growth in the Marcellus and Utica shales continues to outpace expectations with output expected to grow by 3.6 Bcf/d in 2013 and another 3.3 Bcf/d by the beginning of 2015.

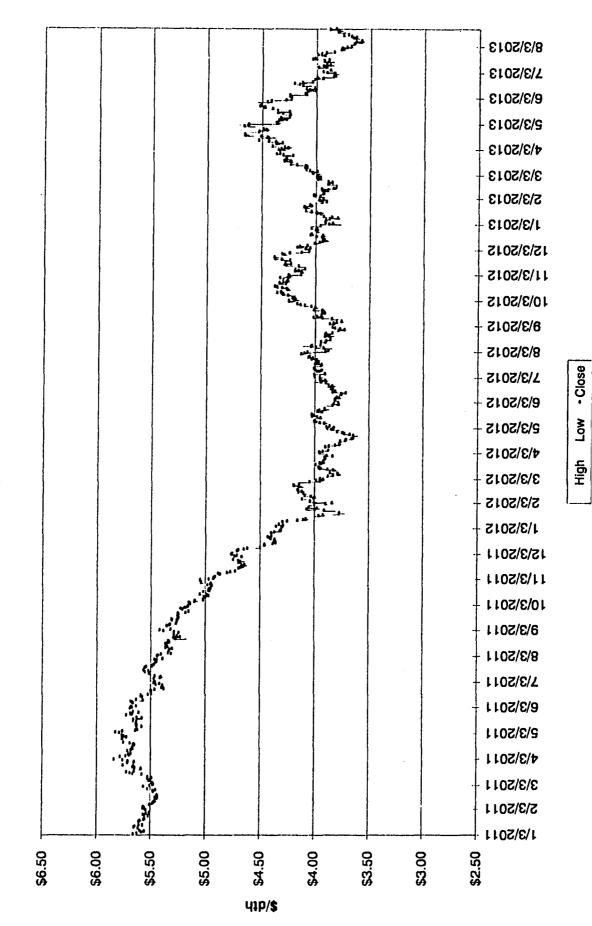
"Northeast production likely surpassed regional demand for the first time this spring and while consumption is expected to outpace regional supply this coming winter, the Northeast is likely to become a net exporter throughout most of the year by 2015 as storage capacity may be sufficient by then to cover any seasonal needs."

Northeast gas will have to flow out of the region, and we expect Northeast prices to be increasingly discounted, not only relative to Henry Hub, but also to the Midcontinent and Western markets.

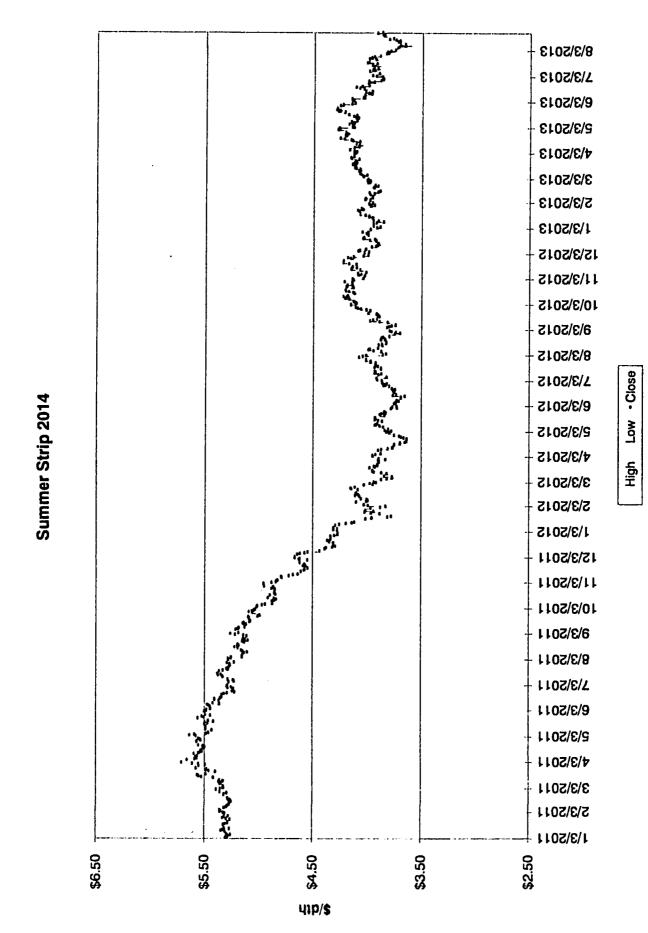
## Energy Information Administration Henry Hub Pricing Per MMbtu August 6, 2013 Release

Jan-11	4.49	Jan-12	2.67	Jan-13	3.33	Jan-14	4.03
Feb-11	4.09	Feb-12	2.50	Feb-13	3.33	Feb-14	3.97
Mar-11	3.97	Mar-12	2.18	Mar-13	3.81	Mar-14	3.84
Apr-11	4.25	Apr-12	1.95	Apr-13	4.17	Apr-14	3.69
May-11	4.31	May-12	2.43	May-13	4.04	May-14	3.63
Jun-11	4.55	Jun-12	2.46	Jun-13	3.83	Jun-14	3.79
Jul-11	4.42	Jul-12	2.95	Jul-13	3.62	Jul-14	3.96
Aug-11	4.05	Aug-12	2.84	Aug-13	3.55	Aug-14	4.00
Sep-11	3.90	Sep-12	2.85	Sep-13	3.54	Sep-14	4.02
Oct-11	3.56	Oct-12	3.32	Oct-13	3.59	Oct-14	4.05
Nov-11	3.24	Nov-12	3.54	Nov-13	3.79	Nov-14	4.19
Dec-11	3.17	Dec-12	3.34	Dec-13	3.93	Dec-14	4.28
Average	· · · · ·	Average	4 	Average	j   • · · · • • •	Average	- · · · ·
2011	\$ 4.000	2012	\$ 2.753	2013	\$ 3.711	2014	\$ 3.954
Summer 2011	\$ 4.149	Summer 2012	\$ 2.686	Summer 2013	\$ 3.763	Summer 2014	\$ 3.877
Winter 2011 2012	\$ 2.752	Winter 2012 2013	\$ 3.470	Winter 2013 2014	\$ 3.912		

20 8/21/2013



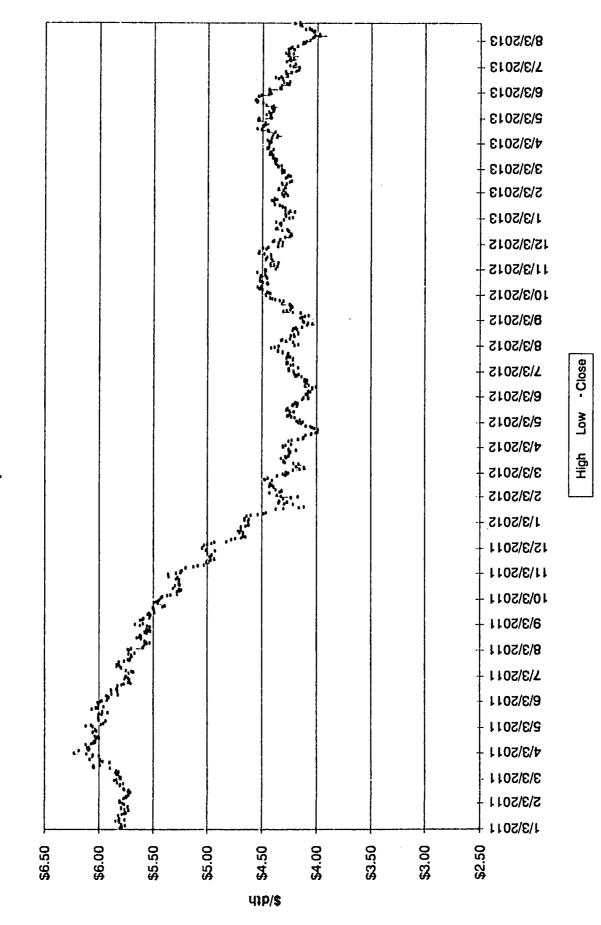
Winter Strip Nov13 - Mar14



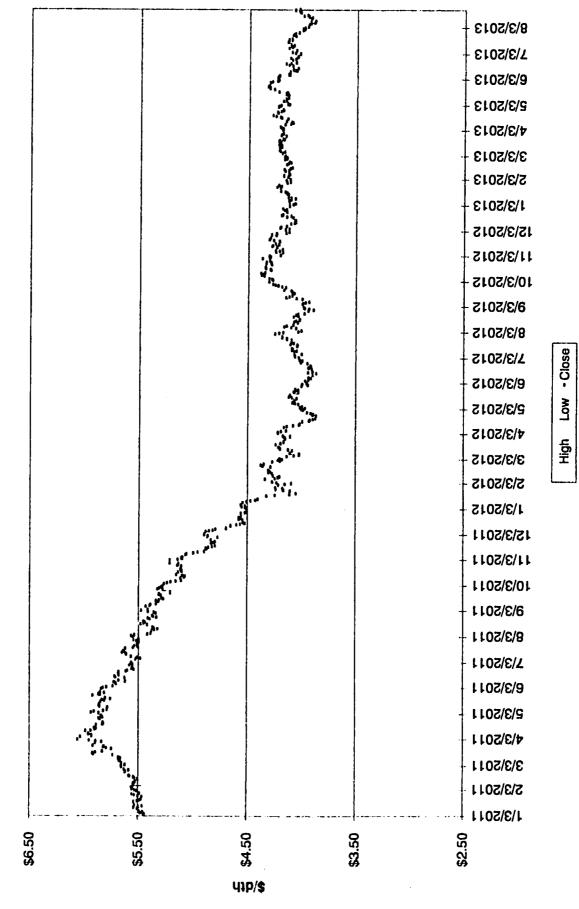
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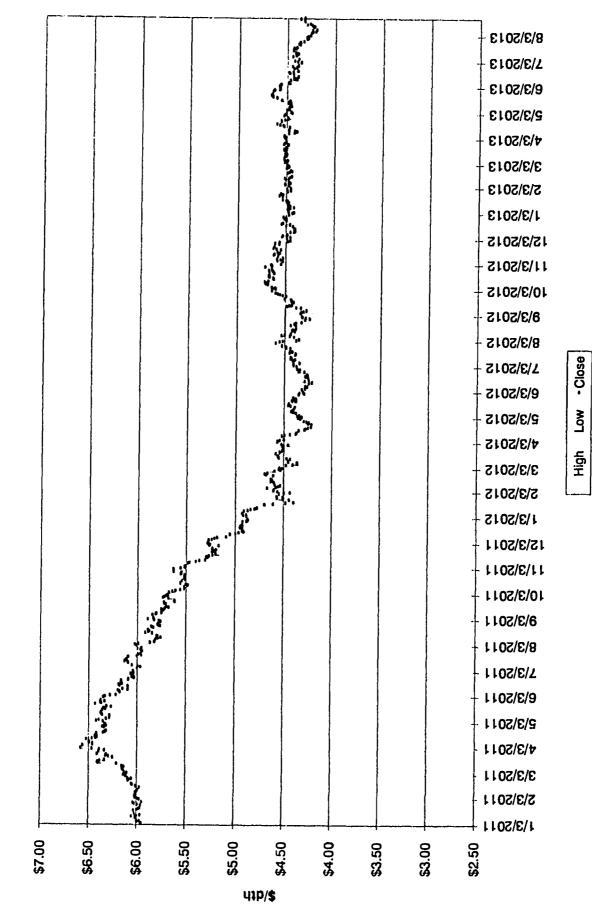


Winter Strip Nov14 - Mar15

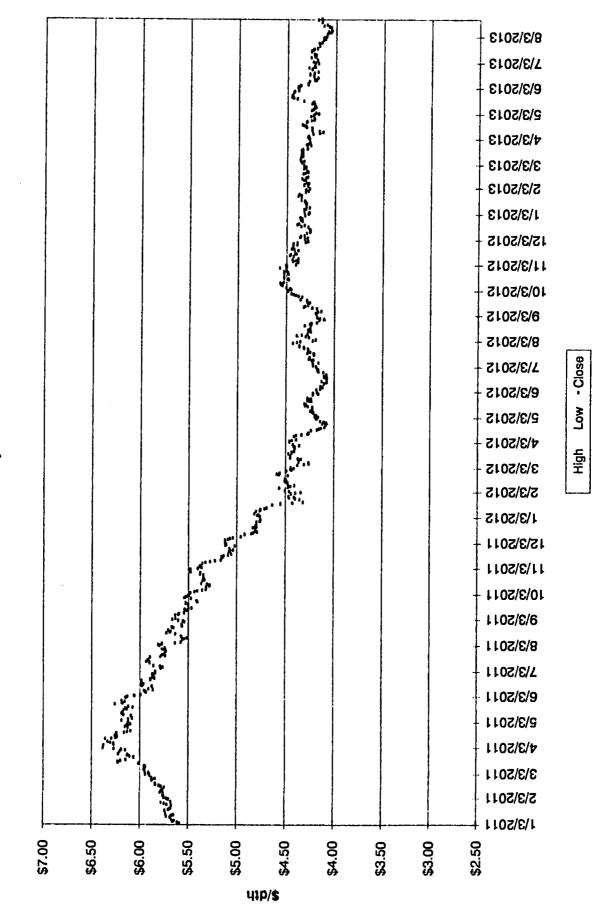


Summer Strip 2015





Winter Strip Nov15 - Mar16



Summer Strip 2016



# Independent Statistics & Analysis U.S. Energy Information Administration

# Short-Term Energy Outlook (STEO)

## **Natural Gas**

#### U.S. Natural Gas Consumption.

EIA expects that natural gas consumption, which averaged 69.7 Bcf/d in 2012, will average 69.9 Bcf/d and 69.3 Bcf/d in 2013 and 2014, respectively. <u>Colder winter temperatures in 2013 and 2014 (compared</u> with the record-warm temperatures in 2012) are expected to increase the amount of natural gas used for residential and commercial space heating. However, the projected year-over-year increases in natural gas prices contribute to declines in natural gas used for electric power generation from 25.0 Bcf/d in 2012 to 22.2 Bcf/d in 2013 and 21.6 Bcf/d in 2014.

#### U.S. Natural Gas Production and Trade.

Natural gas marketed production is projected to increase from 69.2 Bcf/d in 2012 to 69.9 Bcf/d in 2013 and to 70.5 Bcf/d in 2014. Onshore production increases over the forecast period, while federal Gulf of Mexico production from existing fields declines as the economics of onshore drilling remain more favorable. Natural gas pipeline gross imports, which have fallen over the past five years, are projected to fall by 0.2 Bcf/d in 2013 and then remain near 2013 levels in 2014. LNG imports are expected to remain at minimal levels of around 0.4 Bcf/d in both 2013 and 2014.

**U.S. Natural Gas Inventories.** As of July 26, 2013, working gas stocks totaled 2,845 Bcf, which is 368 Bcf less than at the same time last year, but only 34 Bcf below the five-year (2008-12) average for that week. <u>EIA projects working gas stocks at the end of this summer's stock-build season (end of October) will reach 3,800 Bcf, about 130 Bcf below the level at the same time last year.</u>

## **Crude Oil Prices**

After declining to a 2013 year-to-date low of \$97 per barrel on April 17, Brent crude oil spot prices increased to an average of \$108 per barrel in July. EIA projects the Brent crude oil spot price will fall from an average of \$112 per barrel in 2012 to annual averages of \$106 per barrel and \$100 per barrel in 2013 and 2014, respectively, reflecting the increasing supply of liquid fuels from non-OPEC countries.

After averaging \$94 per barrel in 2012 and increasing to \$105 per barrel in July 2013, the forecast WTI crude oil spot price averages \$97 per barrel in 2013 and \$93 per barrel in 2014.

#### Duke Energy Hedging Program Remaining Base Not Yet Locked in Winter 2013-14

		Dth/Day				% System
November	December	January	February	March	Total	Supply

Duke Energy Ohio Previously Hedged



Col Guif Mainline Col Guif Mainline Col Guif Mainline Guif South Tex Gas Zone 1

Total System Supply

#### Duke Energy Kentucky Previously Hedged

Previously Hedged Col Gulf Mainline Col Gulf Mainline Col Gulf Mainline

Total System Supply

Duke Energy-Total Previously Hedged Total



#### Gas Resources Hedging Program Market Indicators Summary September 19, 2013

	Price	Term	Comments	Page
Weather	Pressure	L		Ref
Long Term Forecast (Dec 13Feb 14)	Ļ	Long	NOAA predicting above average temperatures for December 2013 February 2014 for the majority of CONUS except for the coastal states in the Southeast and the Northwest.	12
Mid Term Forecast (30-60 days)		Long	October is predicted to be 4.5% warmer than normal based on 10 year normals and November weather is predicted to be 3.6% colder than normal.	13
Short Term Forecast (6-10 days)	<u>†</u>	Short	Above temperatures across the majority of CONUS.	14
Tropical Storm Activity	<b>†</b>	Short	Activity in the Southwestern Gulf of Mexico, this system has a 70% of becoming a tropical cyclone during the next 48 hours and 80% chance of becoming a tropical cyclone during the next 5 days. In addition, there are a number of other systems forming in the Atlantic moving to the west.	
Storage Inventory				
EIA Weekly Storage Report	<b></b>	Long	Storage injections for the week ending September 13th were 46 Bcf. Storage levels are at 3,299 TCF which is 5.4% lower than last year and 0.5% higher than the 5 year average.	15
Industry Publications				
PiRA Energy Group Winter 2013/14: \$ Summer 2013/14: \$	↓	Long	GAS PRICE SCORECARD: July 2013October 2013 Gas Price Outlook "Neutral".	16-17
Gas DailyPrice Projections	<b>†</b> ↓	Long	Gas prices follow market fundamentals more closely than any other energy commodity. Several analysts have reduced their gas price forecasts citing loosening supply/demand balance, high onshore production, storage levels and power demand that is down 16% through the first half of 2013. FBR 2013 \$3.77 from \$3.88Stifel 3rd Qtr 2013 \$3.65 from \$4.00, 4th Qtr 2013 \$4.00 from \$4.25Barclays 2013 reduced 6% to \$3.73, 2014 reduced 5% to \$3.88 and 2015 reduced 5% to \$4.15	18-19
Gas DailyLNG Exports	t	Long	Cove Point is the fourth LNG project that received DOE approval. Cove Point to export 0.8 Bcf/d to non-FTA countries. All approved facilities have a combined capacity of 6.4 Bcf/d. 6 to 8 Bcf/d before domestic prices are impacted according to analysts. America Energy Advantage trade group believes the approved export capacity is at levels at which prices would be impacted.	20-21
Government Agencies				
Energy Information Administration Winter 2013/14: \$3.842 Summer 2014: \$3.829	+	Long	The projected Henry Hub natural gas spot price averages \$3.680/MMBtu for 2013 and \$3.906/MMBtu for 2014. EIA has decreased its price for 2013 by \$.03 and decreased \$.05 for 2014.	22
Technical Analysie		Ohant		
Winter 2013-14 Strip Chart		Short	Closed at \$3.96	23
Summer 2014 Strip Chart			Closed at \$3.97	24
Winter 2014-15 Strip Chart Summer 2015 Strip Chart	_ <u>↑</u>	Short	Closed at \$4.23	25 26
Winter 2015-16 Strip Chart		Short	Closed at \$4.07	20
Summer 2016 Strip Chart			Closed at \$4.54	28
		GIUIT		
Demand		Long	EIA projects total natural gas consumption will average 69.9 Bct/d in 2013 and 69.3 Bct/d in 2014. Increased usage for residential and commercial space heating being offset by declines in power generation.	29
Supply	<b></b>	Long	Total marketed production will increase from 69.2 Bcf/d in 2012 to 69.9 Bcf/d in 2013, and 70.4 Bcf/d in 2014.	29
Oil Market	ţ	Long	Brent crude averaged \$112 per barrel for 2012. EIA expects Brent crude to average \$108 per barrel and \$102 per barrel in 2013 and 2014, respectively. WTI crude averaged \$94 for 2012. EIA expects WTI crude to average \$99 per barrel and \$96 in 2013 and 2014, respectively.	29

Meeting Minutes: 426 Annex Conference Room - 1:00 pm

Attendees: Jeff Kern, Joachim Fischesser, Mitch Martin, Rick Colvin, Steve Niederbaumer

Discussed market fundamentals including weather (the tropical storm activity currently in the Gulf of Mexico), storage levels, PIRA and EIA price forecasts, analysts projections of gas prices, recent approval of LNG export application by DOE, amount of supply available, economic influences on supply and demand and the current positions of the DEO and DEK Hedging Programs. A decision was made that no additional hedging will be done at this time.

#### Duke Energy Kentucky Hedging Program - Current Position November 2012 - October 2013 As of 09/16/13

Nov-12 11 12 Dec-12 12 Jan-13 12 Feb-13 12 Mar-13 12 Mar-13 12 May-13 12 Jun-13 12 May-13 12 May-13 12 Sep-13 Oct-13

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

# KyPSC Case No. 2012-180 2014 Annual Report PUBLIC Page 152 of 325

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#### Load Forecast

City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)

TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)

Amount Hedged (dth/dav)

Fixed Price Fixed Price Fixed Price Fixed Price Cost Avg. Total Hedged (Jth/Jay) Total Hedged (Jth)

Types of Hedging Products (1) Fixed Price Price Caps No-Cost Collars

Embedded Hedged Cost Winter Summer

Estimated System Supply (Gross) Hedged % of System Supply Seasonal % of System Supply

```
Amt Hedged with Storage @ City Gate
Hedged (City Gate) (Dth)
Storage Withdrawal (Dth)
Market (Dth)
Total (incl. Injections) (Dth)
% Hedged & Storage
```

Seasonal %

#### Duke Energy Kentucky Hedging Program - Current Position November 2013 - October 2014 As of 09/16/13

	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jui-14	Aug-14	Sep-14	Oct-14
Load Forecast City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)	-											
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)	-											
•												
Amount Hedged (dth/day) Fixed Price												
Fixed Price												
Fixed Price Fixed Price												
Fixed Price												
Fixed Price Total Hedged (dtr/day)												
Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price												
Price Caps No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply Seasonal % of System Supply												
Sersone & or Saven Solbh												
Amt Hedged with Storage @ City Gate Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth) Total (incl. Injections) (Dth)												
% Hødged & Storage												
Seasonal %												

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

#### Duke Energy Kentucky Hedging Program - Current Position November 2014 - October 2015 As of 09/16/13

• • • • • • • • • •	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jui-15	Aug-15	Sep-15	Oct-15
Load Forecast City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)	_											
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (Mcf)	_											
Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
Fixed Price												
Fixed Price												
Total Hedged (OUVORy)												
Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price												
Price Caps No-Cost Collars												
NO-CUSI CONDIS												
Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate	<u>e</u>											
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)	-											
Total (incl. Injections) (Dth) % Hedged & Storage												
Seasonal %												
(1) Maximum percentage allowed per ty	rpe of hedging pro	duct is 25% fo	r Winter mor	ths and 40%	Summer mon	ths.						

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.



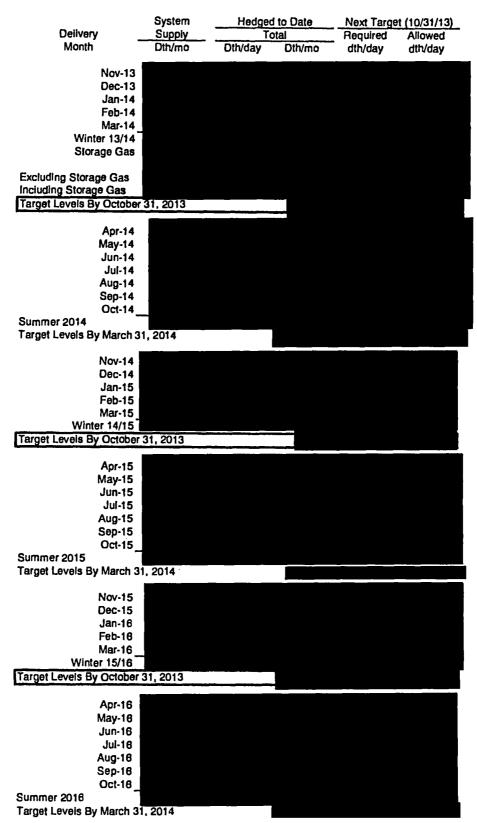


#### Duke Energy Kentucky Hedging Program - Current Position November 2015 - October 2016 As of 09/16/13

	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16
Load Forecast City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
TCO FSS Withdrawais (Mcf)												
Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)	-											
Total Will Chawais (MCI)												
Amount Hedged (dth/day)												
Fixed Price ( TBD												
TBD												
Total Hedged (dth/day) Total Hedged (dth)												
Types of Hedging Products (1) Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate	2											
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth) Market (Dth)												
Total (incl. Injections) (Dth)	-											
% Hedged & Storage												
Seasonal %												
(1) Maximum percentage allowed per ty	pe of hedging pro	duct is 25% fo	w Winter mor	oths and 40%	Summer mor	nths.						

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#### Duke Energy Kentucky Hedging Program Current Position

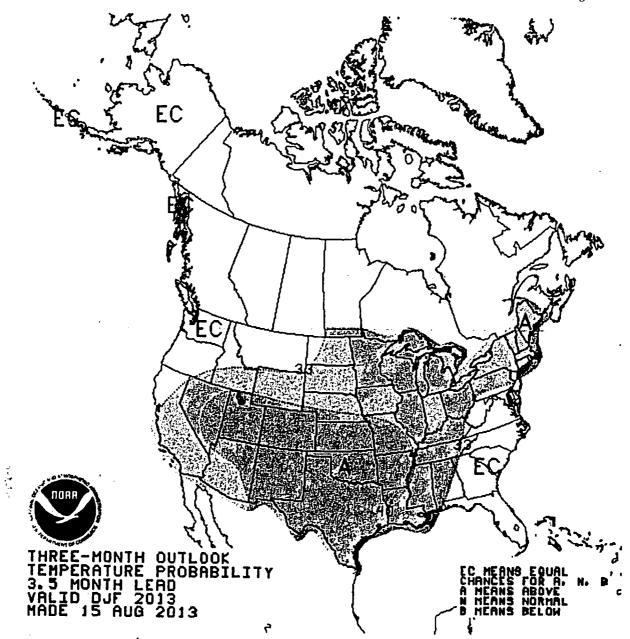


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#### COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

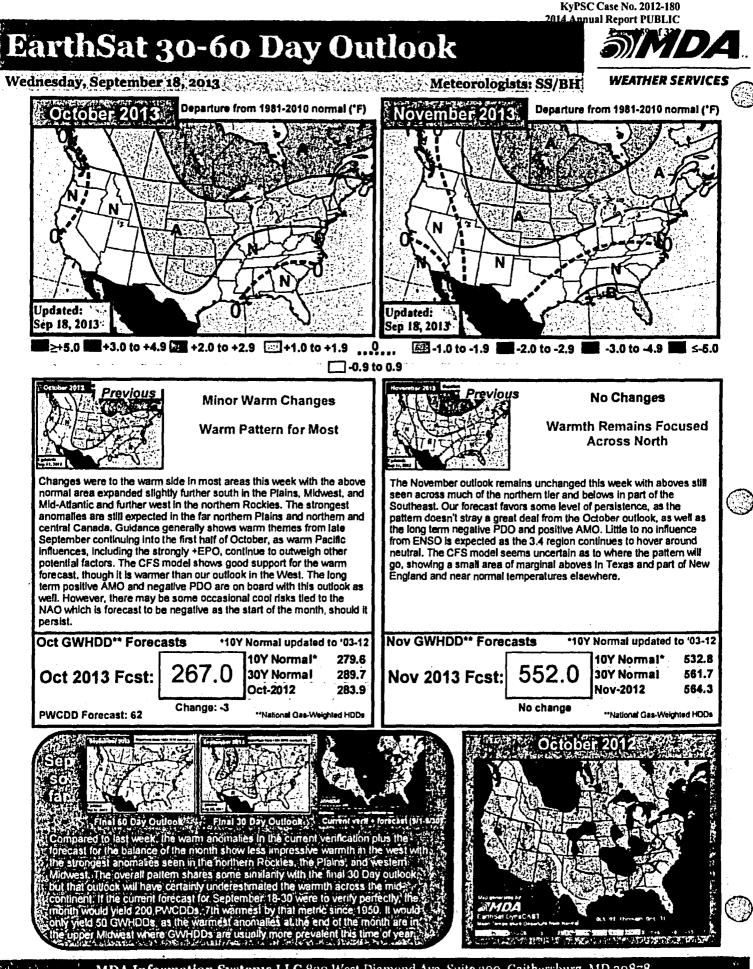
<b></b>		c Prices:					
	NYMEX CI	osing Price		·····			
	5-yr. avg.	Last Year	PIRA	EIA	NYMEX	Hedge	ed Prices
	(08/09-12/13)	(2012-2013)	27-Aug-13	10-Sep-13	19-Sep-13	Ohio	Kentuck
Oct	\$4.36	\$3.02		\$3.550	\$3.736	\$ 	
Nov	\$4.21	\$3.47		\$3.700	\$3.811	\$	
Dec	\$4.54	\$3.70		\$3.860	\$3.966	\$	
Jan	\$4.52	\$3.35		\$3.960	\$4.060	\$	
Feb	\$3.99	\$3.23		\$3.910	\$4.055	\$	
Mar	\$3.71	\$3.43		\$3.780	\$4.010	\$	
Apr		\$3.98		\$3.650	\$3.929	\$	
May	\$3.63	\$4.15		\$3.580	\$3.925	\$	
Jun	\$3.72	\$4.15		\$3.740	\$3.949	\$	
Jul	\$3.90	\$3.71		\$3.910	\$3.978	\$	
Aug		\$3.46		\$3.950	\$3.992	\$	
Sep	\$3.31	\$3.57		\$3.970	\$3.989	\$	
2 Month Avg	\$3.94	\$3.60		\$3.797	\$3.950	\$	
1	er Average			\$3.764	\$3.928		
Winter	Average			\$3.842	\$3.980		

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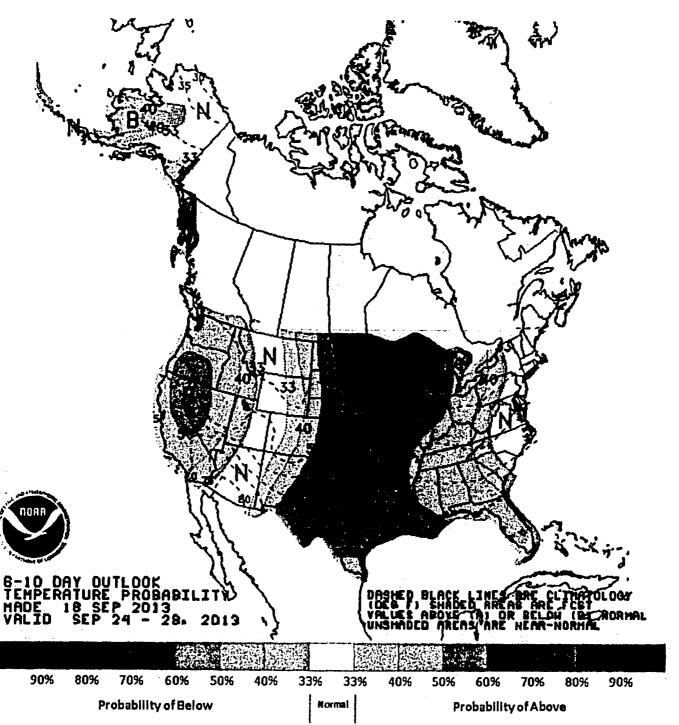


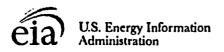
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MDA Information Systems LLC 820 West Diamond Ave, Suite 300, Gaithersburg, MD 20878 Tel 240-833-8300 Fax 240-833-8301 www.indaus.com ©2013 [029000000107.pdf–Version 2.3]





#### Weekly Natural Gas Storage Report

for week ending September 13, 2013. | Released: September 19, 2013 at 10, 30 a.m. | Next Release: September 26, 2013

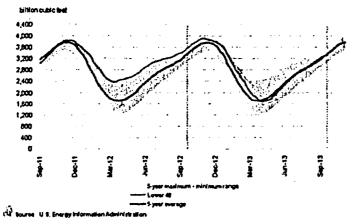
Summary levi	CSV	JSNWorking gas in underground storage, jower 48 states	

				Historical Comparisona							
		Slocks			r ago	5-Year average					
	brit	ion cubic feet (E	3cf)	(09/1	3/12)	(2008 2012)					
Regton	09/13/13	09/06/13	change	(Bcf)	% change	(8c1)	🕆 changa				
East	1,688	1.647	41	1.869	97	1,810	-8.7				
West	511	507	4	497	2.8	461	10.8				
Producing	1,100	1,099	1	1,121	-19	1,010	8.9				
Salt	259	262	-3	218	19 9	157	65 0				
Nonsalt	841	636	5	906	-7.2	653	-t.4				
Total	3,299	3,253	46	3,486	-5.4	3,281	0.5				

#### Summary

Working gas in storage was 3,299 Bcf as of Fiday. September 13, 2013, according to EIA estimates. This represents a net increase of 48 Bcf from the previous week. Stocks were 187 Bcf less than last year at this time and 18 Bcf above the 5 -year everage of 3,261 Bcf. In the East Region, stocks were 122 Bcf below the 6-year sverage following net injections of 41 Bcf. Stocks in the Producing Region were 90 Bcf above the 5-year average of 1,010 Bcf after a net injection of 1 Bcf. Stocks in the West Region were 50 Bcf above the 5-year average after a net addition of 4 Bcf. At 3,299 Bcf, total working gas is within the 5-year historical range.





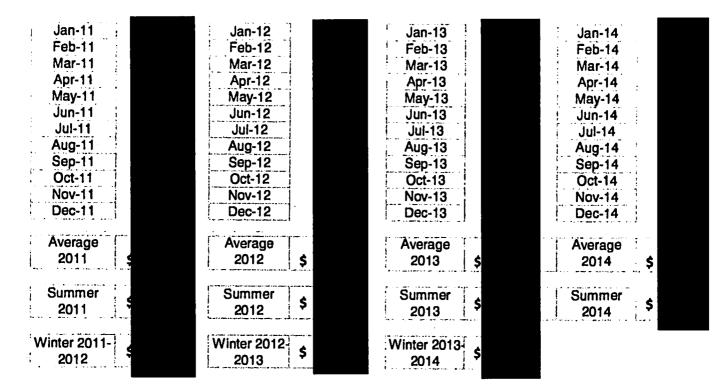
Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2008 through 2012

Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report \* The dashed vertical lines infinate current and year ago weekly particla

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## <u>PIRA</u> North American Gas Price Overview Per MMBTU August 27, 2013 Release

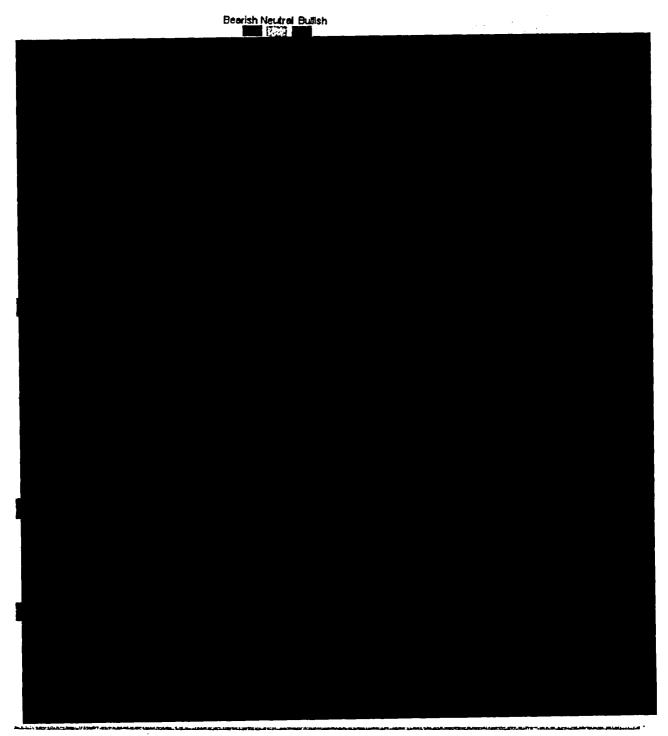


North American Gas Forecast Monthly

August 27, 2013

NATURAL GAS

# U.S. GAS PRICE SCORECARD: JULY 2013 - OCTOBER 2013



# **Price Projections**

## Gas Prices Driven More than Other Commodities by Fundamentals---9/17/2013

According to Societe Generale, natural gas prices follow market fundamentals more closely than any commodity in the energy complex. Between January and September gas price variance could be explained by fundamentals 96% of the time, up from 91% between 2007 and 2012. The energy industry saw price movement based on fundamentals 75% of the time.

"The market seems to have prematurely priced in the mild winter based on the latest NOAA forecast for warmer-than-normal winter temperatures across much of the important Northeast and Midwest regions."

Societe Generale lowered their previous fourth quarter price to \$4.10/MMBtu, down 8 cents. In addition, they dropped their first-quarter 2014 estimate by 94 cents to \$4.05/MMBtu and its second-quarter 2014 estimate by 60 cents to \$3.90/MMBtu.

## Long-Term Prices Poised to Jump on Demand, Economy--9/11/2013

"A global demand boom and improving domestic economy have the potential to hike long-term US gas prices considerably higher than many might expect, despite the abundance of shale resources."

According to JPMorgan, gas prices over the next few years could jump beyond the commonly assumed ceiling of \$6.50/MMBtu. JPMorgan indicated prices of \$7/MMBtu to \$8/MMBtu by 2016 could happen on days of high demand.

## FBR, Stifel Lower Their Gas Price Outlooks for Remainder of 2013-9/10/2013

Two industry analysts, FBR and Stifel Financial, reduced their gas price forecasts for the remainder of 2013, citing loosening supply/demand balance.

FBR has lowered their forecast for the remainder of 2013 to \$3.77/Mcf from \$3.88/Mcf citing a cooler summer than expected. In addition, they are maintaining their 2014 outlook of \$5/Mcf citing a tight market and assuming normal weather.

Stifel Financial has lowered their price forecast for the third quarter to \$3.65/MMBtu from \$4.00/MMBtu and its fourth quarter forecast to \$4/ MMBtu from \$4.25/MMBtu citing high onshore production, storage levels and power demand that is down 16% through the first half of 2013.

#### Barclays Cuts Gas Price Forecast 6% for 2013, 5% for 2014, 2015—9/5/2013

Citing expectations of production growth and coal-to-gas switching Barclays reduced its 2013 forecast 6% to \$3.73/MMBtu and its 2014 and 2015 outlooks by 5% to \$3.88/MMBtu and \$4.15/MMBtu, respectively.

"What the end of winter took from the natural gas markets the end of summer returned. After a chilly March slimmed inventories at the start of the injection season, an exceptionally mild August allowed them to swell rapidly."

By 2015, Barclays sees prices above \$4/MMBtu as coal plants are retired and the first LNG export facilities begin operation. Until then, Barclays believes gas is range-bound at \$3.50 to \$3.75/MMBtu by coal-to-switching at the low end and increased drilling efficiencies at the high end.

## **LNG Exports**

#### Cove Point is Latest to Get Non-FTA Export Nod-9/12/2013

Dominion Cove Point LNG became the fourth applicant to receive DEO approval to export LNG to countries that do not have free trade agreements with the US. The decision is subject to environmental review and final regulatory approvals. DEO "determined that exports from the terminal at a rate of up to 0.77 Bcf/d for a period of 20 years was not inconsistent with the public interest."

Dominion plans to start building in 2014 and start production in 2017 at a cost of \$3.4 billion to \$3.8 billion. Between Cove Point, Sabine Pass, Lake Charles and Freeport the DOE has approved 6.37 Bcf/d of exports to non-FTA countries. Analysts have projected that the US could export 6 to 8 Bcf/d before domestic gas prices are impacted.

"If DOE approves exports above that range, the agency has an obligation to use the most recent data about US natural gas demand and production and prove to American families and manufacturers that these exports will not have a significant impact on domestic prices, and in turn on energy security, growth and employment."

There are still 20 applications pending to export an additional 25 Bcf/d of LNG to non-FTA countries.

According to America's Energy Advantage, which represents manufactures, approved levels of exports are now approaching the volume that many experts project will impact price and volatility for natural gas. "We're increasingly concerned with the process and data DOE is using to justify more exports of American natural gas to our global competitors. DOE should immediately undertake a review of the cumulative impacts of its decisions up to this point, and clearly articulate in advance its criteria for determining the public interest under the law."

## US LNG Export Policy Hurting Geopolitical Relations-9/12/2013

Current US LNG export policy is harming strategic relationships with global allies, particularly Japan. According to Michael Turner, an Ohio Representative, our LNG policy is impeding our ability to bolster our strategic partnerships and create jobs in the US.

Turner said "that approving LNG exports at a much more rapid pace would strengthen economic and geopolitical ties with Japan, the world's largest LNG importer. A Japan that is less dependent on Middle Eastern and Russian gas, and that is no longer

.

dependent on a gas price tied to that of oil, is a Japan whose foreign policy priorities are more likely to align with those of the US."

#### For Dow, LNG Export Approvals Near Tipping Point-8/29/2013

Dow Chemical believes that if DOE approves the next two pending to export LNG, the 7 Bcf/d export threshold which Dow believes would send domestic gas prices to increase as much as \$2/MMBtu would be breached. According to Dow, this would likely compel several major manufacturing projects to be abandoned.

"Approving exports with a total capacity beyond 7 Bcf/d would start to reintroduce volatility into US natural gas prices and threaten billions of dollars worth of ethylene and propylene plants Dow has planned along the Gulf Coast."

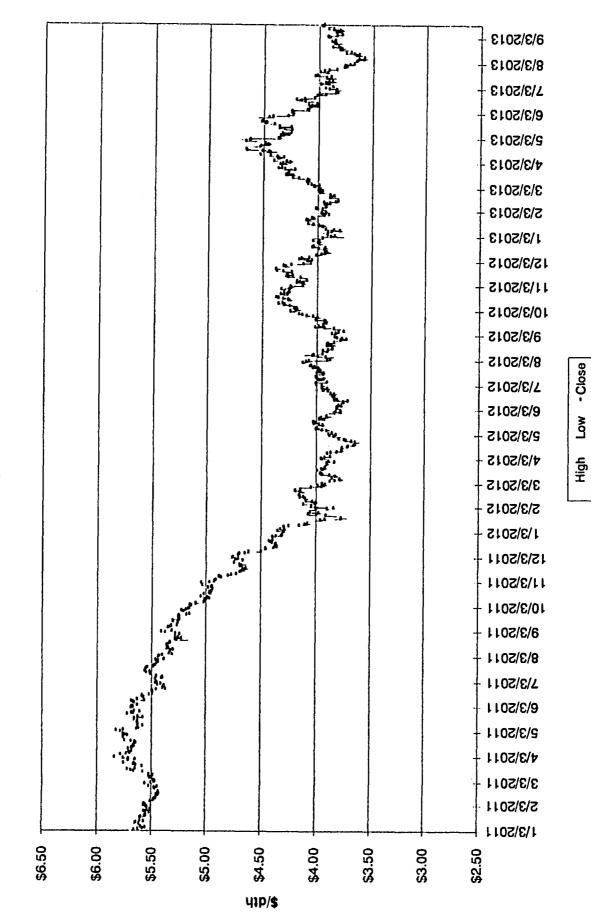
"Our point is quite simply that if we move too quickly on approvals and essentially create a rush to export, the only winners are the oil and gas companies and the losers are US industry and US consumers because any price swings will be balanced on the backs of our energy costs."

## Energy Information Administration Henry Hub Pricing Per MMbtu September 10, 2013 Release

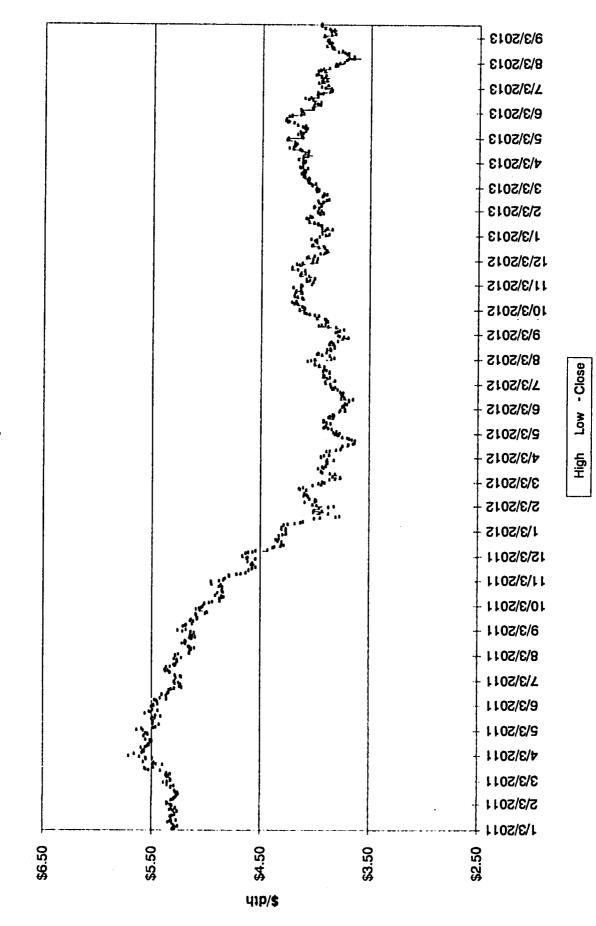
Winter 2011 2012	\$ 2.752	Winter 2012- 2013	\$ 3.470	Winter 2013 2014	\$ 3.842		
Summer 2011	\$ 4.149	Summer 2012	\$ 2.686	Summer 2013	\$ 3.733	Summer 2014	\$ 3.82
Average 2011	\$ 4.000	Average 2012	\$ 2.753	Average 2013	\$ 3.680	Average 2014	\$ 3.90
Dec-11	3.17	Dec-12	3.34	Dec-13	3.86	Dec-14	4.26
Nov-11	3.24	Nov-12	3.54	Nov-13	3.70	Nov-14	4.16
Oct-11	3.56	Oct-12	3.32	Oct-13	3.55	Oct-14	4.00
Sep-11	3.90	Sep-12	2.85	Sep-13	3.49	Sep-14	3.97
Aug-11	4.05	Aug-12	2.84	Aug-13	3.43	Aug-14	3.95
Jul-11	4.42	Jul-12	2.95	Jul-13	3.62	Jul-14	3.91
Jun-11	4.55	Jun-12	2.46	Jun-13	3.83	Jun-14	3.74
May-11	4.31	May-12	2.43	May-13	4.04	May-14	3.58
Apr-11	4.25	Apr-12	1.95	Apr-13	4.17	Apr-14	3.65
Mar-11	3.97	Mar-12	2.18	Mar-13	3.81	Mar-14	3.78
Feb-11	4.09	Feb-12	2.50	Feb-13	3.33	Feb-14	3.91
Jan-11	4.49	Jan-12	2.67	Jan-13	3.33	Jan-14	3.96



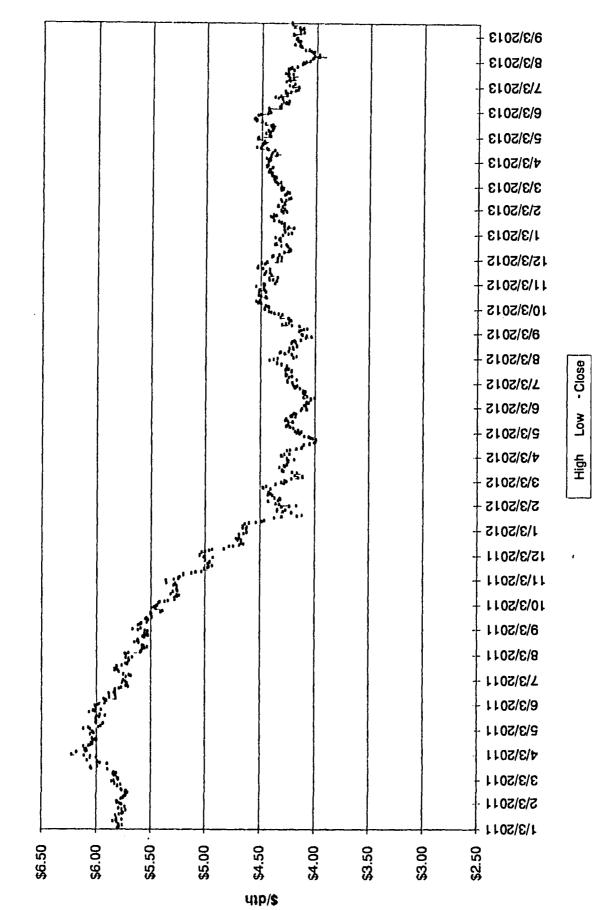
Hedging Meeting 9-19-2013.xlsx



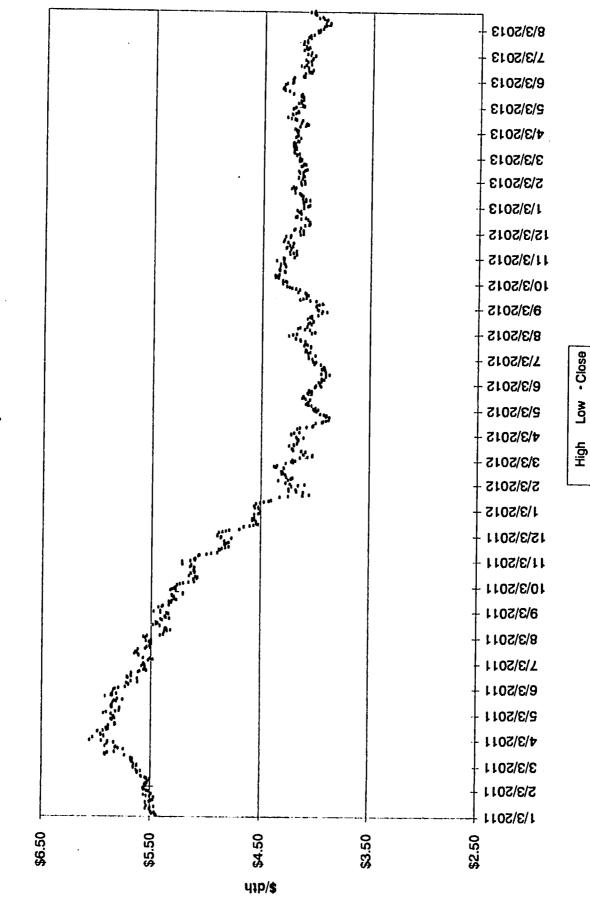
Winter Strip Nov13 - Mar14



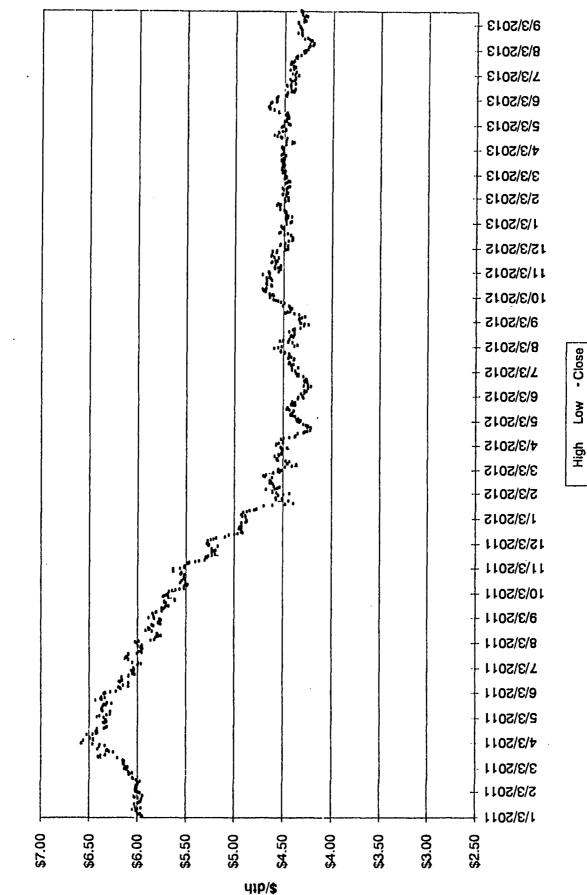
Summer Strip 2014



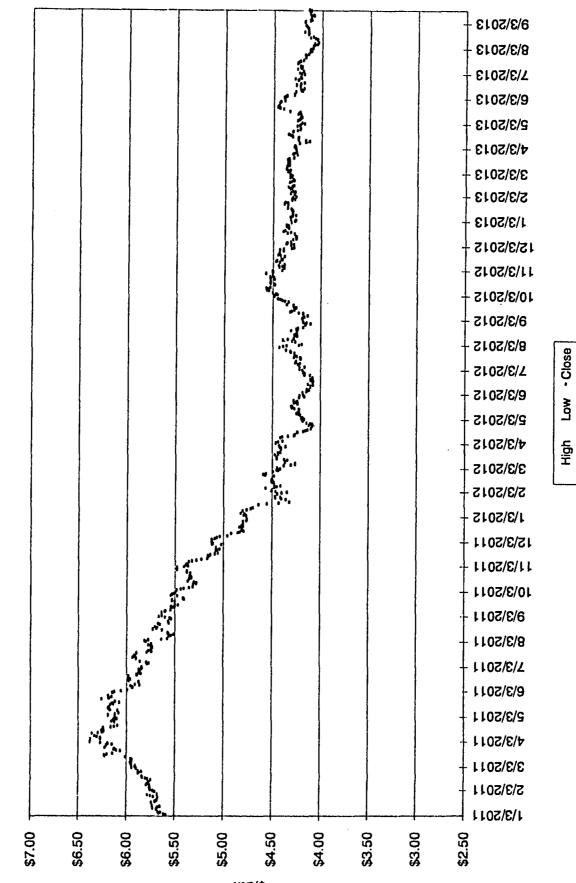
Winter Strip Nov14 - Mar15







Winter Strip Nov15 - Mar16



Summer Strip 2016

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# Independent Statistics & Analysis U.S. Energy Information Administration

# **Short-Term Energy Outlook (STEO)**

**Natural Gas** 

#### U.S. Natural Gas Consumption.

EIA expects that natural gas consumption, which averaged 69.7 Bcf/d in 2012, will average 69.9 Bcf/d and 69.3 Bcf/d in 2013 and 2014, respectively. <u>Colder winter temperatures in 2013 and 2014 (compared</u> with the record-warm temperatures in 2012) are expected to increase the amount of natural gas used for residential and commercial space heating. However, the projected year-over-year increases in natural gas prices contribute to declines in natural gas used for electric power generation from 25.0 Bcf/d in 2012 to 22.1 Bcf/d in 2013 and 21.6 Bcf/d in 2014.

#### U.S. Natural Gas Production and Trade.

Natural gas marketed production is projected to increase from 69.2 Bcf/d in 2012 to 69.9 Bcf/d in 2013 and to 70.4 Bcf/d in 2014. Onshore production increases over the forecast period, while federal Gulf of Mexico production from existing fields declines as the economics of onshore drilling remain more favorable. Natural gas pipeline gross imports, which have fallen over the past five years, are projected to fall by 0.2 Bcf/d in 2013 and then remain near 2013 levels in 2014. LNG imports are expected to remain at minimal levels of around 0.4 Bcf/d in both 2013 and 2014.

**U.S. Natural Gas Inventories.** As of August 30, working gas stocks totaled 3,188 Bcf, which is 210 Bcf less than at the same time last year, and 43 Bcf greater than the five-year (2008-12) average for that week. ElA projects inventories will total 3,820 Bcf at the end of the injection season, and 1,890 Bcf at the end of March 2014, the end of the winter heating season.

## **Crude Oil Prices**

After declining to a 2013 year-to-date low of \$97 per barrel on April 17, Brent crude oil spot prices increased to an average of \$111 per barrel in August. ElA projects the Brent crude oil spot price will fall to an average \$105 per barrel in December. The Brent crude oil annual average spot price declines from \$112 per barrel in 2012 to \$108 per barrel and \$102 per barrel in 2013 and 2014, respectively, reflecting the increasing supply of liquid fuels from non-OPEC countries.

The forecast WTI crude oil spot price averages \$99 per barrel in 2013 and \$96 per barrel in 2014. \$2 per barrel and \$3 per barrel higher, respectively, than last month's STEO.

%



### **Duke Energy** Hedging Program Remaining Base Not Yet Locked in Winter 2013-14

		Dth/Day				Systen
November	December	January	February	March	Total	Supply
-						

# Duke Energy Ohio Previously Hedged

Tot

Col Gulf Mainline Cot Gulf Mainline Col Gulf Mainline **Gulf South** Tex Gas Zone 1

System Supply

# Duke Energy Kentucky Previously Hedged

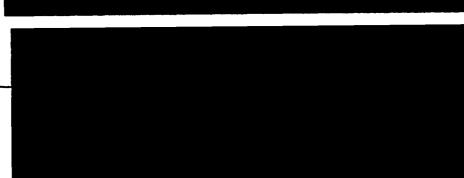


Col Gulf Mainline Col Gulf Mainline Col Gulf Mainline

Total System Supply

......

Duke Energy--Total **Previously Hedged** Total



#### Gas Resources Hedging Program Market indicators Summary October 17, 2013

	Price Pressure	Term	Comments	Page
Weather		·		<u>Ref</u>
Long Term Forecast (Dec 13Feb 14)	↓	Long	NOAA predicting above average temperatures for December 2013 February 2014 for the states west of the Mississippi River and normal temperatures to the east.	12
Mid Term Forecast (30-60 days)	<b></b>	Long	November is predicted to be 5.1% colder than normal based on 10 year normals and December weather is predicted to be 0.9% colder than normal.	13
Short Term Forecast (6-10 days)	1	Short	Below normal temperatures across the majority of CONUS.	14
Tropical Storm Activity	<b></b>	Short	Minimal chance of a tropical cyclone forming during the next 48 hours.	
Storage Inventory		·		
EIA Weekly Storage Report		Long	EIA did not release the weekly storage data this week do to the federal government shutdown. Storage Injections for the week ending October 4th were 90 Bcf. Storage levels are at 3,577 TCF which is 3.7% lower than last year and 1.6% higher than the 5 year average.	15
ndustry Publications		·		
PIRA Energy Group Winter 2013/14: Second Summer 2014: Second	Ļ	Long	GAS PRICE SCORECARD: November 2013March 2014 Gas Price Outlook "Bearlsh" based on fundamentals such as "Lower 48 Gas Production", "US Storage Levels", "Electric Generation", and "Residential/Commercial Demand".	16-17
Gas DailyPrice Projections	<b>↑</b> ↓	Long	Current gas price rally will not last. BoA predicts Winter 2013/14 prices in the \$3.50 to \$4.30 with normal weather. Gas supply growth will outpace demand. FBR 2013 \$3.70 from \$3.77-Stiffel 3rd Qtr 2013 \$3.65, 4th Qtr 2013 \$3.75, 2014 \$4.00, 2015 \$4.25, 2016 \$4.75. NGSA anticipates little price volatility this winter due to balance of supply and demand. Sustained growth in industrial demand over the remainder of the decade.	16
Gas DallySupply and Demand	<b>↑</b> ↓	Long	US gas production will grow faster than predicted, driven by Marcellus Shale. Current gas production 68.2 Bct/d up 2.4 Bct/d with additional 2.0 Bct/d for the next 5 years up to 79 Bct/d. Bentek estimate of 82.7 Bct/d by 2018. Marcellus production has grown from 400,000 Mct/d in December 2009 to 7.5 Bct/d currently. Mexico export to double by 2016. 2 Bct/d in 2013 to 4.5 Bct/d in 2016 driven by new power generation, industrial use and expansion of Mexico's pipeline network.	19
Bovernment Agencies				
Energy Information Administration Winter 2013/14: \$3.932 Summer 2014: \$3.919	Ļ	Long	The projected Henry Hub natural gas spot price averages \$3.708/MMBtu for 2013 and \$4.001/MMBtu for 2014. EIA has increased its price for 2013 by \$.03 and increased \$.10 for 2014. EIA expects households heating with natural gas to spend an average of \$80 more this winter than last winter.	20
Technical Analysia				-
Winter 2013-14 Strip Chart			Closed at \$3.96	21
Summer 2014 Strip Chart			Closed at \$4.00	22
Winter 2014-15 Strip Chart			Ciosed at \$4.25	23
Summer 2015 Strip Chart		Short	Closed at \$4.07	24
Winter 2015-16 Strip Chart			Closed at \$4.33	25
Summer 2016 Strip Chart		Snort	Closed at \$4.13	26
Demand		Long	EIA projects total natural gas consumption will average 70.0 Bct/d in 2013 and 69.4 Bct/d in 2014. Increased usage for residential and commercial space heating being offset by declines in power generation.	27
Supply	<b></b>	Long	Total marketed production will increase from 69.2 Bct/d in 2012 to 70.0 Bct/d in 2013, and 70.4 Bct/d in 2014.	27
Oli Market		Long	Brent crude averaged \$112 per barrel for 2012. EIA expects Brent crude to average \$107 per barrel during the fourth quarter of 2013 and \$102 per barrel In 2014. WTI crude averaged \$94 for 2012. EIA expects WTI crude to average \$101 per barrel during the fourth quarter of 2013 and \$96 in 2014.	27-28

Meeting Minutes: 426 Annex Conference Room - 1:00 pm

Attendees: Jim Mehring, Jeff Kern, Mitch Martin, Steve Niederbaumer

Discussed market fundamentals including weather (end of the hurricane season), storage levels (no report due to Federal gov't shutdown), PIRA and EIA price forecasts, analysis projections of gas prices, amount of supply available, economic influences on supply and demand and the current positions of the DEO and DEK Hedging Programs. Significant discussion took place regarding the current level of hedging for the Winter 13/14. The levels of 11.3% for Duke Kentucky are below historical levels due to pricing and volatility issues. A decision was made not to hedge more Winter 13/14 gas at this time as well as the other time periods covered in the Hedging Program.

#### **Duke Energy Kentucky** Hedging Program - Current Position November 2012 - October 2013 As of 10/14/13

<u>Load Forecast</u> City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)	Nov-12 Dec-12	Jan-13 Feb-13	Mar-13 Apr-13	May- <u>13</u> Jun-13 Jul-13	Aug-13	Sep-13	Oct-13
TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)							
Amount Hedged (dth/day) Fixed Price Fixed Price Fixed Price Fixed Price Cost Avg. Total Hedged (dth/day) Total Hedged (dth)							
<u>Types of Hedging Products (1)</u> Fixed Price Price Caps No-Cost Collars							
Embedded Hedged Cost Winter Summer							
Estimated System Supply (Gross) Hedged % of System Supply Seasonal % of System Supply							
Amt Hedged with Storage @ City Gate Hedged (City Gate) (Dth) Storage Withdrawal (Dth) Market (Dth) Total (incl. Injections) (Dth) % Hedged & Storage Seasonal %							
<ol> <li>Maximum percentage allowed per type of</li> </ol>	of hedging product is 25% fo	r Winter months and 40%	Summer months.				

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#### Types of

#### Embedd

5

### Amt He

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### Duke Energy Kentucky Hedging Program - Current Position November 2013 - October 2014 As of 10/14/13

	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14
Load Forecast City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
Fixed Price												
Fixed Price												
Fixed Price												
Fixed Price												
Fixed Price												
Total Hedged (dth/day) Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
Following Supply (Cross)												
Estimated System Supply (Gross) Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												-
Storage Withdrawal (Dih) Market (Dih)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

### Duke Energy Kentucky Hedging Program - Current Position November 2014 - October 2015 As of 10/14/13

	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15
Load Forecast												
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawais" (Mcf)												
Total Withdrawals (Mcf)												
Total White and S (Mory												
Amount Hedged (dth/day)												
Fixed Price												
Fixed Price												
Fixed Price												
Total Hedged (dth/day)												
Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth) Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												

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(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

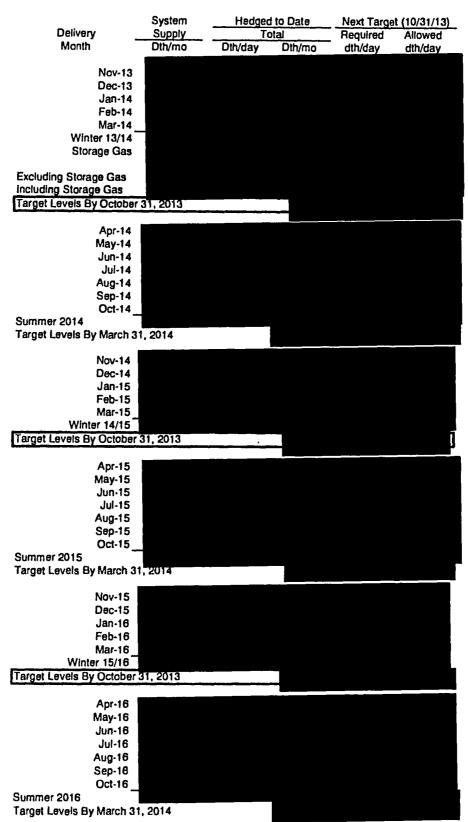
### Duke Energy Kentucky Hedging Program - Current Position November 2015 - October 2016 As of 10/14/13

Load Forecast	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf) Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
Fixed Price ( TBD												
TBD												
Total Hedged (dth/day) Total Hedged (dth)												
Types of Hedging Products (1) Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth) Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												
(1) Maximum percentage allowed per type of	of hedging pro	duct is 25% fo	r Winter mor	nths and 40%	Summer mon	ths.						

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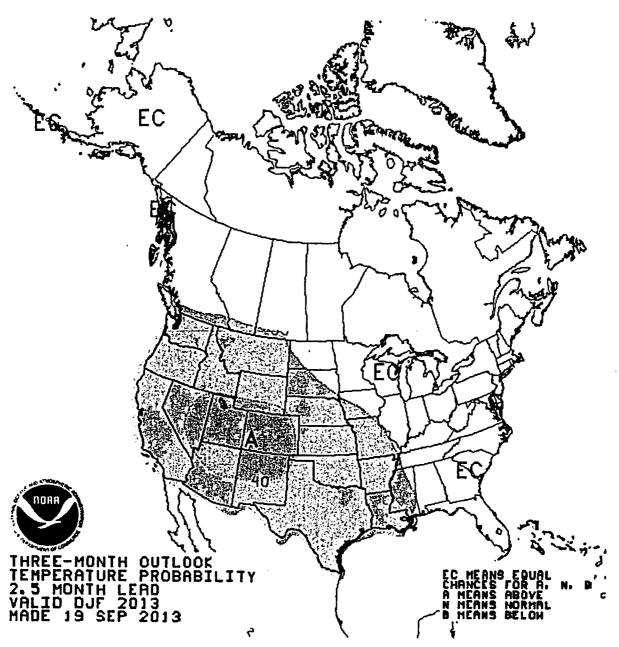
#### Duke Energy Kentucky Hedging Program Current Position

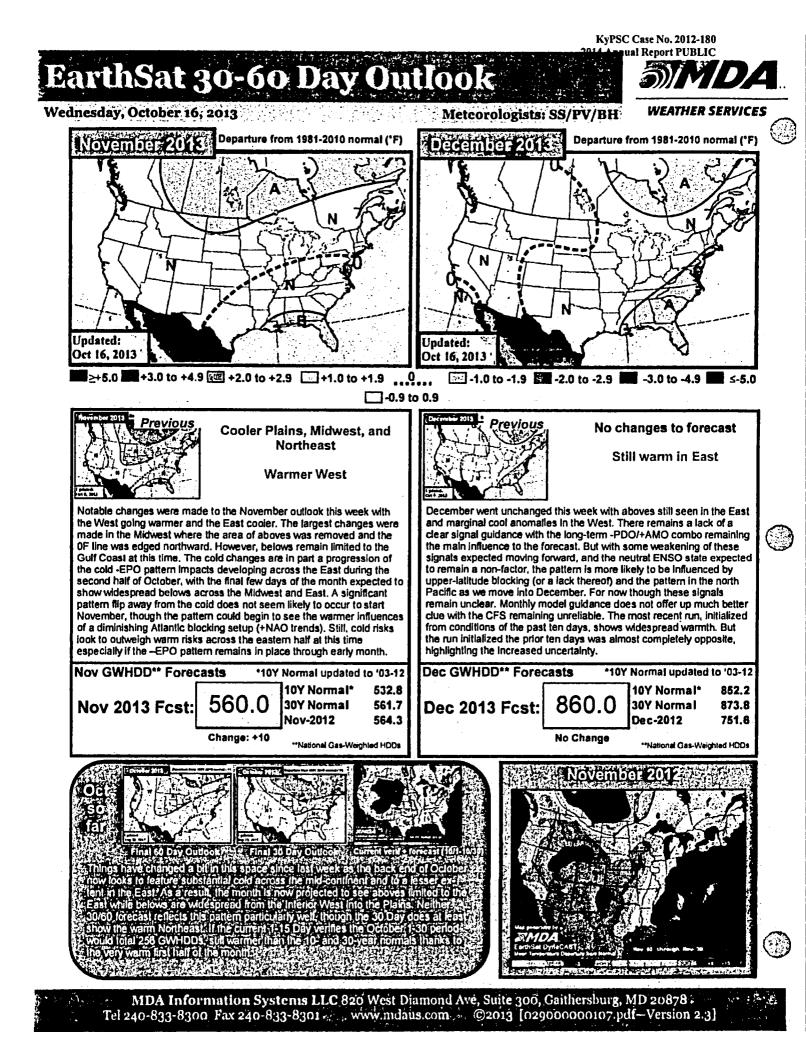


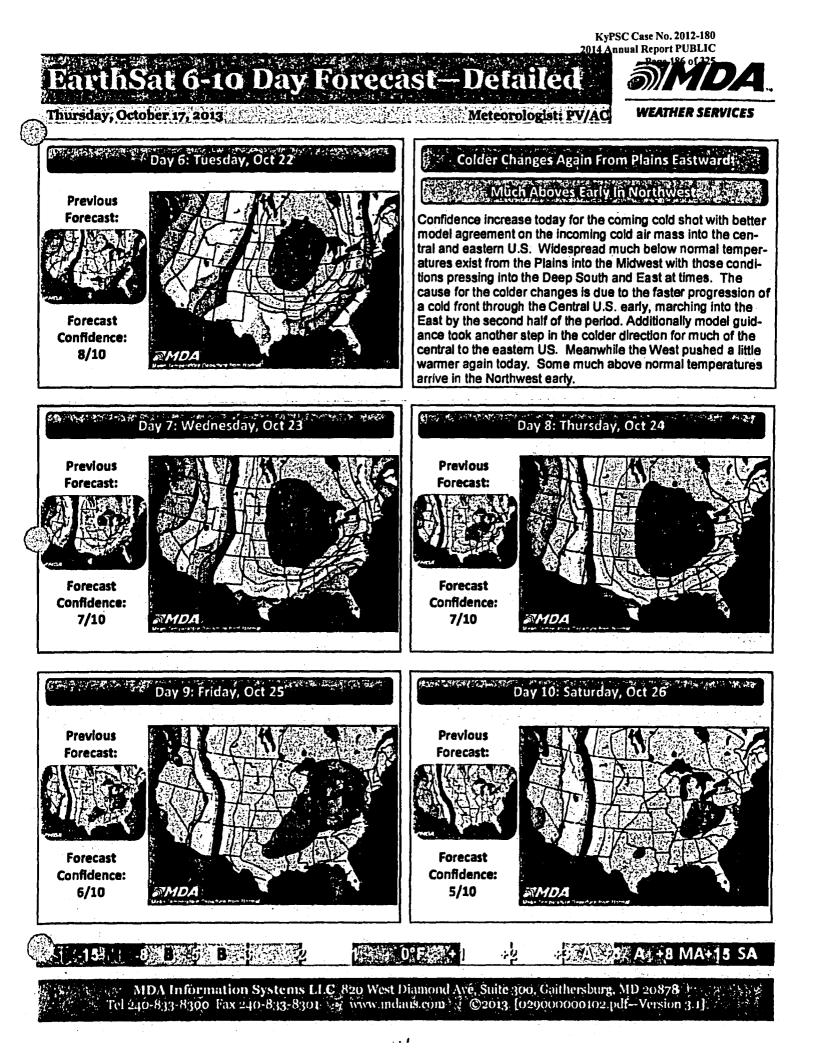
KyPSC Case No. 2012-180 2014 Annual Report PUBLIC Page 183 of 325

# COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

NYMEX Closing Price           5-yr. avg.         Last Year           (08/09-12/13)         (2012-2013)           Nov         \$4.21         \$3.47           Dec         \$4.54         \$3.70           Jan         \$4.52         \$3.35           Feb         \$3.99         \$3.23           Mar         \$3.71         \$3.43           Apr         \$3.58         \$3.98				
(08/09-12/13)         (2012-2013)           Nov         \$4.21         \$3.47           Dec         \$4.54         \$3.70           Jan         \$4.52         \$3.35           Feb         \$3.99         \$3.23           Mar         \$3.71         \$3.43           Apr         \$3.58         \$3.98				
Nov\$4.21\$3.47Dec\$4.54\$3.70Jan\$4.52\$3.35Feb\$3.99\$3.23Mar\$3.71\$3.43Apr\$3.58\$3.98	PIRA	EIA	NYMEX	Hedged Prices
Dec\$4.54\$3.70Jan\$4.52\$3.35Feb\$3.99\$3.23Mar\$3.71\$3.43Apr\$3.58\$3.98	25-Sep-13	8-Oct-13	17-Oct-13	Ohio Kentucky
Dec\$4.54\$3.70Jan\$4.52\$3.35Feb\$3.99\$3.23Mar\$3.71\$3.43Apr\$3.58\$3.98		\$3.760	\$3.741	\$
Jan\$4.52\$3.35Feb\$3.99\$3.23Mar\$3.71\$3.43Apr\$3.58\$3.98		\$3.940	\$3.879	\$
Feb\$3.99\$3.23Mar\$3.71\$3.43Apr\$3.58\$3.98		\$4.060	\$3.969	\$
Mar \$3.71 \$3.43 Apr \$3.58 \$3.98		\$4.020	\$3.973	\$
Apr \$3.58 \$3.98		\$3.880	\$3.947	\$
		\$3.740	\$3.910	S
May \$3.63 \$4.15		\$3.670	\$3.900	\$
Jun \$3.72 \$4.15		\$3.840	\$3.949	\$
Jul \$3.90 \$3.71		\$4.000	\$3.982	\$
Aug \$3.80 \$3.46		\$4.040	\$3.994	\$
Sep \$3.31 \$3.57		\$4.050	\$3.986	\$
Oct \$3.57 \$3.50		\$4.090	\$3.980	\$
12 Month Avg \$3.87 \$3.64		\$3.924	\$3.934	\$
Summer Average		\$3.919	\$3.957	
Winter Average		\$3.932	\$3.902	









## Weekly Natural Gas Storage Report

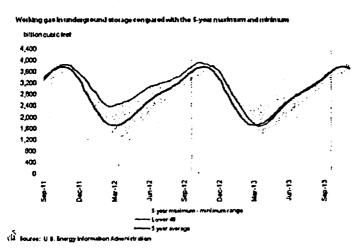
for week ending October 6, 2013. [] Released. October 10: 2013 at 10:20 a m [] Next Releaser October 17: 2013

Summary lext	CSV	JSNWorking gas in underground storage, lower 48 states

				Historical Co	mparisons	
	Slocks		Yea	r ago	5-Year	average
bill	ion cubic feet [	BcN	(100	04/12)	(2008	2012)
10.04/13	09:27/13	change	(Bcf)	% change	(Bcf)	S change
1,851	1.800	51	1 099	-7.4	1,952	52
538	529	9	513	49	484	11.2
1,188	1,158	30	1,203	-12	1.056	9.4
287	278	9	258	11.2	179	60 3
901	879	22	945	47	908	08
3.577	3.487	90	3.715	-3.7	3,522	1.6
	10,04/13 1,851 538 1,188 287 901	billion cubic feet (1 10,04/13 09,27/13 1,851 1,800 538 529 1,188 1,158 287 278 901 879	billion cubic feet (Bcf) 10,04(13 09;27/13 change 1,851 1.800 51 538 529 9 1,188 1.158 30 287 278 9 901 879 22	billion cubic feet (BCI) (107 10,04/13 09;27/13 change (BCI) 1,851 1.800 51 1.999 538 529 9 513 1,188 1.158 30 1.203 287 278 9 258 901 879 22 945	Slocks         Year ago (10.04/13)           billion cubc fest (BCI)         (10.04/12)           10.04/13         09:27/13         change           1.821         1.800         51         1.999           538         529         9         513         4.9           1,188         1.158         30         1.203         -1.2           287         278         9         258         11.2           901         879         22         945         -4.7	billion cubic feet (Bcf)         (1004/12)         (2008           10.04/13         09.27/13         change         (Bcf)         % change         (Bcf)           1.851         1.800         51         1.999         -7.4         1.952           536         529         9         513         4.9         4.84           1,188         1.158         30         1.203         -1.2         1.086           287         278         9         258         11.2         179           901         879         22         945         4.7         905

#### Summary

Writing gas at storage was 3.577 Bcf as of Finday, October 4, 2013, according to EIA (satimates. This represents a net increase of 80 Bcf from the previous week. Stocks were 138 Bcf leas than last year at this time and 55 Bcf above the 5year average of 3,522 Bcf. In the East Region, stocks were 101 Bcf below the 5-year average following net injections of 51 Bcf Stocks in the Producing Region were 102 Bcf above the 5-year average of 1,086 Bcf after a net injection of 30 Bcf. Stocks in the West Region were 54 Bcf above the 5-year average after a net addition of 9 Bcf. At 3,577 Bcf, total working gas is within the 5-year historical range



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2008 through 2012.

Source: Form E1A-912, "Weekly Underground Natural Bas Storage Report." The deshed vertical lines indicate current and your ago weekly periods

.

# <u>PIRA</u> North American Gas Price Overview Per MMBTU September 25, 2013 Release

i	Jan-11	Jan-12		Jan-13		Jan-14	1	
	Feb-11	Feb-12		Feb-13		Feb-14		
	Mar-11	Mar-12		Mar-13		Mar-14		
	Apr-11	Apr-12		Apr-13		Apr-14		
:	May-11	May-12		May-13		May-14	•	
	Jun-11	Jun-12		Jun-13		Jun-14	*	
	Jul-11	Jul-12		Jul-13		Jul-14	'	
•	Aug-11	Aug-12		Aug-13		Aug-14		
i	Sep-11	Sep-12		Sep-13		Sep-14		
,	Oct-11	Oct-12		Oct-13		Oct-14	í –	
	Nov-11	Nov-12		Nov-13		Nov-14		
	Dec-11	Dec-12		Dec-13		Dec-14		
	Average	Average		Average		Average		
	2011 <b>\$</b>	2012		2013	e	2014		
				2013	2	2014	\$	
	Summer	Summer		Summer		Summer		
i	2011 \$	2012		2013	\$	i 2014	\$	
1				2010		. 2014		
ίÑ	/inter 2011-	Winter 2012-		Winter 2013-				
	2012 \$	2013	9	2014	\$			
•								



## Hedging Meeting 10-17-2013.xlsx

10/14/2013

North American Gas Forecast Monthly

September 25, 2013

NATURAL GAS

# U.S. GAS PRICE SCORECARD: NOVEMBER 2013 - MARCH 2014



PIRA Energy Group, 3 Park Avenue, 26<sup>th</sup> Floor, New York, NY 10016-5989 (Tel) 212-686-6808 (Fax) 212-686-6628 www.pira.com <sup>2</sup> For authorized subscribers only. Copyright © 2013 PIRA Energy Group. All rights reserved.

# **Price Projections**

# Fundamentals Won't Let Price Rally Last-10/17/2013

According to Bank of America, the current gas price rally will not last. BoA expects the current rally to top out quickly. For the coming winter, BoA expects that gas prices will stay within a \$3.50 to \$4.30/MMBtu band assuming normal weather.

"Looking into 2014, we see supply growth significantly outpacing improvements in demand. Power load has been very weak this year, which does not bode well for gasfired power demand. In addition, coal-to-gas switching is dropping fast as gas struggles to stay competitive with coal."

# FBR Capital, Stifel Trim Their 2013 Gas Price Forecasts—10/14/2013

FBR Capital reduced their 2013 price estimate by 2% to \$3.70/Mcf and \$5.00/Mcf for 2014 which is unchanged.

Stifel lowered their third-quarter 2013 estimate 9% to \$3.65/MMBtu and fourth-quarter estimate 12% to \$3.75. For 2014, Stifel reduced their estimate 6% to \$4.00/MMBtu. In addition, Stifel forecast for 2015 is down 6% to \$4.25/MMBtu and down 5% to \$4.75/MMBtu for 2016.

# Natural Gas Supply Association (NGSA) Anticipates Little Price Volatility This Winter-10/3/2013

According to NGSA supply and demand are largely in balance and the US will likely see little price volatility this winter.

"When NGSA weighed all the different pressure points, the picture that emerged for the upcoming winter is one of quiet growth in supply as well as in demand for natural gas."

According to NGSA, demand from industrial customers will grow 3.5% this winter, demand from electric generation customers will be reduced slightly due to a decrease in fuel switching and residential and commercial demand is expected to be similar to last winter's demand.

Weather is expected to be similar to last winter's more normal pattern, which portends level demand for natural gas heating.

"In taking a long view of the natural gas industry's future, NGSA expects to see sustained growth in industrial demand over the remainder of this decade, as the petrochemical, fertilizer, steel and gas-to-liquids industries begin construction on major natural gas-intensive projects."





# **Supply and Demand**

# Annual US Natural Gas Output to Rise by Over 2 Bcf/d—Oct. 11 2013

According to Raymond James, US natural gas production will grow faster than predicted, driven in large part by the Marcellus Shale. This growth will come even as gas-directed rig count has declined by 50% over the last 12 months and pipeline construction delays prevent the full potential of Marcellus gas from reaching the market.

Raymond James "projects that US gas production will finish this year at roughly 68.2 Bcf/d after an increase of 2.4 Bcf/d, then rise by more than 2 Bcf/d for the next five years, which would put 2018 gas production at 79 Bcf/d. Raymond James' long-term gas price forecast is \$4.25/Mcf."

According to Bentek, dry gas supplies will end 2013 at 69.9 Bcf/d and then grow at a steady, average clip of 2.5 Bcf/d reaching 82.7 Bcf/d in 2018. Bentek's gas price prediction is \$3.63/ Mcf in November, rising to \$4.76/ Mcf in 2018.

Drillers are going to continue to tap the vast gas resource using the most efficient means possible, driving an oversupply of both oil and gas for a long time.

"Nowhere has this growth been more profound than in the Marcellus, where dry gas production has grown from 400,000 Mcf/d in December 2009 to an estimated 7.5 Bcf/d currently. Despite losing approximately 20 rigs, Marcellus dry gas production is up a whopping 2.3 Bcf/d this gas year."

# Mexico Export to Double by 2016—October 3, 2013

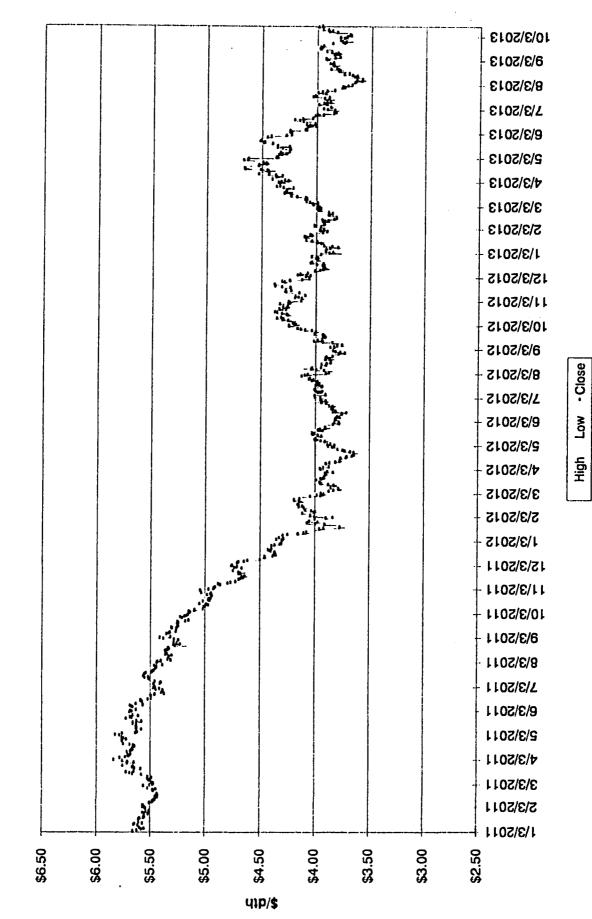
Barclays Capital reported that US exports to Mexico will more than double in three years from 2 Bcf/d in 2013 to 4.5 Bcf/d in 2016.

"The expected increase comes as natural gas demand in Mexico has been strong and is poised to accelerate further, driven by new power generation and industrial use, and enabled by a massive expansion of the country's pipeline network." Eight pipelines with a capacity of 5.6 Bcf/d are scheduled to start operations in Mexico between 2013 and 2017.

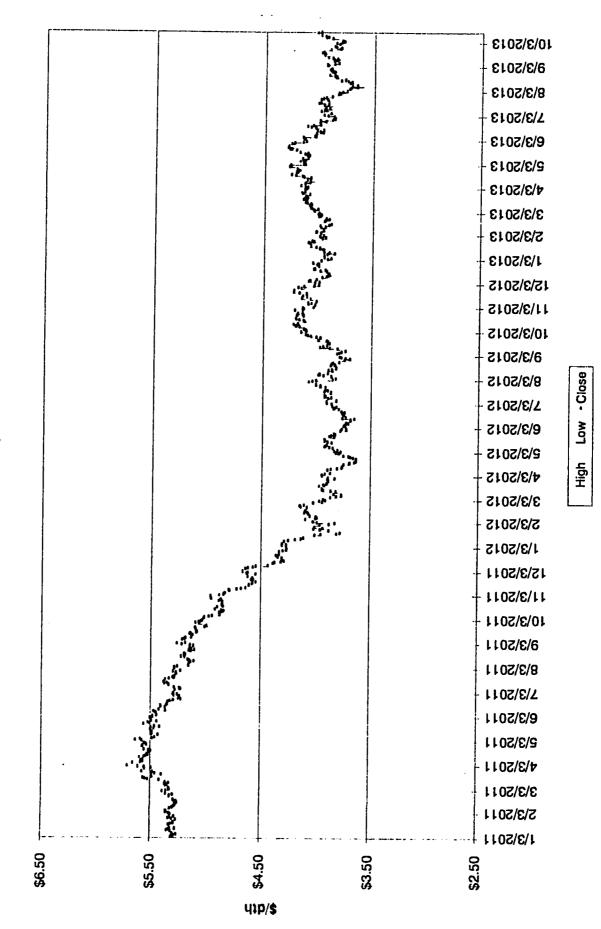
Mexico relies entirely on conventional gas production. According to EIA Mexico has shale gas resources of 545 Tcf.

# Energy Information Administration Henry Hub Pricing Per MMbtu October 8, 2013 Release

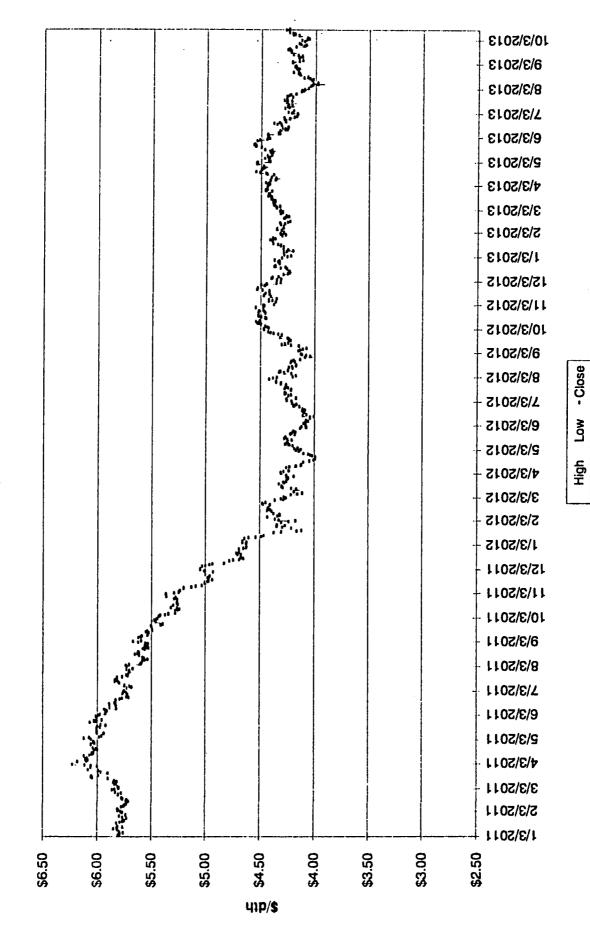
Winter 2011 2012	\$ 2.752	Winter 2012- 2013	\$	3.470	Winter 2013 2014	\$ 3.932			
Summer 2011	\$ 4.149	Summer 2012	\$	2.686	Summer 2013	\$ 3.760	Summer 2014	\$	3.919
Average 2011	\$ 4.000	Average 2012	\$	2.753	Average 2013	\$ 3.708	Average 2014	\$	4.001
Dec-11	.j <b>3.17</b>	Dec-12		3.34	Dec-13	3.94	Dec-14		4.37
Nov-11	3.24	Nov-12	; ;	3.54	Nov-13	3.76	Nov-14		4.25
Oct-11	3.56	Oct-12	: 4	3.32	Oct-13	3.61	Oct-14		4.09
Sep-11	j <b>3.90</b>	Sep-12	į	2.85	Sep-13	3.62	Sep-14	•	4.05
Aug-11	4.05	Aug-12		2.84	Aug-13	3.43	Aug-14		4.04
Jul-11	4.42	Jul-12	•	2.95	Jul-13	3.62	Jul-14	•	4.00
Jun-11	4.55	Jun-12	•	2.46	Jun-13	3.83	Jun-14		3.84
May-11	4.31	May-12		2.43	May-13	4.04	May-14		3.67
Apr-11	4.25	Apr-12		1.95	Apr-13	4.17	Apr-14	•	3.74
Mar-11	3.97	Mar-12		2.18	Mar-13	3.81	Mar-14		3.88
Feb-11	4.09	Feb-12	;	2.50	Feb-13	3.33	Feb-14		4.02
Jan-11	4.49	Jan-12		2.67	Jan-13	3.33	Jan-14		4.06



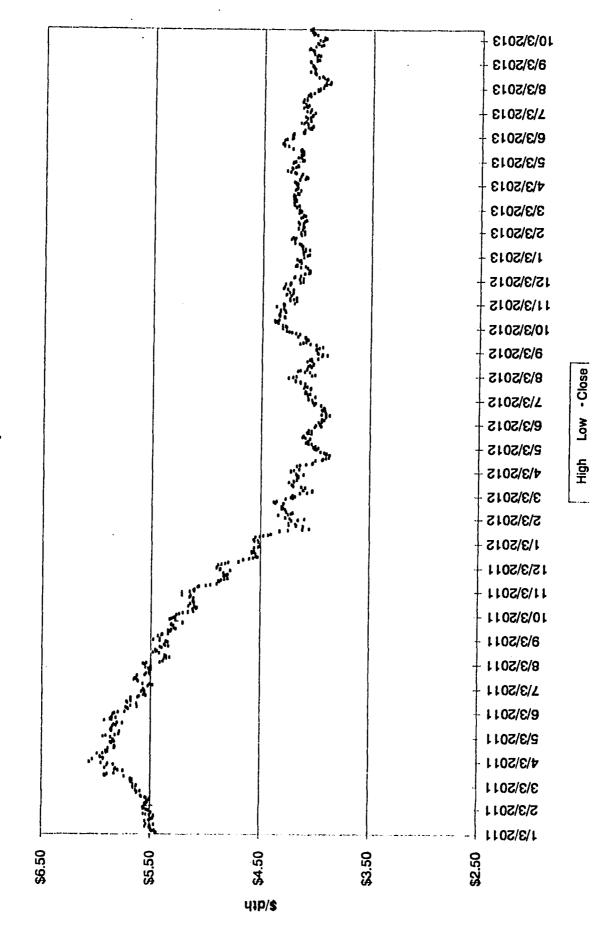
Winter Strip Nov13 - Mar14

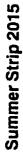


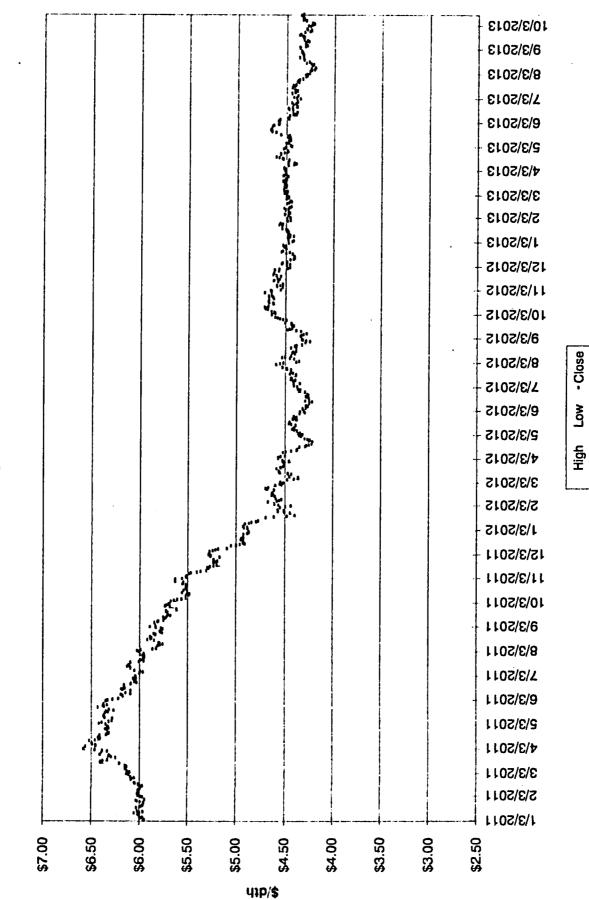
Summer Strip 2014



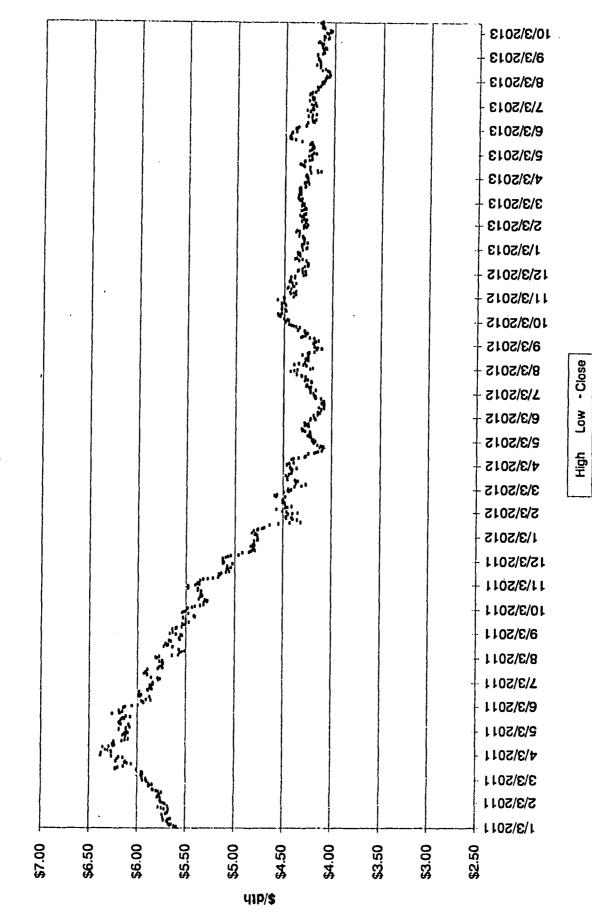
Winter Strip Nov14 - Mar15







Winter Strip Nov15 - Mar16



Summer Strip 2016



# Independent Statistics & Analysis U.S. Energy Information Administration

# **Short-Term Energy Outlook (STEO)**

# **Natural Gas**

# U.S. Natural Gas Consumption.

<u>EIA expects that natural gas consumption, which averaged 69.7 Bcf/d in 2012, will average 70.0 Bcf/d</u> and 69.4 Bcf/d in 2013 and 2014, respectively. Colder winter temperatures in 2013 and 2014 (compared with the record-warm temperatures in 2012) are expected to increase the amount of natural gas used for residential and commercial space heating. However, the projected year-over-year increases in natural gas prices contribute to declines in natural gas used for electric power generation from 25.0 Bcf/d in 2012 to 22.1 Bcf/d in 2013 and 21.6 Bcf/d in 2014.

# U.S. Natural Gas Production and Trade.

Natural gas marketed production is projected to increase from 69.2 Bcf/d in 2012 to 70.0 Bcf/d in 2013 and to 70.4 Bcf/d in 2014. Natural gas pipeline gross imports, which have fallen over the past five years, are projected to fall by 0.3 Bcf/d in 2013 and then remain near 2013 levels in 2014. LNG imports are expected to remain at minimal levels of around 0.4 Bcf/d in both 2013 and 2014.

## U.S. Natural Gas Inventories.

As of September 27, working gas stocks totaled 3,487 Bcf, which is 155 Bcf less than at the same time last year, and 49 Bcf greater than the previous five-year (2008-12) average for that week. <u>EIA projects inventories will total 3,830 Bcf at the end of the injection season, and 1,890 Bcf at the end of March 2014, the end of the winter heating season.</u>

# **Projected Winter Natural Gas Expenditures**

About one-half of U.S. households use natural gas as their primary heating fuel. EIA expects households heating with natural gas to spend an average of \$80 (13%) more this winter than last winter. The increase in natural gas expenditures represents a 14% increase in the average U.S. residential price from last winter, with consumption that is slightly lower than last winter nationally.

# **Crude Oil Prices**

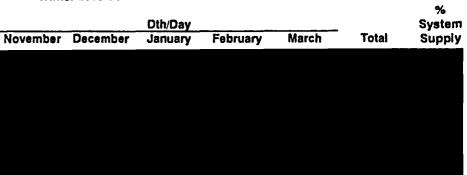
Brent crude oil spot prices fell from a recent peak of \$117 per barrel in early September to \$108 per barrel at the end of the month as some crude oil production restarted in Libya and concerns over the

conflict in Syria moderated. <u>EIA expects the Brent crude oil price to continue to weaken, averaging \$107</u> per barrel during the fourth quarter of 2013 and \$102 per barrel in 2014. Projected West Texas Intermediate (WTI) crude oil prices average \$101 per barrel during the fourth quarter of 2013 and \$96 per barrel during 2014.

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### **Duke Energy** Hedging Program Remaining Base Not Yet Locked In Winter 2013-14



### Duke Energy Ohio **Previously Hedged**



**Col Gulf Mainline Col Gulf Mainline Col Gulf Mainline** Gulf South Tex Gas Zone 1

Total System Supply

Duke Energy Kentucky Previously Hedged



Col Gulf Mainline Col Gulf Mainline **Col Gulf Mainline** 

Total System Supply

Duke Energy-Total **Previously Hedged** Total



29

#### Gaa Resources Hedging Program Market Indicators Summary November 27, 2013

	Price	Term	Comments	Page
Weather	Pressure	I		Ref
Long Term Forecast (Dec 13Feb 14)	ł	Long	NOAA predicting above average temperatures for December 2013 February 2014 for the southern states of Arizona to Alabama and normal temperatures for the majority of the rest of CONUS.	12
Mid Term Forecast (30-60 days)	t	Long	December is predicted to be 2.7% colder than normal based on 10 year normals and January weather is predicted to be 2.6% colder than normal.	13
Short Term Forecast (6-10 days)	<b>~~</b>	Short	Above normal temperatures across the majority of CONUS early in the period being replaced by below normal temperatures later in the period.	14
Storage Inventory				
EIA Weekly Storage Report	<b></b>	Long	Storage withdraws for the week ending November 15th were 45 Bcf. Storage levels are at 3.789 TCF which is 2.3% lower than last year and 0.4% higher than the 5 year average.	15
Industry Publications				
PIRA Energy Group Winter 2013/14: Summer 2013: Summer 2014: Summer 201	Ļ	Long	GAS PRICE SCORECARD: January 2014March 2014 Gas Price Outlook "Bearish" based on fundamentals such as "Lower 48 Gas Production", "US Storage Levels", and "Residential/Commercial Demand".	16-17
Gas DaliyPrice Projections	† ↓	Long	According to Paribas, Winter prices below \$4/MMBtu due to lack of very cold weather and rising production levels. Prices not rising above \$4/MMBtu until 4th quarter of 2014. There is a threat of surplus inventories may result in lower prices during first half of 2014. Weils Fargo Pricing: 4th Qtr. \$3.60/MMBtu, 2013\$3.65/MMBtu, 2014 \$3.98/MMBtu. Retirement of 60 GW of coal-fired plants as well as electricity demand growth, price to average between \$4 and \$4.50/MMBtu Ihru 2015 and \$5 to \$6 by 2020.	18
Gas DailyLNG Exports	Ť	Long	LNG exports has potential to create billions in revenue and thousands of new jobs in all US states. Gross domestic product could jump \$18 billion and \$115 billion annually and create 665,000 new jobs by 2035 if between 4 Bcf/d and 16 Bcf/d are exported. US could absorb 9 to 12 Bcf/d without price disruption.	19
Government Agencies				
Energy information Administration Winter 2013/14: \$3.730 Summer 2014: \$3.784	Ļ	Long	The projected Henry Hub natural gas spot price averages \$3.683/MMBtu for 2013 and \$3.840/MMBtu for 2014. EIA has decreased its price for 2013 by \$.03 and decreased \$.16 for 2014.	20
Fechnical Analysis				
Summer 2014 Strip Chart		Short	Closed al \$3.88	21
Winter 2014-15 Strip Chart	1 f	Short	Closed at \$4.10	22
Summer 2015 Strip Chart	1	Short	Closed at \$3.97	23
Winter 2015-18 Strip Chart		Short	Closed at \$4.18	24
Summer 2016 Strip Chart	<b></b>	Short	Closed at \$4.03	25
Winter 2016-17 Strip Chart	<b></b>	Short	Closed at \$4.27	28
Economy	- <b>A</b>			
Demand	<b></b>	Long	EIA projects total natural gas consumption will average 70.1 Bcf/d in 2013 and 69.6 Bcf/d in 2014. Increased usage for residential and commercial space heating being offset by declines in power generation.	27
Supply	<b>+-+</b>	Long	Total marketed production will increase from 69.2 Bcf/d in 2012 to 70.3 Bcf/d in 2013, and 71.0 Bcf/d in 2014.	27
Oli Market	<b></b>	Long	Brent crude averaged \$112 per barrel for 2012. EIA expects Brent crude to average \$106 per barrel by December 2013 and \$103 per barrel in 2014. WTI crude averaged \$94 for 2012. EIA expects WTI crude to average \$97 per barrel during the fourth quarter of 2013 and \$95 in 2014.	27

Meeting Minutes: 426 Annex Conference Room - 1:00 pm

Attendees: Jeff Kern, Mitch Martin, Joachim Fischesser, Steve Niederbaumer

Discussed market fundamentals including weather, storage inventory levels--end of the injection season Nov 1, 2013 balances, PIRA and EIA lorecasts, independent analysis projections of supply and demand and the impact on gas prices, economic influences on supply and demand and technical analysia on Summer and Winter Strip prices. In addition, reviewed DEO and DEK's hedging program to date. After significant discussion, agreement was reached not to hedge additional volumes at this time.

#### **Duke Energy Kentucky** Hedging Program - Current Position November 2013 - October 2014 As of 11/25/13

Load Forecast				
City Gate Load Forecast (Mcf)				
TCO FSS Injections (Mcf)				
Total Requirements (Mcf)				
TCO FSS Withdrawals (Mcf)				
Other "Withdrawals" (Mcf)				
Total Withdrawals (Mcf)				
Amount Hedged (dth/day) Fixed Price				
Fixed Price				
Fixed Price				
Fixed Price				
Fixed Price				
Fixed Price				
Total Hedged (dth/day)				
Total Hedged (dth)				
Types of Hedging Products (1)				
Fixed Price				
Price Caps				
No-Cost Collars				
Embedded Hedged Cost				
Winter				
Summer				
Estimated System Supply (Gross)				
Hedged % of System Supply				
Seasonal % of System Supply				
Amt Hedged with Storage @ City Gate				
Hedged (City Gate) (Dth)				
Storage Withdrawal (Dth)				
Market (Dth) Total (incl. Injections) (Dth)				
% Hedged & Storage				
Seasonal %				
(1) Maximum percentage allowed per type	e of hedging product is 25% for W	inter months and 40% Summer	months.	

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

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### Duke Energy Kentucky Hedging Program - Current Position November 2014 - October 2015 As of 11/25/13

	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	_Seo-15	0ct-15
Load Forecast												
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawais" (Mcf)												
Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
Fixed Price												
Fixed Price												
Fixed Price (												
Total Hedged (ansay)												
Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Oth)												
Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												
(1) Maximum percentage allowed per type												

KyPSC Case No. 2012-180 2014 Annual Report PUBLIC Page 204 of 325

### Duke Energy Kentucky Hedging Program - Current Position November 2015 - October 2016 As of 11/25/13

	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jui-16	Aug-16	Sep-16	Oct-16
Load Forecast City Gale Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawais" (Mcf)												
Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
Fixed Price ( TBD												
TBD												
Total Hedged (dth/day)												
Total Hedged (dth)												
Types of Hedging Products (1) Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth) Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage Seasonal %												
					2							
(1) Maximum percentage allowed per type	of hedging pro	duct is 25% fo	or winter moi	nins and 40%	Summer mor	uns.						

KyPSC Case No. 2012-180 2014 Annual Report PUBLIC Page 205 of 325



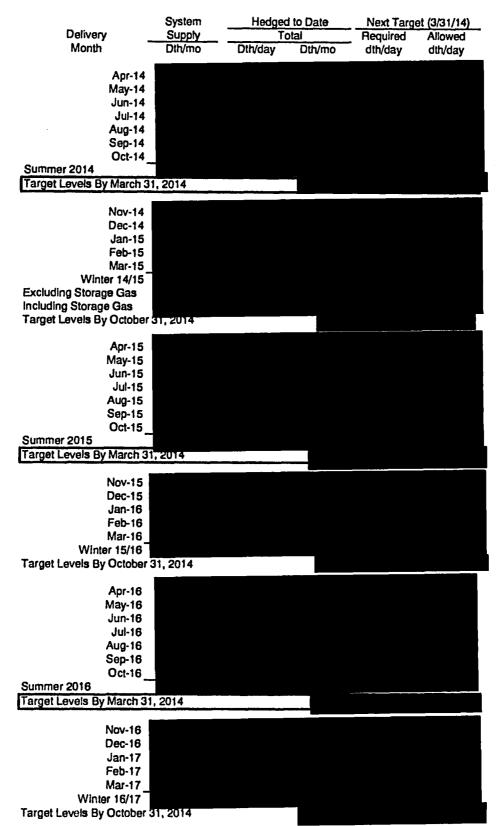


### Duke Energy Kentucky Hedging Program - Current Position November 2016 - October 2017 As of 11/25/13

	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17
Load Forecast												
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
TBD												
TBD												
TBD												
Total Hedged (dth/day)												
Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hadaad Cast												
Embedded Hedged Cost Winter												
Summer												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												

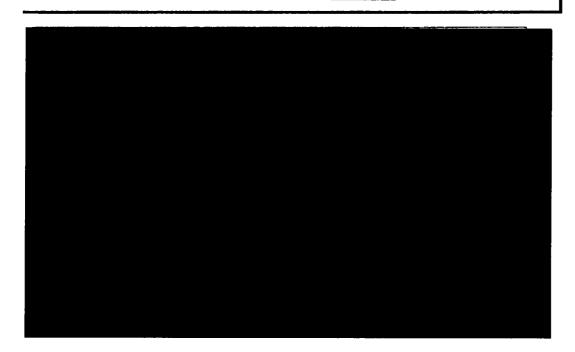
(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

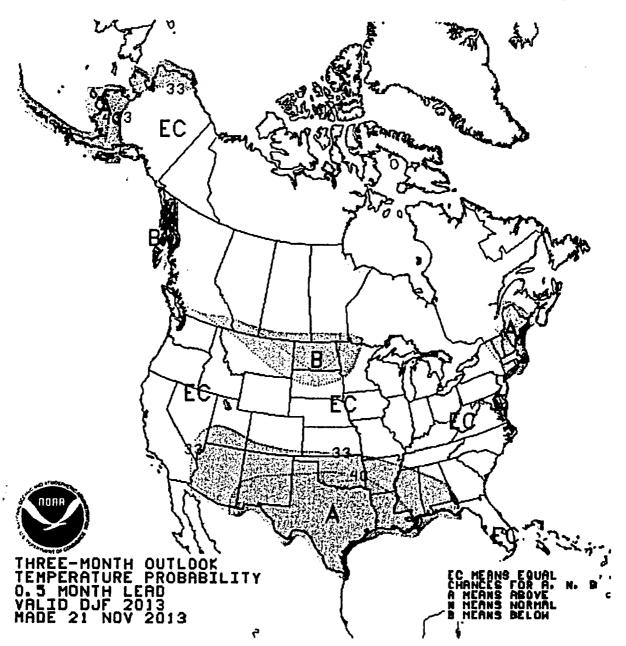
### Duke Energy Kentucky Hedging Program Current Position

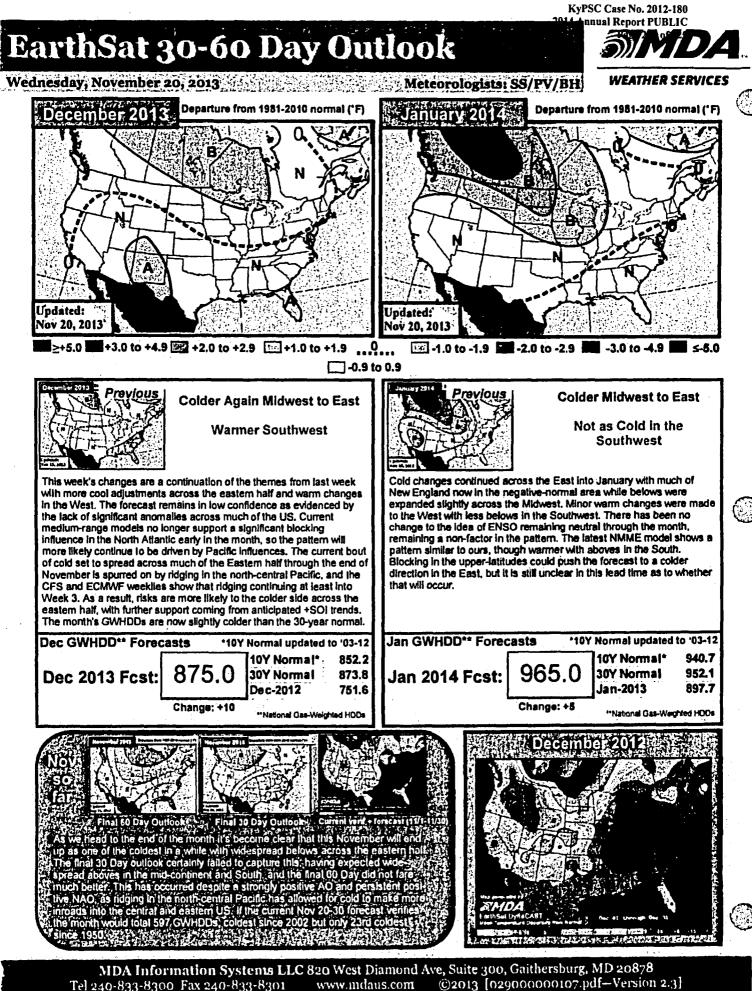


# COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

	Histori	c Prices:						
	NYMEX CI	osing Price						
	5-yr. avg.	Last Year	PIRA	EIA	NYMEX		Hedge	d Prices
	(08/09-12/13)	(2012-2013)	22-Nov-13	13-Nov-13	27-Nov-13	E.	Ohio	Kentucky
Dec	\$4.54	\$3.70		\$3.770	\$3.866			
Jan	\$4.52	\$3.35		\$3.810	\$3.872			
Feb	\$3.99	\$3.23		\$3.820	\$3.872	5	5	
Mar	\$3.71	\$3.43		\$3.690	\$3.833	1	6	
Apr		\$3.98		\$3.600	\$3.845	\$	5	
May	\$3.63	\$4.15		\$3.540	\$3.874	5	5	
Jun	\$3.72	\$4.15		\$3.700	\$3.914	1	5	
Jul	\$3.90	\$3.71		\$3.870	\$3.927	\$	5	
Aug		\$3.46		\$3.910	\$3.916	\$	5	
Sep	\$3.31	\$3.57		\$3.920	\$3.932	\$	5	
Oct	\$3.57	\$3.50		\$3.950	\$3.993	1	5	
Nov	\$3.61	\$3.50		\$4.090	\$4.096	1	5	
12 Month Avg	\$3.82	\$3.64		\$3.806	\$3.912	1		
Summe	er Average			\$3.784	\$3.914			
Winter	Average			\$3.836	\$3.908			



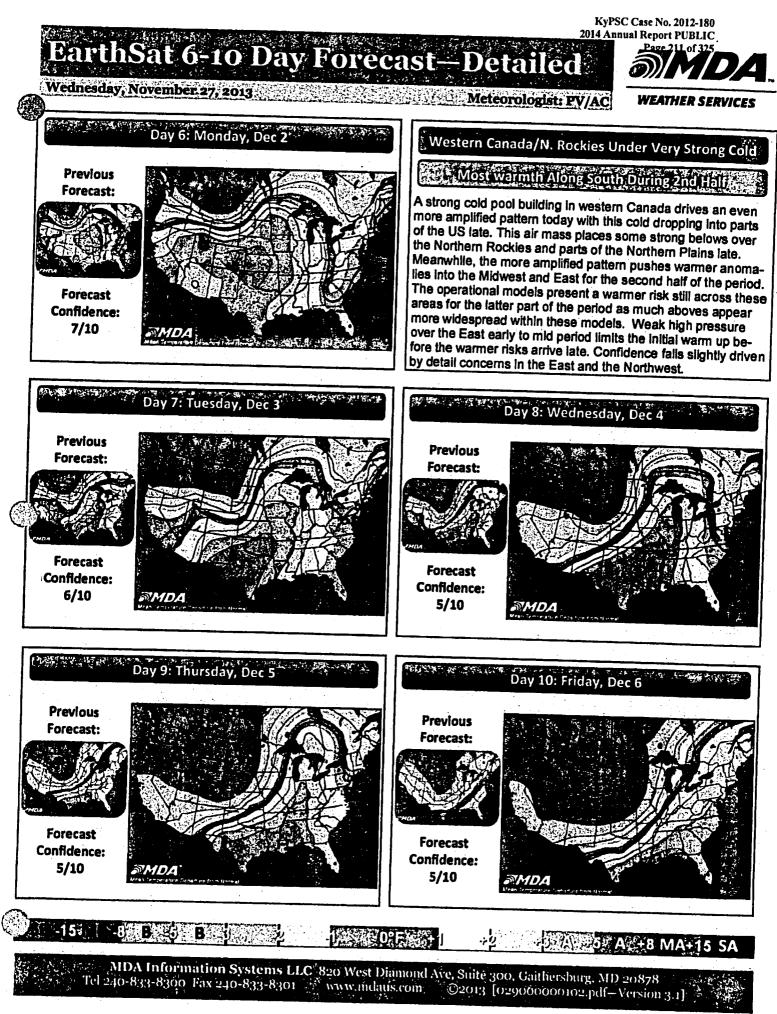




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#### Weekly Natural Gas Storage Report

for week ending November 15, 2013. | Relassed: November 21, 2013 et 10.30 a.m. | Next Release: November 27, 2013

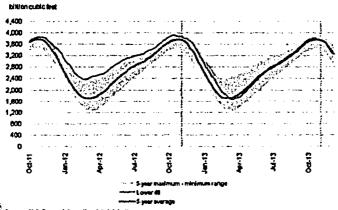
Summary text CSV JSNWorking gas in underground storage, lower 48 states

					Historical Co	mparisons	
	bill	Stocks on cubic feet (I	Bcf)		r ago 15/12)		average 2012)
Region	11/15/13	11/08/13	change	(Bcf)	% change	(Bcf)	% change
East	1,953	1,964	-31	2.057	-5.1	2,071	-5.7
West	552	- 553	-1	545	1.3	514	7.4
Producing	1,284	1,297	-13	1,277	0.5	1,188	8.1
Sall	327	332	-5	311	5.1	222	473
Nonsalt	957	. 965	-8	966	-0.9	967	-10
Total	3.789	3.834	-45	3,878	-2.3	3.774	0.4

#### Summary

Working ges in storage was 3,789 Bcl as of Friday, November 15, 2013, according to EIA estimates. This represents a nat decline of 45 Bcf from the previous week. Stocks were 89 Bcf less than last year at this time and 15 Bcf above the 5-year average of 3,774 Bcf. In the East Region, stocks were 118 Bcf below the 5-year average following net withdrawals of 31 Bcf. Stocks in the Producing Region were 66 Bcf above the 5-year average of 1,188 Bcf after a net withdrawal of 13 Bcf. Stocks in the West Region were 38 Bct above the 5-year average after a net drawdown of 1 Bcf. At 3,789 Bcf, total working gas is within the 5-year historical range.

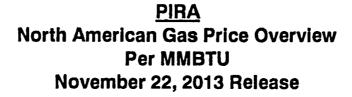
Worlding gas in underground storage compared with the 5-year maximum and minimum

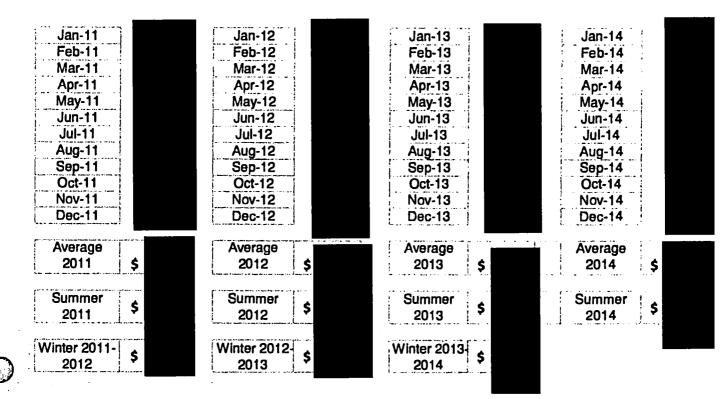


CL Source: U.S. E

Note: The sha rea indicates the range between the historical minimum and maximum values for the weekly series from 2008

stvough 2012. Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The deshed vertical lines indicate current and year-ago weekly periods.



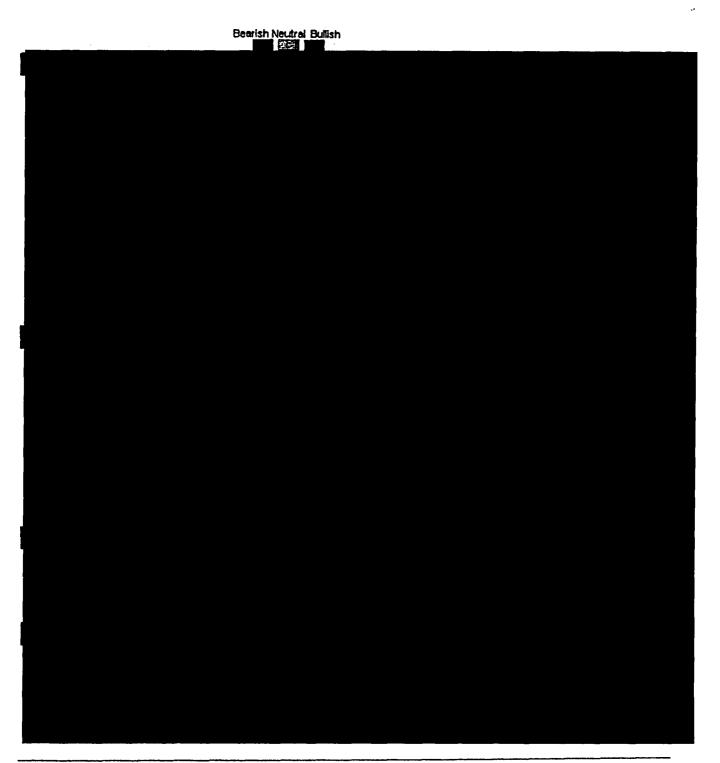


North American Gas Forecast Monthly

November, 22, 2013

NATURAL GAS

# U.S. GAS PRICE SCORECARD: JANUARY 2014 - MARCH 2014



PIRA Energy Group, 3 Park Avenue, 26<sup>th</sup> Floor, New York, NY 10016-5989 (Tel) 212-686-6808 (Fax) 212-686-6628 www.pira.com <sup>2</sup> For authorized subscribers only. Copyright © 2013 PIRA Energy Group. All rights reserved.

# **Price Projections**

### Winter Gas Prices Likely to Stay Below \$4-11/11/2013

According to BNP Paribas, winter gas prices will remain below the \$4/MMBtu this season due to a lack of very cold weather and rising production levels. Paribas forecasts 4<sup>th</sup> quarter price of \$3.55/MMBtu rising to \$3.90/MMBtu in the 1<sup>st</sup> quarter of 2014. Paribas doesn't see prices rising above the \$4/MMBtu level until the 4<sup>th</sup> quarter of 2014.

"Once again, we see a significant threat that surplus inventories may result in lower prices in the first half of next year. That is, unless the weather cooperates—extreme weather conditions are required to push prices out of their current normal-range doldrums."

## Wells Fargo Cuts 4th Quarter Gas Price Expectation by 10%-10/24/2013

Wells Fargo cut its 4<sup>th</sup> quarter prices from \$4/MMBtu to \$3.60/MMBtu, after 3<sup>rd</sup> quarter prices came in 4% below expectations. In addition, Wells Fargo cut 2013 price forecast from \$3.80/MMBtu to \$3.65/MMBtu. "Our 2014 natural gas estimate is now \$3.98/MMBtu versus our prior \$4.30/MMBtu a cut of 7%."

### As Gas Plants Proliferate, Prices to Increase-10/21/2013

"The retirement of nearly 60 GW of coal-fired power plants, as well as projected electricity demand growth over the next four years, will drive a sharp increase in the number of new combined-cycle natural gas-fired plants built in the US, according to ICF International."

"With gas demand projected to increase and producers becoming ever more efficient, ICF said sub-\$4/MMBtu gas prices are not sustainable in a rapidly growing market. ICF projects Henry Hub prices in 2012 dollars to average between \$4 and \$4.50/MMBtu through 2015, then rise to between \$5 and \$6/MMBtu by 2020."



# LNG Exports

### LNG Exports Could Mean Billions for States-11/15/2013

"The expansion of US LNG exports has the potential to create billions of dollars in revenues and thousands of new jobs in nearly all US states, even in those that will not be producing or shipping gas, according to an industry-funded study."

The report stated that overall gross domestic product could jump between \$18 billion and \$115 billion annually and create 665,000 new jobs by 2035 if between 4 Bcf/d and 16 Bcf/d are exported. The report cautioned that these gains may not be realized if the Energy Department does not quickly approve pending applications. "If we don't act quickly then we're going to lose out to international competition in demand for LNG."

## LNG Exports Could Hit 10-12 Bcf/d—10/18/2013

According to industry officials, potential markets for US LNG over the next 5 to 10 years will range from 6 Bcf/d to 12 Bcf/d. "It's going to be much more of a global market for natural gas, I can't tell you the aggregate size, but I think the US market can absorb, without some disruption of the domestic gas prices, 9 to 12 Bcf/d within the next 5 years."

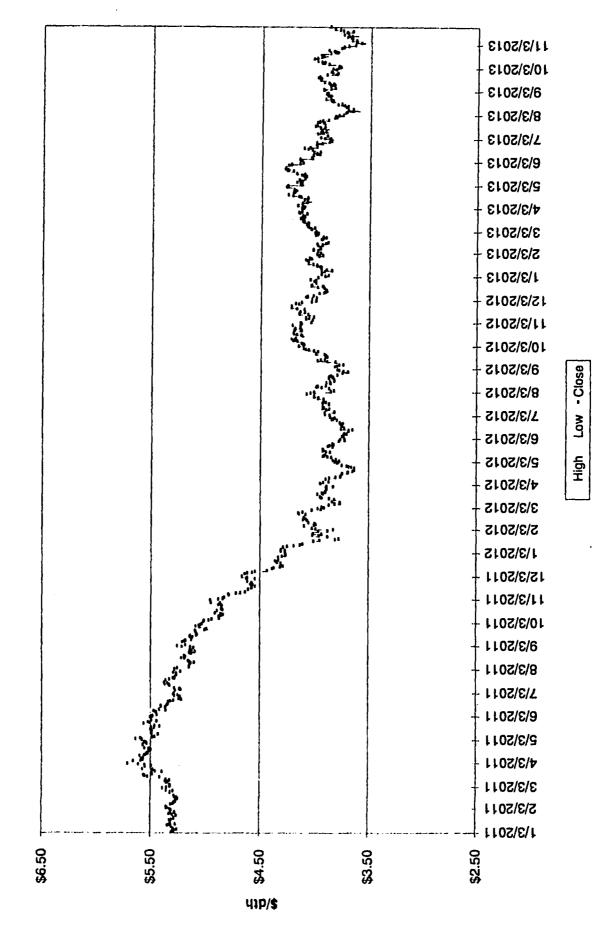
"Every single study that's been done about natural gas supplies and cost understates fairly dramatically the reserves that can be economically developed and the declines in the costs that are likely to occur."

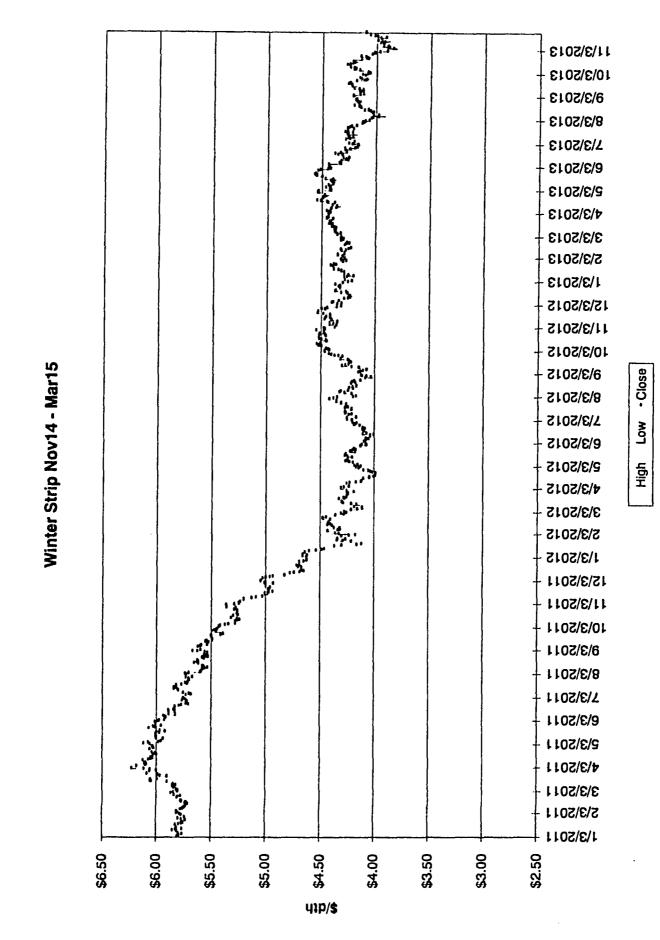
# Energy Information Administration Henry Hub Pricing Per MMbtu November 13, 2013 Release

Winter 2011 2012	\$ 2.752	Winter 2012- 2013	\$ 3.470	Winter 2013 2014	\$ 3.730			
Summer 2011	\$ 4.149	Summer 2012	\$ 2.686	Summer 2013	\$ 3.770	Summer 2014	\$	3.784
Average 2011	\$ 4.000	Average 2012	\$ 2.753	Average 2013	\$ 3.683	Average 2014	\$	3.840
Dec-11	3.17	Dec-12	3.34	Dec-13	3.77	Dec-14		4.18
Nov-11	3.24	Nov-12	3.54	Nov-13	3.56	Nov-14	Ì	4.09
Oct-11	3.56	Oct-12	3.32	Oct-13	3.68	Oct-14	1	3.95
Sep-11	3.90	Sep-12	2.85	Sep-13	3.62	Sep-14	ļ	3.92
Aug-11	4.05	Aug-12	2.84	Aug-13	3.43	Aug-14	Ì	3.91
Jul-11	4.42	Jul-12	2.95	Jul-13	3.62	Jul-14	1	3.87
Jun-11	4.55	Jun-12	2.46	Jun-13	3.83	Jun-14	4	3.70
May-11	4.31	May-12	2.43	May-13	4.04	May-14	: :	3.54
Apr-11	4.25	Apr-12	1.95	Apr-13	4.17	Apr-14		3.60
Mar-11	3.97	Mar-12	2.18	Mar-13	3.81	Mar-14	:	3.69
Feb-11	4.09	Feb-12	2.50	Feb-13	3.33	Feb-14	1	3.82
Jan-11	4.49	Jan-12	2.67	Jan-13	3.33	Jan-14		3.81

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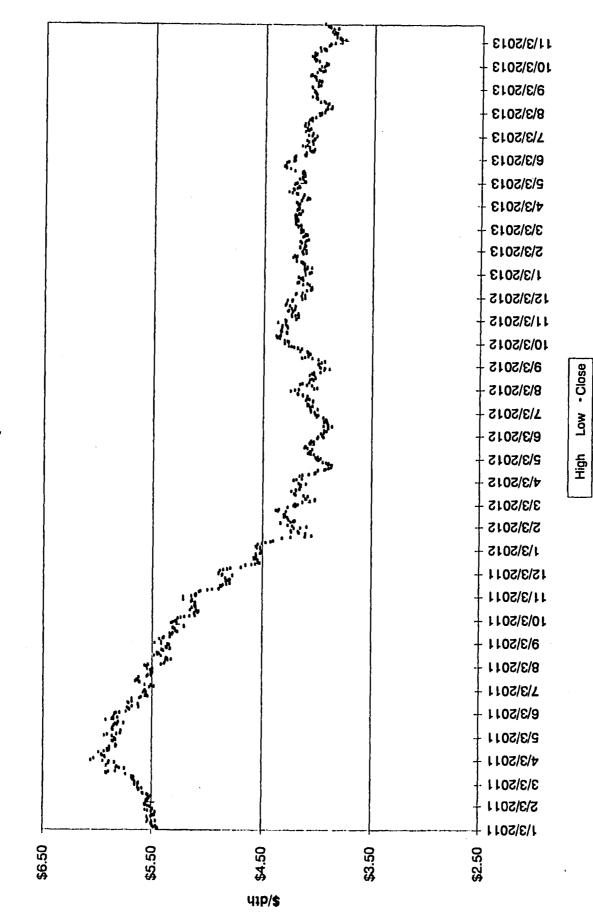
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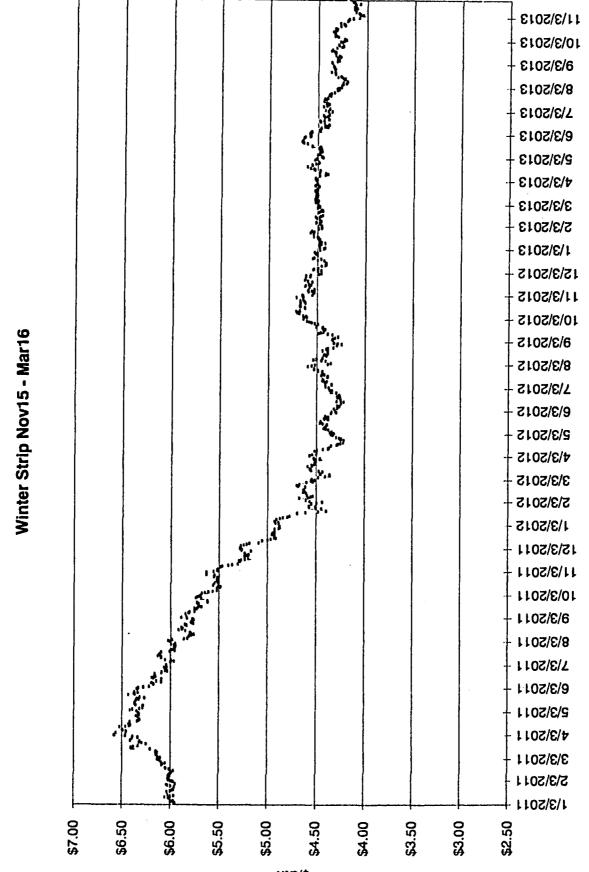
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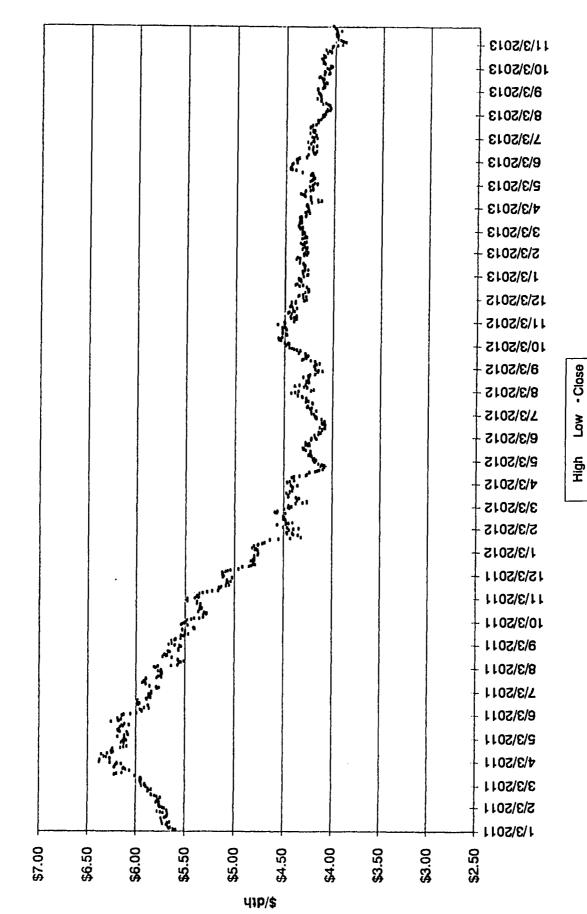
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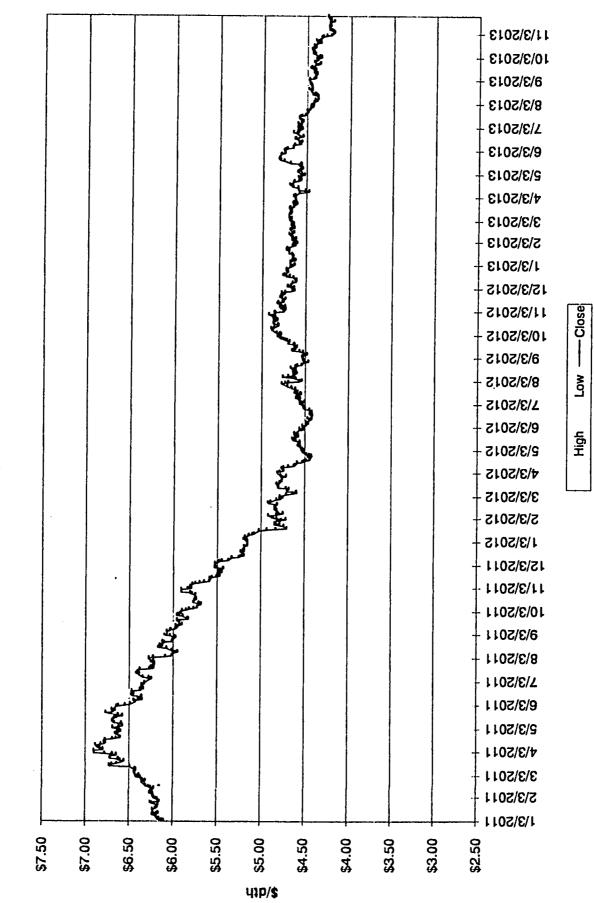
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# Independent Statistics & Analysis U.S. Energy Information Administration

# **Short-Term Energy Outlook (STEO)**

## **Natural Gas**

### U.S. Natural Gas Consumption.

ElA expects that natural gas consumption, which averaged 69.7 Bcf/d in 2012, will average 70.1 Bcf/d and 69.6 Bcf/d in 2013 and 2014, respectively. Colder winter temperatures in 2013 and 2014 (compared with the record-warm temperatures in 2012) are expected to increase the amount of natural gas used for residential and commercial space heating. However, the projected year-over-year increases in natural gas prices contribute to declines in natural gas used for electric power generation from 25.0 Bcf/d in 2012 to 22.1 Bcf/d in 2013 and 21.9 Bcf/d in 2014.

### U.S. Natural Gas Production and Trade.

Natural gas marketed production is projected to increase from 69.2 Bcf/d in 2012 to 70.3 Bcf/d in 2013 and to 71.0 Bcf/d in 2014. Natural gas pipeline gross imports, which have fallen over the past five years, are projected to fall by 0.6 Bcf/d in 2013 and 0.1 Bcf/d in 2014. Liquefied natural gas (LNG) imports are expected to remain at minimal levels of around 0.4 Bcf/d in both 2013 and 2014.

### U.S. Natural Gas Inventories.

Natural gas working inventories reached 3,814 Bcf on November 1, 57 Bcf above the previous 5-year (2008-12) average, but 112 Bcf less than last year's record-setting inventory level.

## **Crude Oil Prices**

Brent crude oil spot prices fell from a monthly average of \$112 per barrel in September 2013 to an average of \$109 per barrel during October. <u>EIA expects the Brent crude oil price to continue to weaken</u> as non-OPEC supply growth exceeds growth in world consumption. The Brent crude oil price is projected to average \$106 per barrel by December 2013 and \$103 per barrel in 2014.

The forecast WTI crude oil spot price, which averaged \$106 per barrel during September, fell to an average of \$101 per barrel in October. <u>EIA expects that WTI crude oil prices will average \$97 per barrel during the fourth quarter of 2013 and \$95 per barrel during 2014.</u> The discount of WTI crude oil to Brent crude oil, which averaged \$18 per barrel in 2012 and then fell to \$3 per barrel in July 2013, averaged \$9 per barrel during October. <u>EIA expects the WTI discount to average \$10 per barrel during the fourth quarter of 2013 and \$8 per barrel during 2014.</u>

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#### **Duke Energy Hedging Program Remaining Base Not Yet Locked In** Winter 2013-14

			∞ System			
November	December	Dth/Day January	February	March	Total	Supply
						1

# Duke Energy Ohio Previously Hedged

	Col Gulf Mainline
	Col Gulf Mainline
	Col Gulf Mainline
	Gulf South
	Tex Gas Zone 1
Total	•

System Supply

### Duke Energy Kentucky

Previously Hedged

**Col Gulf Malnline** Col Gulf Mainline Col Gulf Malnline

Total System Supply

Duke Energy-Total **Previously Hedged** Total



#### Gas Resources Hedging Program Market Indicators Summary December 26, 2013

			əmber 26, 2013	
	Price Pressure	Term	Comments	Page Ref
Weather	······			
Long Term Forecast (Jan 14Mar 14)	↓ ↓	Long	NOAA predicting above average temperatures for January 2014March 2014 for the southern states of Arizona to Georgia and normal temperatures for the majority of the rest of CONUS.	12
Mid Term Forecast (30-60 days)	†↓	Long	January is predicted to be 3.4% colder than normal based on 10 year normals and February weather is predicted to be 2.3% warmer than normal.	13
Short Term Forecast (6-10 days)	<b></b> >	Short	Above normal temperatures across the western portion of CONUS and below normal temperatures across the eastern portion of CONUS.	14
Storage Inventory				
EIA Weekly Storage Report	t	Long	Storage withdraws for the week ending December 13th were 285 Bcf. Storage levels are at 3.736 TCF which is 13.1% iower than last year and 7.4% lower than the 5 year average. The 285 Bcf draw sets all-time record due to well freeze-offs and degree days.	15
Industry Publications				
PIRA Energy Group Winter 2013/14: \$ Summer 2014: \$	↓	Long	GAS PRICE SCORECARD: January 2014October 2014 Gas Price Outlook "Bearish" based on fundamentais such as "Lower 48 Gas Production", and "Residential/Commercial Demand".	16-17
Gas DallyPennsylvania Supreme Court Ruling	t	Long	Pennsylvania Supreme Court strikes down key part of Pennsylvania drilling law that allowed State regulation to preempt local zoning regulations. According to an industry trade group navigating a maze of local ordinances on drilling and fracking is like getting "2,000 driver's licenses" to drive across the state. As a result of the decision, companies will have to think twice before they come to Pennsylvania and invest.	18
Government Agencles			┠╷╴╷┍┅╷╒┉ <sub>╘</sub> ┍╫ <sub>╼</sub> ┝╶╼╖ <sub>┲</sub> ┉╻ <sub>┍┉</sub> <sub>╘</sub> ┉ <sub>╘</sub> ┍╌ <sub>┍</sub> ┉ <sub>┍</sub> ┍╌ <sub>┍</sub> ┈ <sub>┍</sub> <sup></sup> <sup></sup> <sup></sup> <sup>−</sup> <sup></sup>	L
Energy Information Administration Winter 2013/14: \$3.778 Summer 2014: \$3.707	Ļ	Long	The projected Henry Hub natural gas spot price averages \$3.696/MMBtu for 2013 and \$3.783/MMBtu for 2014. EIA has decreased its price for 2013 by \$.01 and decreased \$.06 for 2014.	19
Technical Analysis	<b>ل</b>		\$ <u>,,,,,,,, .</u>	
Summer 2014 Strip Chart		Short	Closed at \$4.18	20
Winter 2014-15 Strip Chart	1	Short	Closed at \$4.36	21
Summer 2015 Strip Chart	+	Short	Closed at \$4.05	22
Winter 2015-16 Strip Chart	+	Short	Closed at \$4.24	23
Summer 2016 Strip Chart	<b></b>	Short	Closed at \$4.04	24
Winter 2016-17 Strip Chart	<b></b>	Short	Closed at \$4.27	25
Economy	L			
Demand	<b></b>	Long	EIA projects total natural gas consumption will average 70.7 Bcf/d in 2013 and 69.6 Bcf/d in 2014. Increased usage for residential and commercial space heating being offset by declines in power generation.	26
Supply	<b>↔</b>	Long	Total marketed production will increase from 69.2 Bcf/d in 2012 to 70.4 Bcf/d in 2013, and 71.4 Bcf/d in 2014.	26
Oil Market	<b></b>	cong	Brent crude averaged \$112 per barrel for 2012. EIA expects Brent crude to average \$108 per barrel by December 2013 and \$104 per barrel In 2014. WTI crude averaged \$94 for 2012. EIA expects WTI crude to average \$96 per barrel during the fourth quarter of 2013 and \$95 in 2014.	27

Meeting Minutes: 426 Annex Conference Room - 1:00 pm Attendees: Jeff Kern, Steve Niederbaumer



Discussed current market conditions including weather forecasts, storage levels and various analysts projections as well as EiA's forecasts for natural gas and oil markets. Discussed the 285 Bcf storage draw which sets an all-time record due to weather and well freeze-offs. Discussed the recent run-up in price, which after discussion, determined the short-term run-up was based on current weather. In addition, discussed the recent Pennsylvania Supreme Court ruling on drilling regulation and that impact on Marcellus production. Based on the discussion, as well as the current position of the Hedging Program, no additional hedging is proposed.

#### Duke Energy Kantucky Hedging Program - Current Position November 2013 - October 2014 As of 12/13/13

<u>Load Forecast</u> City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)	Nov-13 The Dec 13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14
TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)											
Amount Hedged (dth/day) Fixed Price Fixed Price Fixed Price Fixed Price Fixed Price Fixed Price Total Hedged (dth/day) Total Hedged (dth)											
<u>Types of Hedging Products (1)</u> Fixed Price Price Caps No-Cost Collars											
Embedded Hedged Cost Winter Summer											
Estimated System Supply (Gross) Hedged % of System Supply Seasonal % of System Supply											
Amt Hedged with Storage @ City Ga Hedged (City Gate) (Dth) Storage Withdrawal (Dth) Market (Dth) Total (incl. Injections) (Dth) % Hedged & Storage Seasonal %											
(1) Maximum percentage allowed per	type of hedging product is 25% fo	or Winter mor	nths and 40%	Summer mor	nths.						

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#### Duke Energy Kentucky Hedging Program - Current Position November 2014 - October 2015 As of 12/13/13

Lord Fernand	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15
Load Forecast City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)	851.045	1 589 324	3 027 042	1.030.505								
TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)												
Amount Hedged (dth/day) Fixed Price Fixed Price Fixed Price Total Hedged (utr/oay) Total Hedged (dth)												
<u>Types of Hedging Products (1)</u> Fixed Price Price Caps No-Cost Collars												
Embedded Hedged Cost Winter Summer												
Estimated System Supply (Gross) Hedged % of System Supply Seasonal % of System Supply												
Amt Hedged with Storage @ City Ga Hedged (City Gate) (Dth) Storage Withdrawal (Dth) Market (Dth) Total (incl. Injections) (Dth) % Hedged & Storage												
Seasonal % (1) Maximum percentage allowed per	type of hedging pro	oduct is 25% f	or Winter mo	nths and 40%	Summer mor	iths.						

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#### Duke Energy Kentucky Hedging Program - Current Position November 2015 - October 2016 As of 12/13/13

Load Forecast	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16
City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)												
TCO FSS Withdrawais (Mcf) Other "Withdrawais" (Mcf) Total Withdrawais (Mcf)												
Amount Hedged (dth/day) Fixed Price TBD TBD Total Hedged (dth/day) Total Hedged (dth)												
<u>Types of Hedging Products (1)</u> Fixed Price Price Caps No-Cost Collars												
Embedded Hedged Cost Winter Summer												
Estimated System Supply (Gross) Hedged % of System Supply Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate Hedged (City Gate) (Dth) Storage Withdrawal (Dth) Market (Dth) Total (incl. Injections) (Dth) % Hedged & Storage Seasonal %												
(1) Maximum percentage allowed per type	of hedging pro	duct is 25% fo	r Winter mor	ths and 40%	Summer mon	ths						

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.



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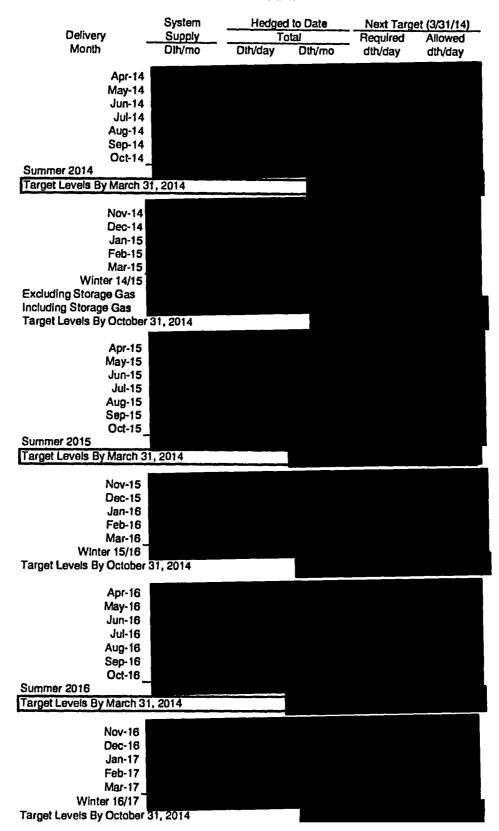
#### Duke Energy Kentucky Hedging Program - Current Position November 2016 - October 2017 As of 12/13/13

	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jui-17	Aug-17	Sep-17	Oct-17
Load Forecast City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
TCO FSS Withdrawais (Mcf)												
Other "Withdrawais" (Mcf)												
Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
TBD												
TBD TBD												
Total Hedged (dth/day)												
Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross)												
Hadged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												
Storage Withdrawai (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth) % Hedged & Storage												
Seasonal %												

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

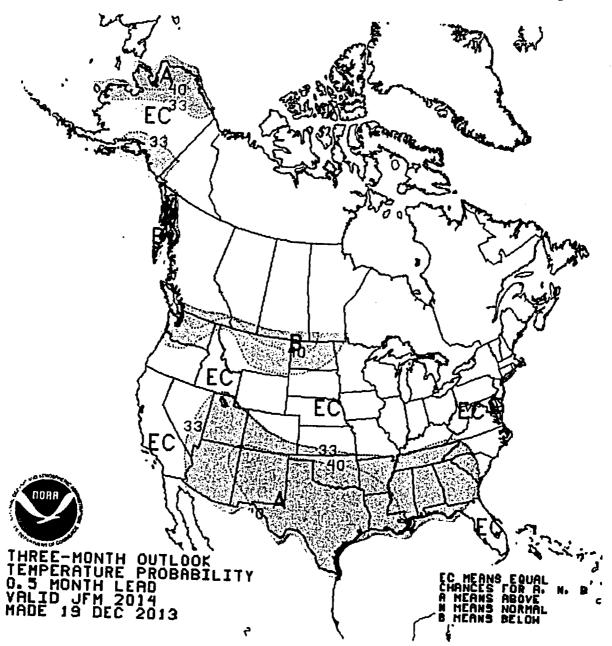
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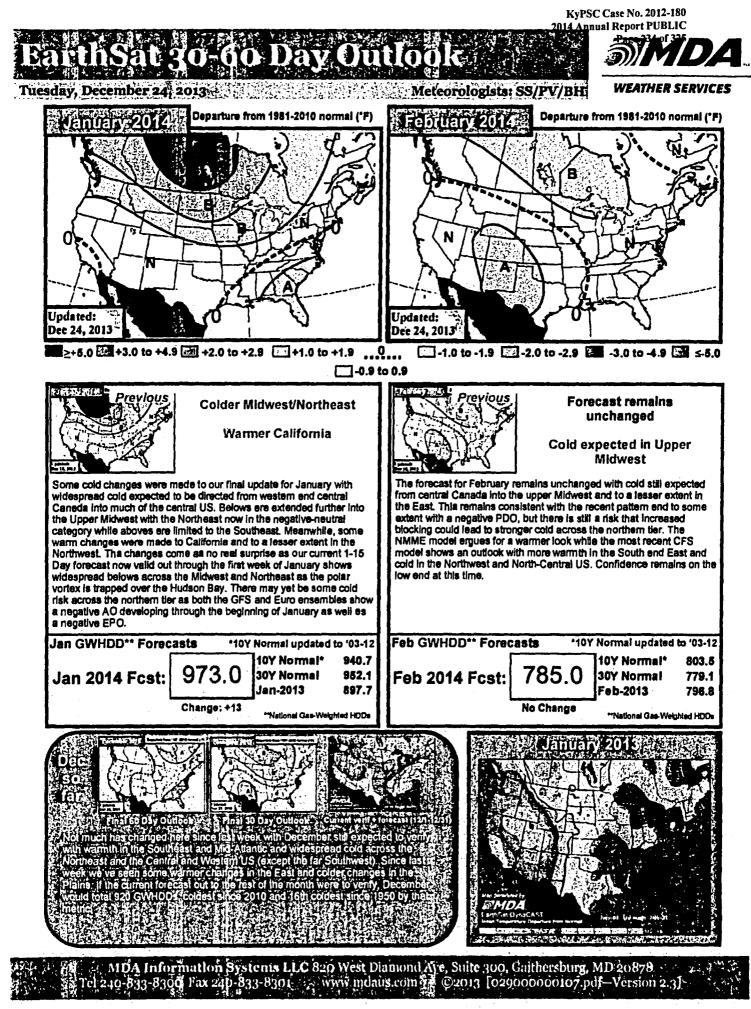
#### Duke Energy Kentucky Hedging Program Current Position

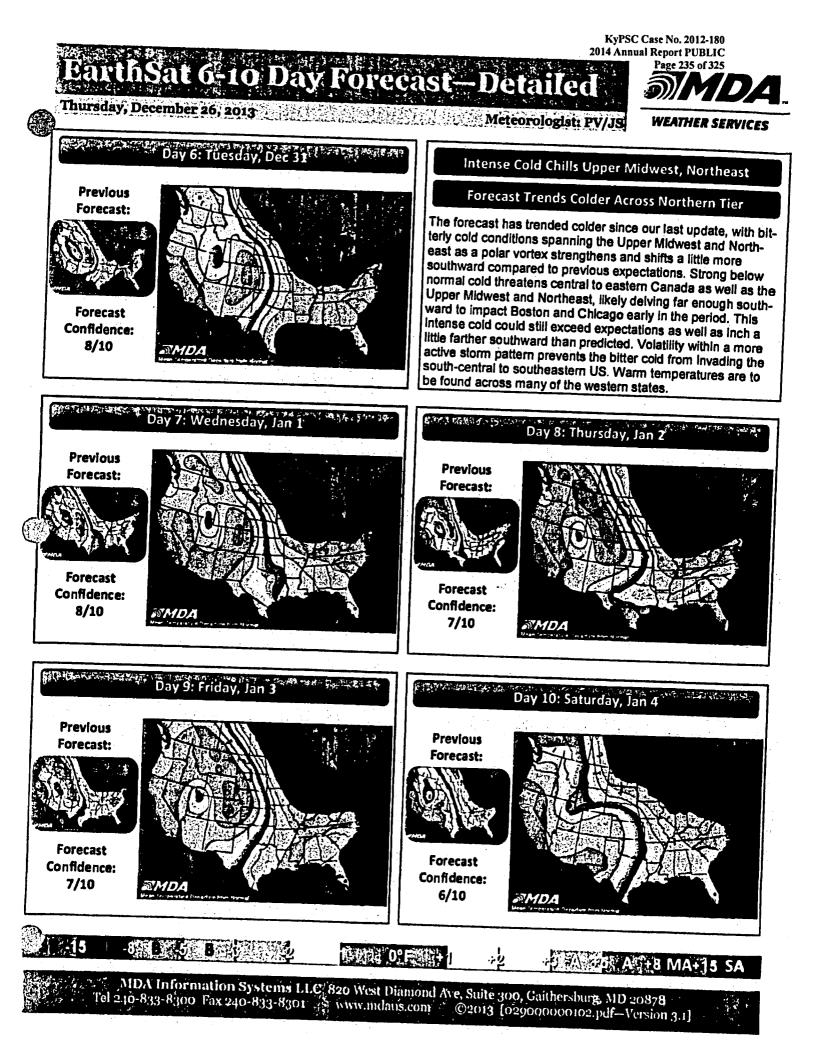


### COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

	Histori	ic Prices:						
	NYMEX CI	osing Price						
	5-yr. avg.	Last Year	PIRA	EIA	NYMEX		Hedge	ed Prices
	(08/09-12/13)	(2012-2013)	20-Dec-13	10-Dec-13	26-Dec-13		Ohio	Kentucky
Jan	\$4.52	\$3.35		\$3.860	\$4.427		\$	
Feb	\$3.99	\$3.23		\$3.850	\$4.469		\$	
Mar	\$3.71	\$3.43		\$3.690	\$4.436		ŝ	
Apr		\$3.98		\$3.570	\$4.179		\$	
May		\$4.15		\$3.480	\$4.155		\$	
Jun	\$3.72	\$4.15		\$3.630	\$4.172		\$	
Jul	\$3.90	\$3.71		\$3.780	\$4.184	! :	\$	
Aug		\$3.46		\$3.820	\$4.194		5	
Sep	\$3.31	\$3.57		\$3.820	\$4.182		\$	
Oct	\$3.57	\$3.50		\$3.850	\$4.203		5	
Nov	\$3.61	\$3.50		\$3.980	\$4.241		5	
Dec	\$3.93	\$3.82		\$4.060	\$4.350			
2 Month Avg	\$3.77	\$3.65		\$3.783	\$4.266			
	er Average			\$3.707	\$4.181			
Winter A	Average			\$3.888	\$4.385			









#### Weekly Natural Gas Storage Report

for week ending December 13, 2013. [] Released: December 19, 2013 at 10, 30 g m = 1, Next Release: December 27, 2013.

Summary text CSV JSNWorking gas in underground storage, lower 48 states

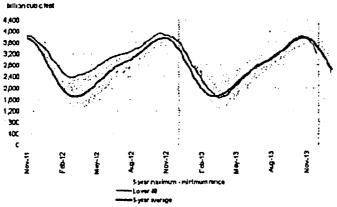
					Historical Co	mpansons		
		Stocks			ag0	5-Year average		
	Dill	ion cubic feet (E	{12/1	3/12}	(2008 2012)			
Region	12/13/13	12/06/13	change	(Bcl)	% change	(Bcf)	🔨 change	
East	1,683	1.815	+132	1 932	-129	1,890	-11.0	
West	450	504	-54	539	-16 5	481	-8.4	
Producing	1,115	1,214	-99	1,284	-11.8	1.138	-2.0	
Sait	2/7	309	-32	313	-11.5	214	29.4	
Nonsalt	839	905	-68	951	-118	924	-9.2	
Total	3.248	3.533	-265	3.735	-13.1	3,509	-7.4	

EIA will provide a period of public testing of the upcoming changes to the Waekly Natural Gas Storage Report. Testing will commence on December 13, 2013, with follow up tests later in the month. Key details including links to examples of the new WNGSR report files, and the dates and times for public toating are available at. http:/// upoid.gov/ngs/nutrice.html

#### Summary

Working gas in storage was 3,248 Bcf as of Friday, December 13, 2013, according to EIA estimates. This represents a net decline of 285 Bcf from the previous week. Stocks were 488 Bcf less than last year at this time and 261 Bcf below the 5-year average of 3,509 Bcf. In the East Region, stocks were 207 Bcf below the 5-year average following net withdrawals of 132 Bcf. Stocks in the Producing Region were 23 Bcf below the 5-year average of 1,138 Bcf shere a net withdrawal of 99 Bcf. Stocks in the West Region were 31 Bcf below the 5-year average after a net drawdown of 54 Bcf. At 3,248 Bcf, total working gas is within the 5-year historical range.

Working gas in undergroup I glorage compared with the 5-year maximum and minimum

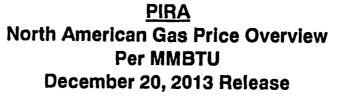


G Scuros: V.S. Energy Information Administration

Note: The shaded area anticates the range between the historical minimum and maximum values for the weekly series from 2008 through 2012

Source: Form EIA-012. "Weekly Underground Natural Gas Storage Report." The dashed vortical lines indicate current and year ago waekly periods

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Jan-11	Jan-12	Jan-13	Jan-14
Feb-11	Feb-12	Feb-13	Feb-14
Mar-11	Mar-12	Mar-13	Mar-14
Apr-11	Apr-12	Apr-13	Apr-14
May-11	May-12	May-13	May-14
Jun-11	Jun-12	Jun-13	Jun-14
Jul-11	Jul-12	Jul-13	Jul-14
Aug-11	Aug-12	Aug-13	Aug-14
Sep-11	Sep-12	Sep-13	Sep-14
Oct-11	Oct-12	Oct-13	Oct-14
Nov-11	Nov-12	Nov-13	Nov-14
Dec-11	Dec-12	Dec-13	Dec-14
Average			
	Average 2010	Average	Average
2011 \$	2012 \$	2013 \$	2014 \$
Summer	Summer	Summer a	
2011 \$		Summer \$	Summer \$
	2012	2013	2014
Winter 2011-1	Winter 2012-	Mintor 2012	
2012	2013 <b>\$</b>	Winter 2013- \$	
		2014	

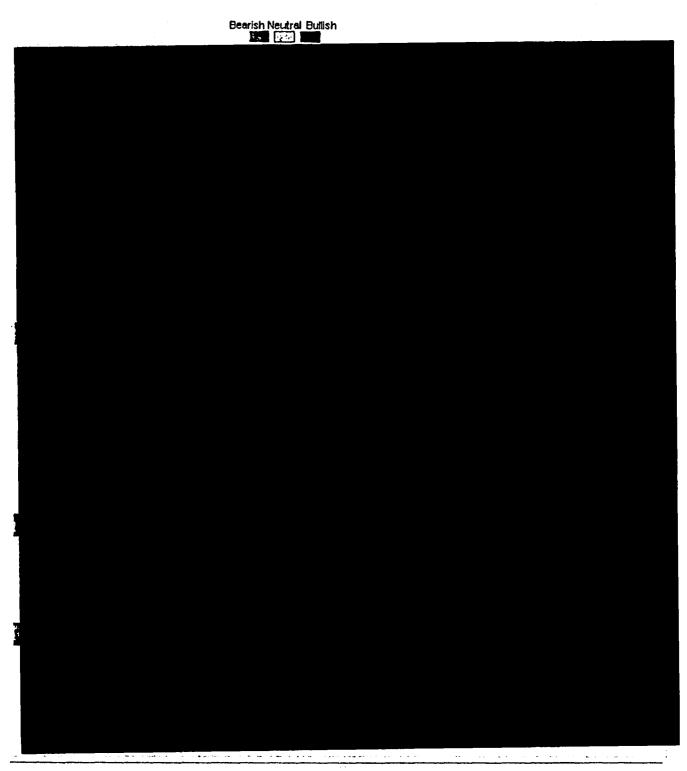
Hedging Meeting 12-27-2013.xlsx

North American Gas Forecast Monthly

December, 20, 2013

NATURAL GAS

# U.S. GAS PRICE SCORECARD: JANUARY 2014 - OCTOBER 2014



PIRA Energy Group, 3 Park Avenue, 26<sup>th</sup> Floor, New York, NY 10016-5989 (Tel) 212-686-6808 (Fax) 212-686-6628 www.pira.com <sup>2</sup> For authorized subscribers only, Copyright © 2013 PIRA Energy Group. All rights reserved.

# Pennsylvania Supreme Court Ruling

# Court Strikes Down Key Part of Pa Drilling Law-December 20, 2013

"In a major blow to the state's gas drilling industry, the Pennsylvania State Supreme Court ruled that major parts of the state's sweeping Marcellus Shale law known as Act 13 are unconstitutional—including a provision that new state regulations would preempt local zoning regulations."

The decision lifts restrictions on municipalities set out in the February 2012 law, allowing local regulations to stand on whether and where to allow wells, compressor stations, pipelines and other equipment.

"The producing industry had fought hard to preserve Act 13's determination that only the state can decide when to ban or restrict drilling activity in the gas-rich Marcellus Shale. Industry trade groups have argued that navigating a maze of local ordinances on drilling and hydraulic fracturing is like getting "2,000 driver's license" to drive across the state."

Chief Justice Ronald Castille wrote that "to describe this case simply as a zoning or agency discretion matter would not capture the essence of the parties' fundamental dispute regarding Act 13. Rather, at its core, this dispute centers upon an asserted vindication of citizens' rights to quality of life on their properties and in their hometowns."

# Drillers May Think Twice About PA. After Ruling-December 23, 2013

In the decision, the Pennsylvania Supreme Court said that towns have the right to limit natural gas operations to certain areas through zoning.

As a result of the decision, companies will have to think twice before they come to Pennsylvania and invest. According to the West Virginia Oil and Gas Association, "I believe that if you were operating in a state that has less certainty now, your company will be looking for places that can provide the certainty that you need when you are making major investments."

Marcellus Shale Coalition states the industry will continue to work collaboratively with the communities in which we operate to ensure shale development moves forward and we continue to realize the benefits at the local and state levels.

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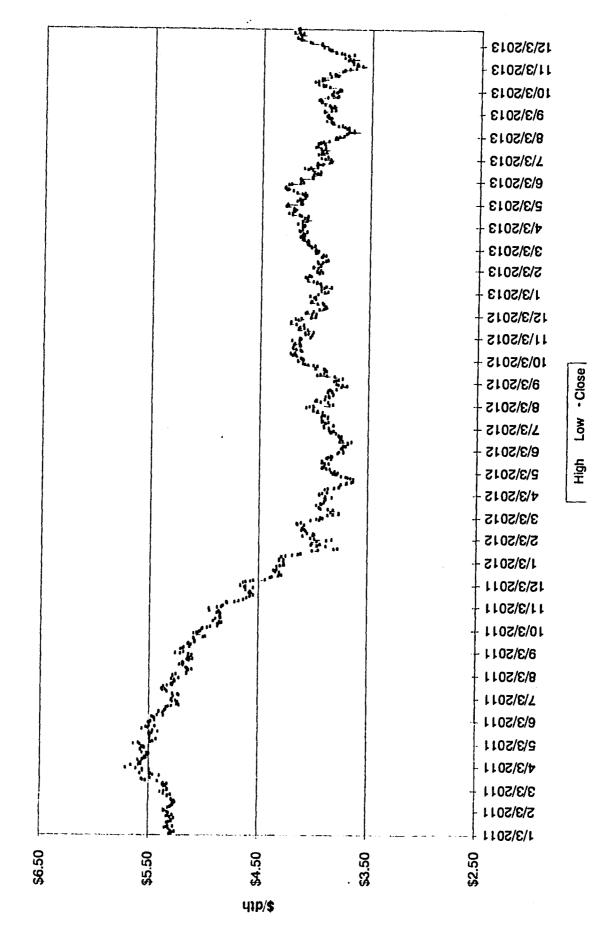
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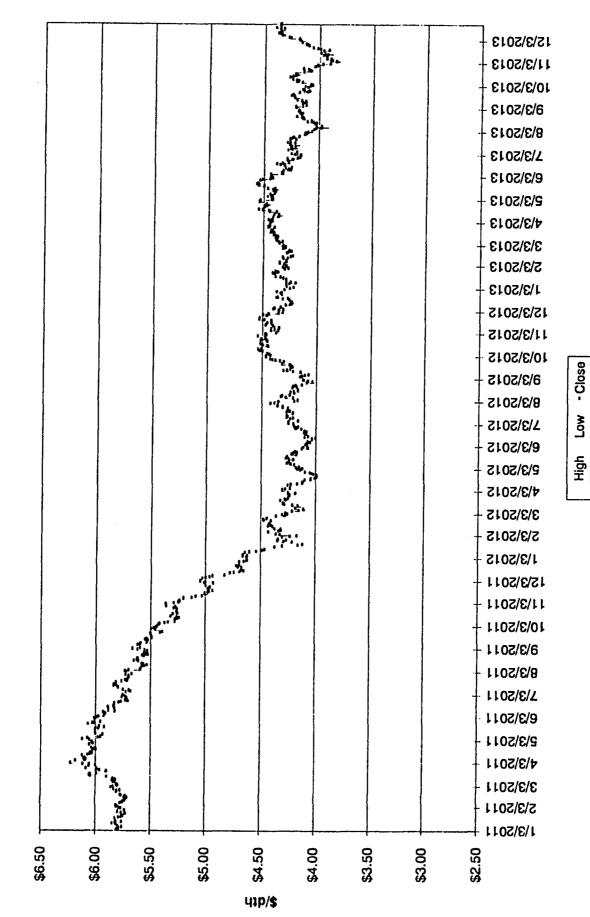
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# Energy Information Administration Henry Hub Pricing Per MMbtu December 10, 2013 Release

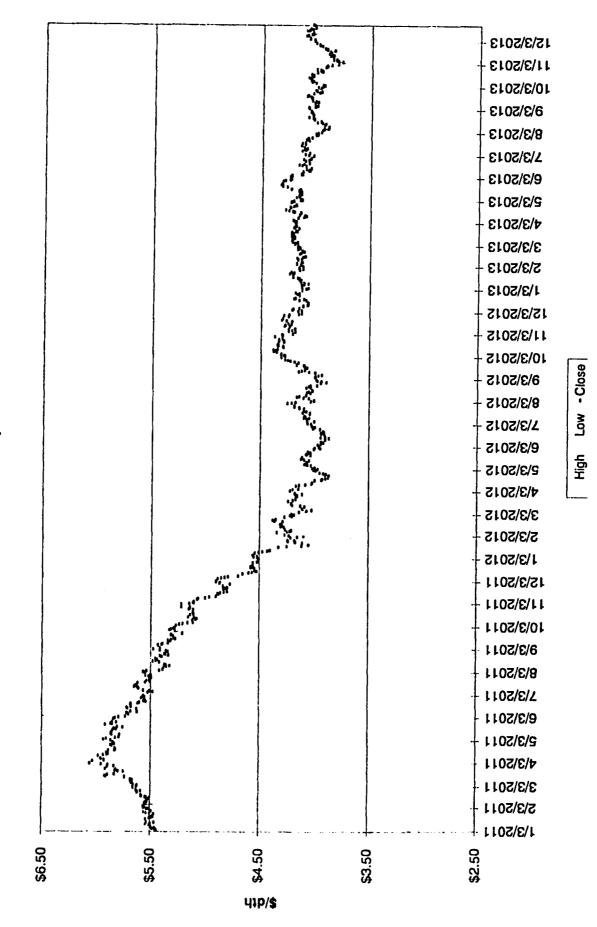
W	inter 2011 2012	\$ 2.75	2 Winter 201 2013	2 \$	3.470	Winter 2013- 2014	\$	3.778			
	Summer 2011	\$ 4.14	9 Summer 2012	\$	2.686	Summer 2013	\$	3.770	Summer 2014	\$	3.707
	2011	\$ 4.00	· · ·	\$	2.753	2013	\$	3.696	2014	\$	3.783
E 7	Average		Average		• • • • • •	Average	•	· · · · · · · · · ·	Average	ļ	
	Dec-11	3.17	Dec-12		3.34	Dec-13		3.85	Dec-14	*	4.06
1	Nov-11	3.24	م راده و سع العبد فيوس ال		3.54	Nov-13		3.64	Nov-14	-	3.98
	Oct-11	3.56	Oct-12		2.85 3.32	Oct-13	3.62 3.68		Sep-14 Oct-14	!	3.85
1	Sep-11	3.90	· · · · · · · · · · · · · · · · · · ·			Sep-13				3.82	
1	Aug-11	4.05	No. is an example of a second	and the second		Aug-13	3.43		Aug-14	3.82	
	Jul-11	4.42		··· •	2.95	Jul-13		3.62	Jul-14	1	3.78
10 C C C C	Jun-11	4.55		!	2.46	Jun-13		3.83	Jun-14	:	3.63
• •	May-11	4.31	1 Z	•	2.43	May-13		4.04	May-14	;	3.48
•	Apr-11	4.25	in the second	1	1.95	Apr-13		4.17	Apr-14	ł	3.57
•.	Mar-11	3.97	· · · · · · · · · · · · · · · · · · ·	·· :	2.18	Mar-13	)	3.81	Mar-14	•	3.69
÷	Jan-11 Feb-11	4.49	A 1 1 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	1	2.67 2.50	Jan-13 Feb-13		3.33 3.33	Jan-14 Feb-14	1	3.86 3.85

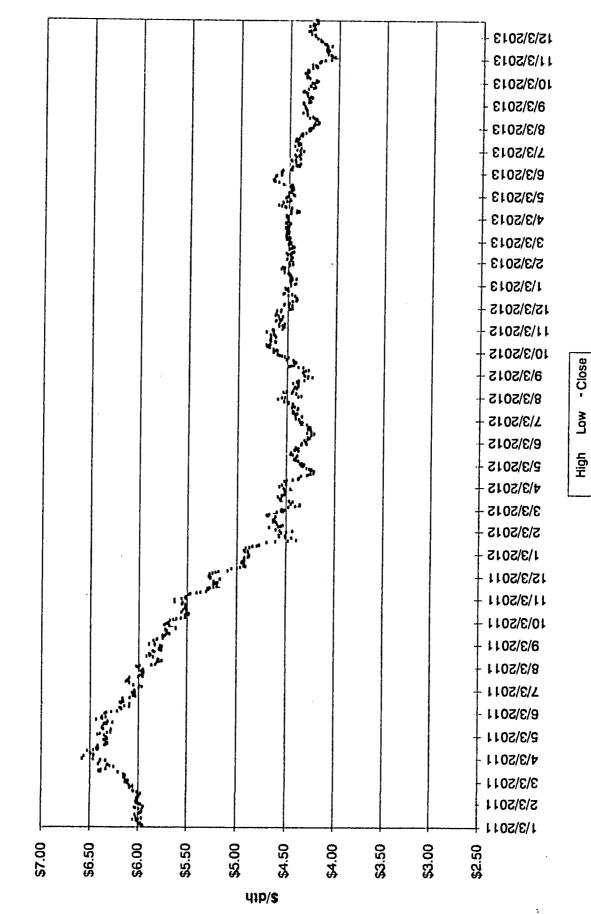






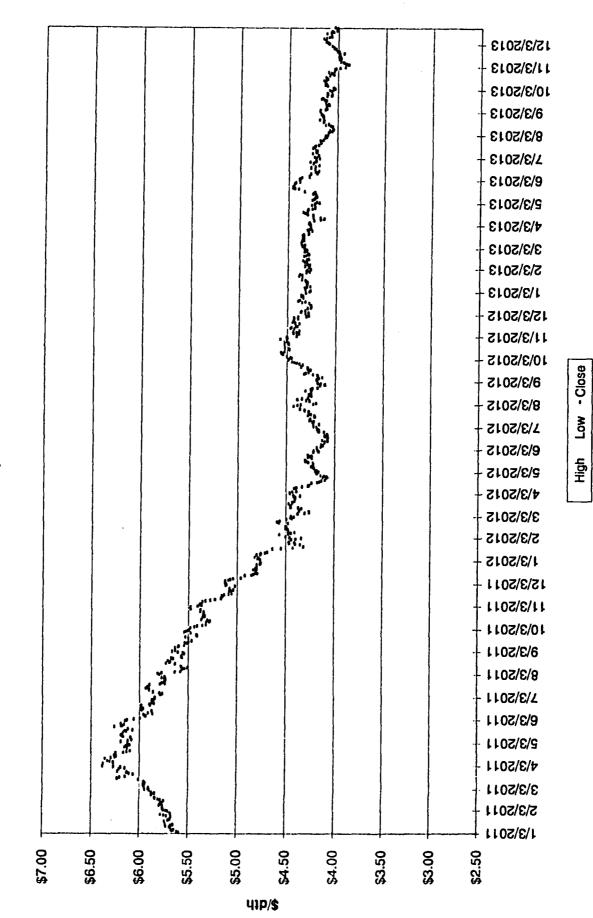
Winter Strip Nov14 - Mar15

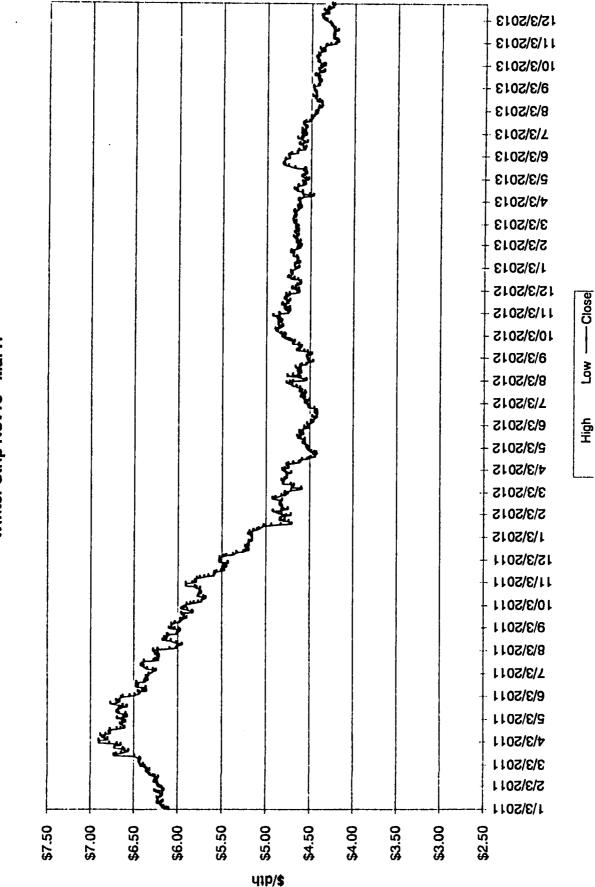




Winter Strip Nov15 - Mar16

23









# Independent Statistics & Analysis U.S. Energy Information Administration

# **Short-Term Energy Outlook (STEO)**

**Natural Gas** 

### **U.S. Natural Gas Consumption.**

ElA expects that natural gas consumption, which averaged 69.6 Bcf/d in 2012, will average 70.7 Bcf/d and 69.6 Bcf/d in 2013 and 2014, respectively. Colder winter temperatures in 2013 and 2014 (compared with the record-warm temperatures in 2012) are expected to increase the amount of natural gas used for residential and commercial space heating. However, the projected year-over-year increases in natural gas prices contribute to declines in natural gas used for electric power generation from 24.9 Bcf/d in 2012 to 22.3 Bcf/d in 2013 and 22.1 Bcf/d in 2014.

### U.S. Natural Gas Production and Trade.

Natural gas production in the northeastern United States rose from 2.1 billion cubic feet per day (Bcf/d) in 2008 to 12.3 Bcf/d in 2013. This trend has reduced the cost and increased the supply of natural gas in the Northeast. This additional supply has encouraged greater use of natural gas in the Northeast. This additional supply has encouraged greater use of natural gas in the Northeast, especially for power generation, and has also reduced net inflows of natural gas into the region from other regions such as the Gulf of Mexico, the Midwest, and eastern Canada. Regional environmental incentives, in addition to greater supply and lower prices, have contributed to the increased use of natural gas for power generation. Both of the Northeast's regional transmission organizations, the Independent System Operator of New England (ISO-NE) and the New York Independent System Operator (NYISO), have seen a dramatic shift since 2001 away from petroleum- and coal-fired generation to predominantly natural gas-fired output in 2012 and 2013.

Natural gas marketed production is projected to Increase from 69.2 Bcf/d in 2012 to 70.4 Bcf/d in 2013 and 71.4 Bcf/d in 2014. Natural gas pipeline gross imports, which have fallen over the past five years, are projected to fall by 0.5 Bcf/d in 2013 and remain flat in 2014. Liquefied natural gas (LNG) imports are expected to remain at minimal levels of around 0.3 Bcf/d in 2013 and 0.2 Bcf/d 2014.

### U.S. Natural Gas Inventories.

Natural gas working Inventories fell by 162 Bcf to 3,614 Bcf during the week ending November 29,2013. This was the largest weekly net withdrawal for the month of November since publication of weekly storage data began in 1994. Colder-than-normal temperatures during the week resulted in increased heating demand, prompting larger-than normal withdrawals in all three regions, including a particularly large withdrawal in the Producing Region. Stocks are now 200 Bcf less than year-ago levels and 104 Bcf less than the five-year (2008-2012) average.



# **Crude Oil Prices**

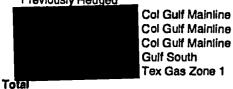
Brent crude oil spot prices fell from a monthly average of \$112 per barrel in September 2013 to \$108 per barrel in November. ElA expects the Brent crude oil price to continue to weaken as non-OPEC supply growth exceeds growth in world consumption. The Brent crude oil price is projected to average \$108 per barrel in December 2013 and \$104 per barrel in 2014.

The forecast WTI crude oil spot price, which averaged \$106 per barrel during September, fell to an average of \$94 per barrel in November. <u>EIA expects that WTI crude oil prices will average</u> <u>\$96 per barrel during the fourth quarter of 2013 and \$95 per barrel during 2014</u>. The discount of WTI crude oil to Brent crude oil, which averaged \$18 per barrel in 2012 and then fell to below \$4 per barrel in July 2013, averaged \$14 per barrel during November. <u>EIA expects the WTI discount</u> to average \$12 per barrel during the fourth quarter of 2013 and \$9 per barrel during 2014, as new pipeline capacity is added from Cushing to the Gulf Coast.

### Duke Energy Hedging Program Remaining Base Not Yet Locked in Winter 2013-14

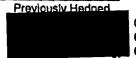
		Dth/Day				% Syste
November	December	January	February	March	Total	Supp

# Duke Energy Ohio Previously Hedged



System Supply

# Duke Energy Kentucky



Coi Gulf Mainline Col Gulf Mainline Col Gulf Mainline

# To**tal** System Supply

Duke Energy--Total Previously Hedged Total



#### Gas Resources Hedging Program Market Indicators Summary January 23, 2014

	Price	Term	Comments	Page
Weather	Pressure			_ Ref
Long Term Forecast (Feb 14Apr 14)	Ļ	Long	NOAA predicting above average temperatures for February 2014April 2014 for the southern portion of CONUS. Normal temperatures across the mid-CONUS, some below in Minn., Dakota's, and Montana.	12
Mid Term Forecast (30-60 days)	t	Long	February is predicted to be 0.2% colder than normal based on 10 year normals and March weather is predicted to be 7.2% colder than normal.	13
Short Term Forecast (6-10 days)	<b></b>	Short	Above normal temperatures across the western portion of CONUS and below normal temperatures across the eastern portion of CONUS.	14
Storage Inventory	••••••••••••			
EIA Weekiy Storage Report	t	Long	Storage withdraws for the week ending January 17th were 107 Bcf. Storage levels are at 2.423 TCF which is 19.8% lower than last year and 13.2% lower than the 5 year average. Goldman Sachs and Bentek predict storage balance of 1.4 Tcf by the end of March. This is 298 Bcf below the five-year average.	15
ndustry Publications		·	δουστού ματα ματα ματα το του του του του του του του του του	
PIRA Energy Group Winter 2013/14: 3	Ļ	Long	GAS PRICE SCORECARD: January 2014October 2014 Gas Price Outlook "Bearish" based on fundamentals such as "Lower 48 Gas Production", and "Residential/Commercial Demand".	16-17
Gas DailyPrice Projections	ţ	Long	Weather, exports to Mexico and more certainty of LNG exports have analyst builish on the commodity. Raised 2014 forecast by 6% to \$4.25/Mcf and \$4.40 or 4% for 2015. Weather impact on storage sending cash and future prices soaring and will keep the prices up for the remainder of the winter. However, expects prices to be back to \$3.50 in about 4 months.	18
Gas DailyMiscellaneous Information	Ļ	Long	US gas production steady growth despite 19% drop in rig count. Domestic production hit 83 Bcf/d in October. Marcelius Shale represents 20% of nations supply. 2014 production gain of 1 Bcf/d. Credit Sulsse believes growth in gas demand is overstated. As a result the market will remain bearish on strong production and lagging pipeline build out. Still very difficult to spin a structurally builish story out of the current weather events.	19
Bovernment Agencles				
Energy Information Administration Summer 2014: <b>\$3.771</b> Winter 2014/15: <b>\$4.084</b>	↓ -	Long	The projected Henry Hub natural gas spot price averages \$3.893/MMBtu for 2014 and \$4.109/MMBtu for 2015. EIA has increased its price for 2014 by \$.11.	20
Technical Analysis	J			
Summer 2014 Strip Chart		Short	Closed at \$4.28	21
Winter 2014-15 Strip Chart	+	Short	Closed at \$4.42	22
Summer 2015 Strip Chart	1	Short	Closed at \$4.05	23
Winter 2015-18 Strip Chart	1	Short	Closed at \$4.25	24
Summer 2016 Strip Chart	<b></b>	Short	Closed at \$4.05	25
Winter 2018-17 Strip Chart	<b>+-</b>	Short	Closed at \$4.29	28
conomy				
Demand	<b></b>	Long	EIA projects total natural gas consumption will average 71.2 Bcf/d in 2013 and 69.6 Bcf/d in 2014. Increased usage for residential and commercial space heating being offset by declines in power generation.	27
Supply	<b></b>	Long	Total marketed production will grow at an average rate of 2.1% in 2014 and 1.3% in 2015.	27
Oil Market		Long	EIA expects Brent crude to average \$105 per barrel for 2014 and \$102 per barrel in 2015. WTI crude expected to average \$93 for 2014. EIA expects WTI crude to average \$90 per barrel in 2015.	28

Meeting Minutes: 426 Annex Conference Room - 1:00 pm

Attendees: Jim Mehring, Mike Brumback, Jeff Kern, Joachim Fischesser, Mitch Martin, Steve Niederbaumer

Discussed current market conditions(recent run-up in prices) including current weather forecasts(extended extreme cold), storage levels (including estimate of 1.4 Tcf balance by the end of March) and various analysts projections as well as EIA's forecasts for Supply and Demand of the Natural Gas markets and Oil prices. Discussed the current hedging positions for both DEO and DEK. Based on the discussion, a determination was made not to propose additional hedging at lhis time.

### Duke Energy Kentucky Hedging Program - Current Position November 2013 - October 2014 As of 01/22/14

Load Forecast	Nov-13 Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14
City Gate Load Forecast (Mcf)						·					
TCO FSS Injections (Mcf)											
Total Requirements (Mcl)											
Total Hodunomona (MCA)											
TCO FSS Withdrawals (Mcf)											
Other "Withdrawals" (Mcf)											
Total Withdrawals (Mcf)											
Amount Hedged (dth/day)											
Fixed Price											
Fixed Price											
Fixed Price											
Fixed Price											
Fixed Price											
Fixed Price											
Total Hedged (dth/day)											
Total Hedged (dth)											
Types of Hedging Products (1)											
Fixed Price											
Price Caps											
No-Cost Collars											
Embedded Hedged Cost											
Winter											
Summer											
Estimated System Supply (Gross)											
Hedged % of System Supply											
Seasonal % of System Supply											
Amt Hedged with Storage @ City Ga	Ite										
Hedged (City Gate) (Dth)	_										
Storage Withdrawal (Dth)											
Market (Dth)											
Total (incl. Injections) (Dth)											
% Hedged & Storage											
Seasonal %											
(1) Maximum percentage allowed per	type of hedging product is 25% f	or Winter mo	onths and 409	6 Summer mo	nths.						
						,					

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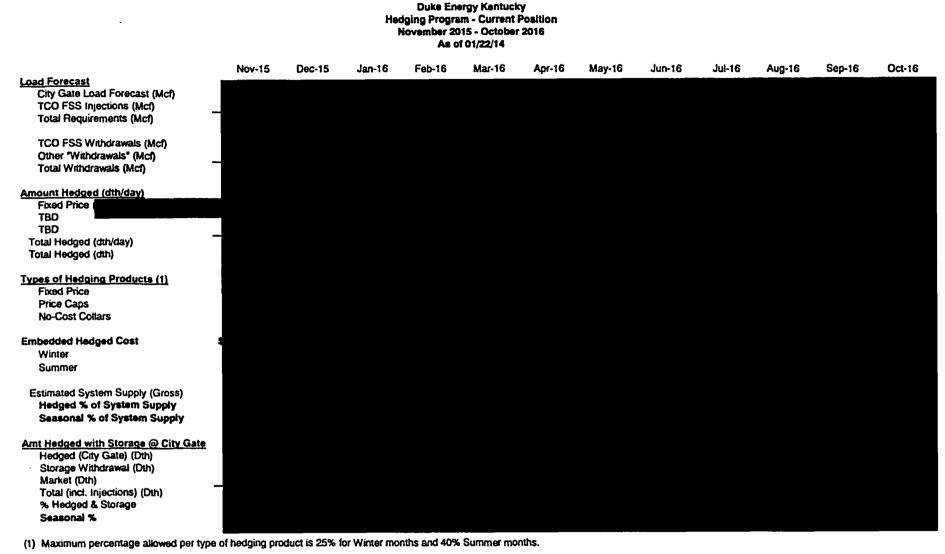
## Duke Energy Kentucky Hedging Program - Current Position November 2014 - October 2015 As of 01/22/14

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Load Forecast	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15
City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
Amount Hedged (dth/day) Fixed Price Fixed Price Fixed Price Total Hedged (dth/day) Total Hedged (dth)												
Turse of Medice Bredwets (4)												
Types of Hedging Products (1) Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross) Hedged % of System Supply Seasonal % of System Supply												
Seasonal A of System Suppry												
Amt Hedged with Storage @ City Gate Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Oth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												
(1) Maximum percentage allowed per type	of hedging pro	duct is 25% f	or Winter mo	nths and 40%	Summer mor	nths.						

KyPSC Case No. 2012-180 2014 Annual Report PUBLIC Page 252 of 325



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KyPSC Case No. 2012-180 2014 Annual Report PUBLIC Page 253 of 325





#### **Duke Energy Kentucky** Hedging Program - Current Position November 2016 - October 2017 As of 01/22/14

Last Formerst	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17
Load Forecast City Gate Load Forecast (Mcf)												
TCO FSS Injections (McI)												
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
Amount Medand (dth/dou)												
Amount Hedged (dth/day) TBD												
TBD												
TBD												
Total Hedged (dth/day)												
Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
•												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth) % Hedged & Storage												
Seasonal %												

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

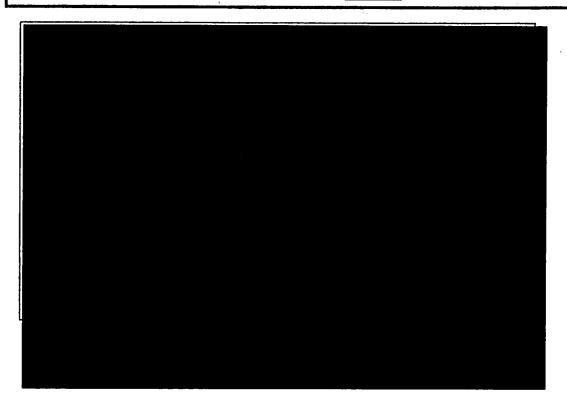
1/22/2014

#### **Duke Energy Kentucky** Hedging Program **Current Position** System Hedged to Date Next Target (3/31/14) Delivery Supply Total Required Allowed dth/day Month Dth/mo Dth/day Dth/mo dth/day Apr-14 May-14 Jun-14 Jul-14 Aug-14 Sep-14 Oct-14 Summer 2014 Target Levels By March 31, 2014 Nov-14 Dec-14 Jan-15 Feb-15 Mar-15 Winter 14/15 Storage Gas **Excluding Storage Gas** Including Storage Gas Target Levels By October 31, 2014 Apr-15 May-15 Jun-15 Jui-15 Aug-15 Sep-15 Oct-15 Summer 2015 Target Levels By March 31, 2014 Nov-15 Dec-15 Jan-16 Feb-16 Mar-18 Winter 15/16 Target Levels By October 31, 2014 Apr-16 May-16 Jun-16 Jul-16 Aug-16 Sep-16 Oct-16 Summer 2016 Target Levels By March 31, 2014 Nov-16 Dec-16 Jan-17 Feb-17 Mar-17 Winter 16/17

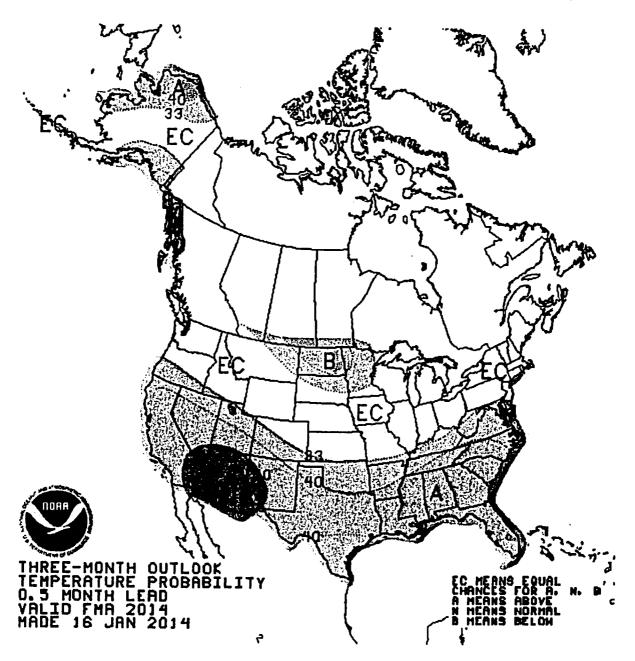
Target Levels By October 31, 2014

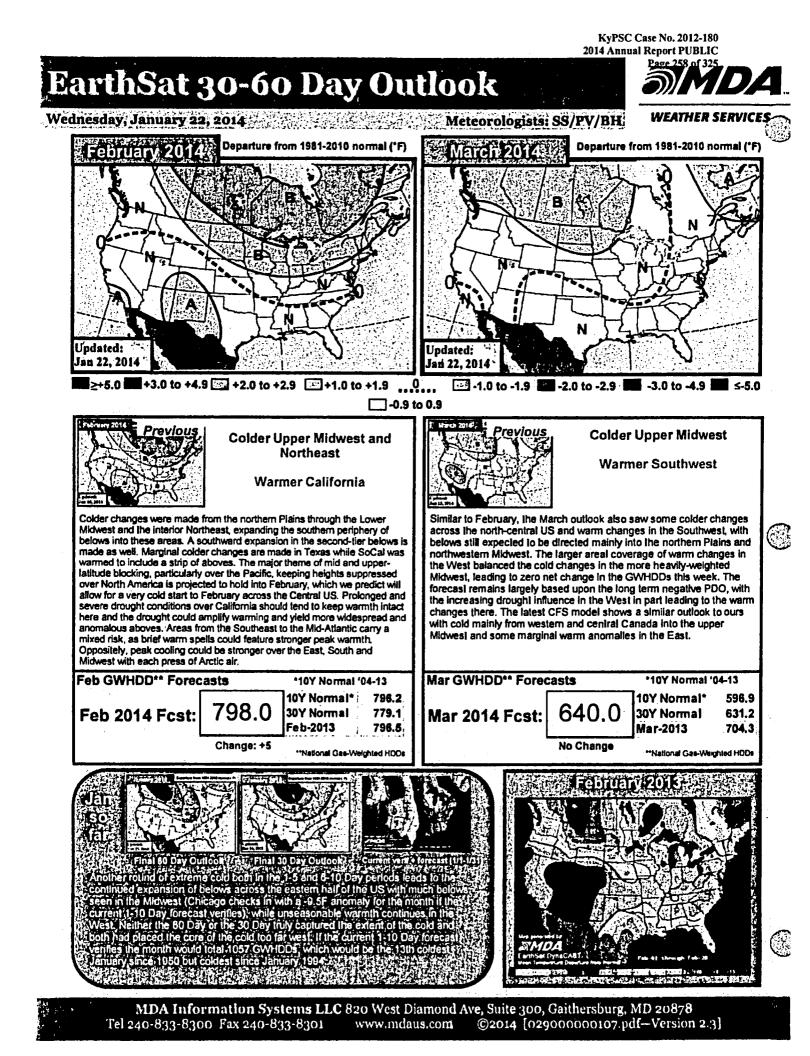
# COMPARISON OF HISTORIC SPOT & PROJECTED PRICE TO CURRENT FUTURES PRICES

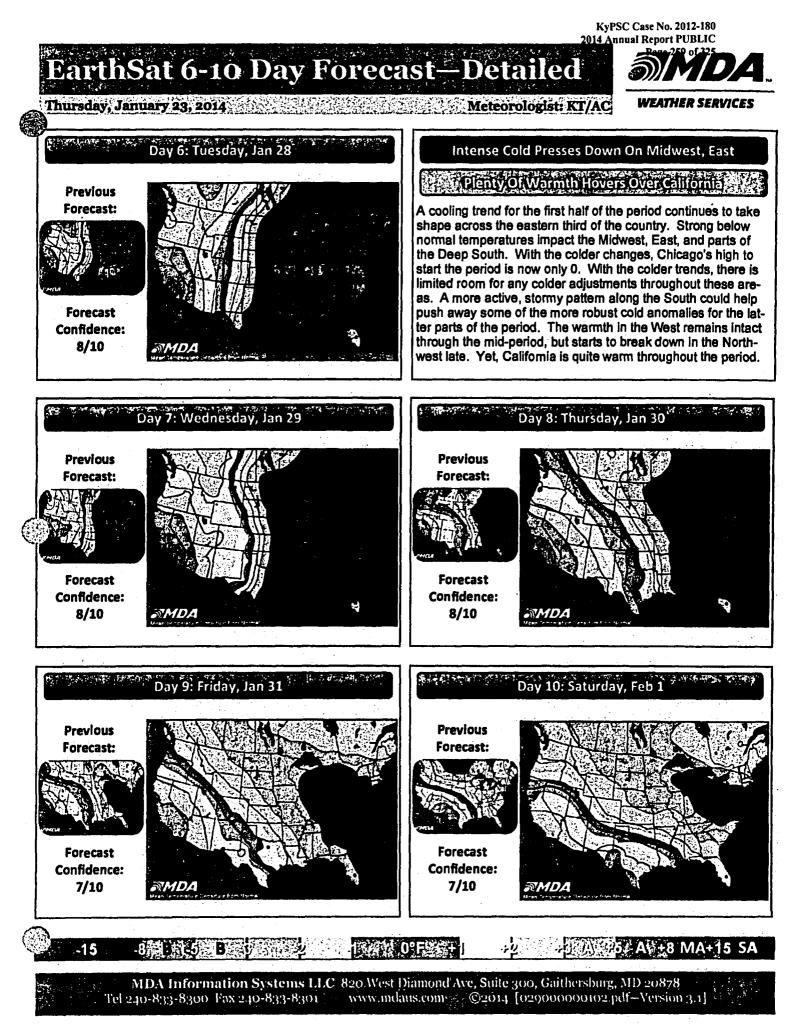
		ic Prices:			
		osing Price		···	
	5-yr. avg.	Last Year	PIRA	EIA	NYMEX
	(09/10-13/14)	(2013-2014)	20-Dec-13	7-Jan-14	23-Jan-14
Feb	\$3.99	\$3.35		\$4.130	\$4.916
Mar	\$3.71	\$3.23		\$3.900	\$4.719
Apr	\$3.58	\$3.43		\$3.720	\$4.334
May	\$3.63	\$3.98		\$3.580	\$4.289
Jun	\$3.72	\$4.15		\$3.700	\$4.309
Jul	\$3.90	\$4.15		\$3.830	\$4.328
Aug	\$3.80	\$3.71		\$3.850	\$4.335
Sep	\$3.31	\$3.46		\$3.850	\$4.322
Oct	\$3.57	\$3.57		\$3.870	\$4.334
Nov	\$3.61	\$3.50		\$4.000	\$4.368
Dec	\$3.93	\$3.50		\$4.080	\$4.461
Jan	\$4.18	\$4.41		\$4.180	\$4.544
12 Month Avg	\$3.74	\$3.70		\$3.891	\$4.438
	er Average	,		\$3.771	\$4.322
Winter /	Average			\$4.058	\$4.602

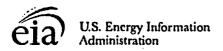


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# Weekly Natural Gas Storage Report

for week ending January 17, 2014 | Released: January 23-2014 at 10:30 a m | Hext Release: January 30-2014

Summary text CSV JSNWorking gas in underground storage, lower 48 states

						Historical C	ompariso	ns
		billion	Stocks cubic feet (Bcf)			ar ago 1/17/13)		og-2013)
Region	01/17/14	01/10/14	net change	Implied flow	(Bcf)	% change	(Bcf)	% change
East	1,187	1,254	87	-67	1,531	-22 5	1,440	-17 8
West	349	364	-15	-15	422	-17.3	390	-10 5
Producing	887	912	-25	-25	1,068	-18.9	962	-78
Salt	213	211	2	2	262	-18.7	177	20 3
Nonsalt	674	701	-27	-27	805	-16.3	785	-14.1
Total	2,423	2,530	-107	-107	3,021	-19.8	2,792	-13.2

The U.S. Energy Information Administration (E(A) has implemented publication of the new Weekly Natural Gas Storage Report (WNGSR) web products. Details about changes to the Weekly Natural Gas Storage Report (WNGSR) can be found at: http://ir ela.gov/ngs/notice.html.

#### Summary

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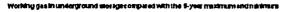
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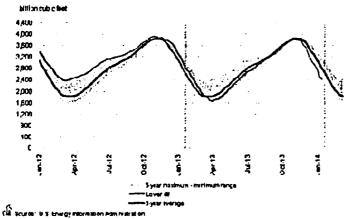
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Working gas in storage was 2.423 Bcf as of Friday, January 17, 2014, according to EIA estimates. This represents a net decline of 107 Bcf from the previous week. Stocks were 598 Bcf less than last year at this time and 369 Bcf below the 5year average of 2,792 Bcf. In the East Region, stocks were 253 Bcf below the 5-year average loftowing net withdrawals of 67 Bcf. Stocks in the Producing Region were 75 Bcf below the 5-year average of D62 Bcf after a net withdrawal of 25 Bcf. Stocks in the West Region were 41 Bcf below the 5-year average after a net drawdown of 15 Bcf. At 2,423 Bcf, total working gas is below the 5 year historical range.

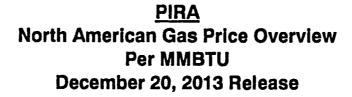


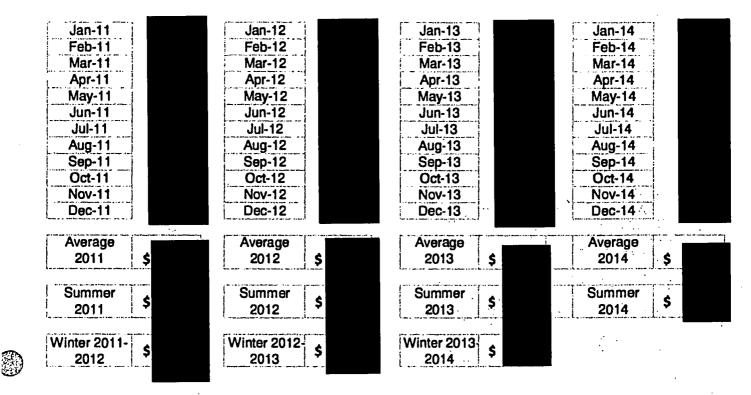


Note: The shaded area indicates the range between the historical informum and maximum values for the weekly series from 2009 through 2013.

Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report" The dashed vertical lines extinate current and year ago weekly periods

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North American Gas Forecast Monthly

December, 20, 2013

NATURAL GAS

# U.S. GAS PRICE SCORECARD: JANUARY 2014 - OCTOBER 2014

Bearish Neutral Bullish

	4

# **Price Projections**

# Cold, Exports Prompt Analyst to Raise Price Call-1/23/2014

"A Hail Mary pass of frigid artic weather, increased natural gas shipments to Mexico and more certainty to LNG exports is making analyst Tim Rezvan bullish on the commodity." He has raised his 2014 forecast 6% to \$4.25/Mcf and his 2015 forecast 4% to \$4.40/Mcf.

The storage shortage (14% below 5-year average) is expected to continue and reach below 1.5 Tcf for the first time since April 2008. Adding to demand further out will be exports to Mexico by pipeline and by LNG.

"LNG exports now look more like a 'when' than an 'if'—we have long been skeptical the LNG exports would materialize on schedule, due to financing and regulatory concerns. However, Cheniere Energy appears to be on schedule to begin liquefaction from the first two of its four fully contracted liquefied natural gas trains by year-end 2015."

# Run on Storage Keeping Winter Markets Aloft-1/17/2014

Unexpectedly harsh weather has taken a huge bite out of storage, sending cash and forward prices soaring and likely keeping prices propped up for the remainder of the winter. Storage withdrawals so far this heating season have been a whopping 71% larger than last year. The cold has helped keep the supply/demand balance relatively tight and prices aloft.

The Henry Hub cash price this morning (Jan 23) is \$4.91 up from \$3.455 on November 1st. According to one trader, "Higher prices have given drillers the opportunity to hedge and drill some more, which could lead to production ramping up more than expected and assuage supply concerns. Who knows what we'll see on the back end with weather, but assuming normal conditions, I think we'll be back to \$3.50 in about four months."

# **Miscellaneous Information**

# Despite Downturn in Gas Rig Count, Production Likely to Keep Growing—January 17, 2014

"US gas production continued its steady, shale-fueled climb throughout 2013—and is expected to stay on that path this year—despite a significant drop in the number of gasdirected drilling rigs."

According to Baker Hughes, the gas rig count dropped from 439 at the beginning of 2013 to 357 as of January 10, 2014—a decline of 19%.

Domestic production hit record levels surpassing 83 Bcf/d at the end of October, due to prolific shale wells. EIA predicts Marcellus output will hit 14 Bcf/d this month providing some 20% of the nation's gas supply. Average gas production per rig in the Marcellus continues to rise. "This development simply reaffirms our view that 2014 will witness domestic production gains of roughly 1 Bcf/d over the prior year, despite the reduction in rigs operating in the field."

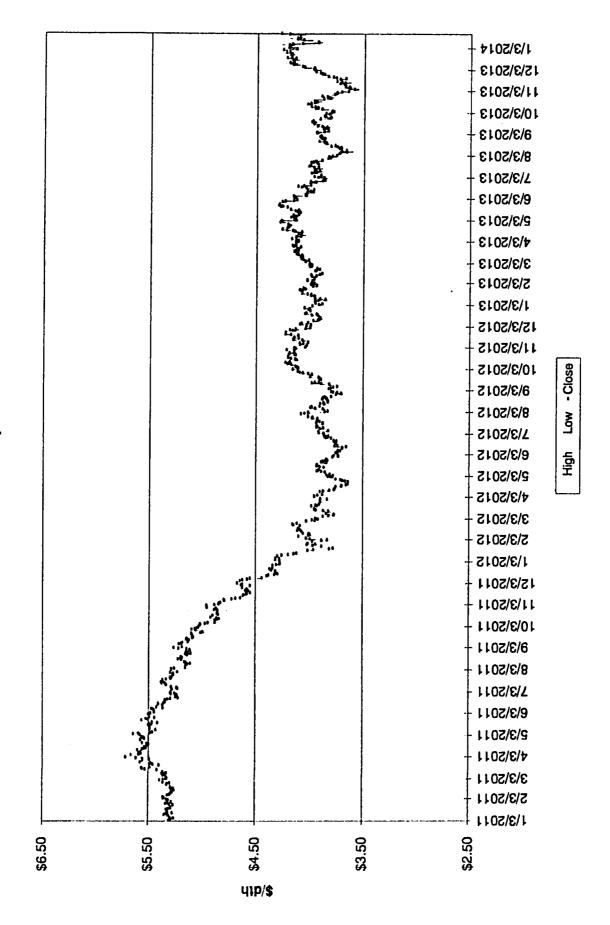
# Gas Demand Growth Forecasts to 2020 Likely Overstated—January 17, 2014

Forecasts for natural gas demand growth through 2020 may be overstated, meaning the market will remain bearish amid strong production and lagging pipeline build out according to Credit Suisse.

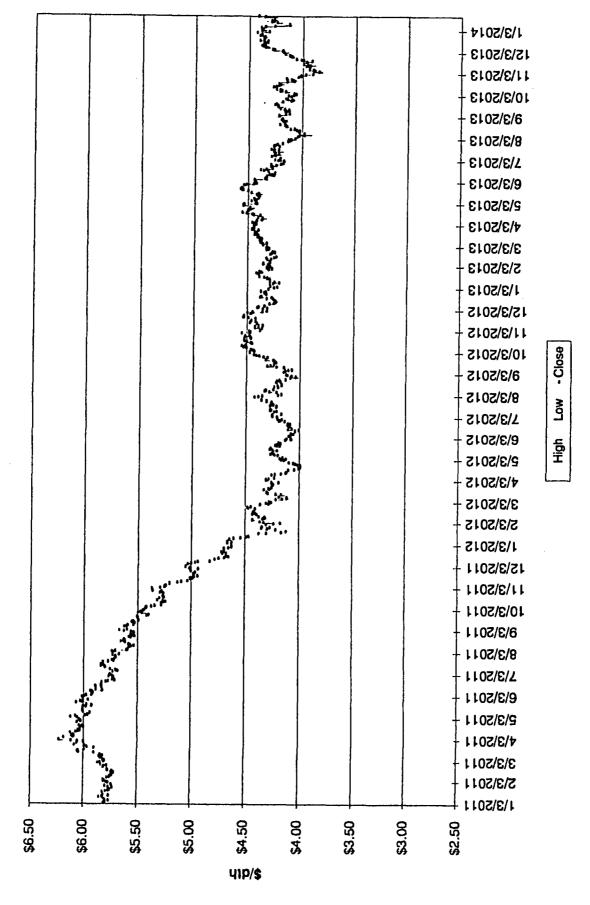
"I think it is still very difficult to spin a structurally bullish story out of the current weather events." "The hefty draw on storage gas sets us up for a more interesting injection season than in the past. But given the production growth in shale plays that shows little sign of slowing, that level of refill will not likely pose much of a challenge for the E&P industry. We should easily be able to do that."

# Energy Information Administration Henry Hub Pricing Per MMbtu January 7, 2014 Release

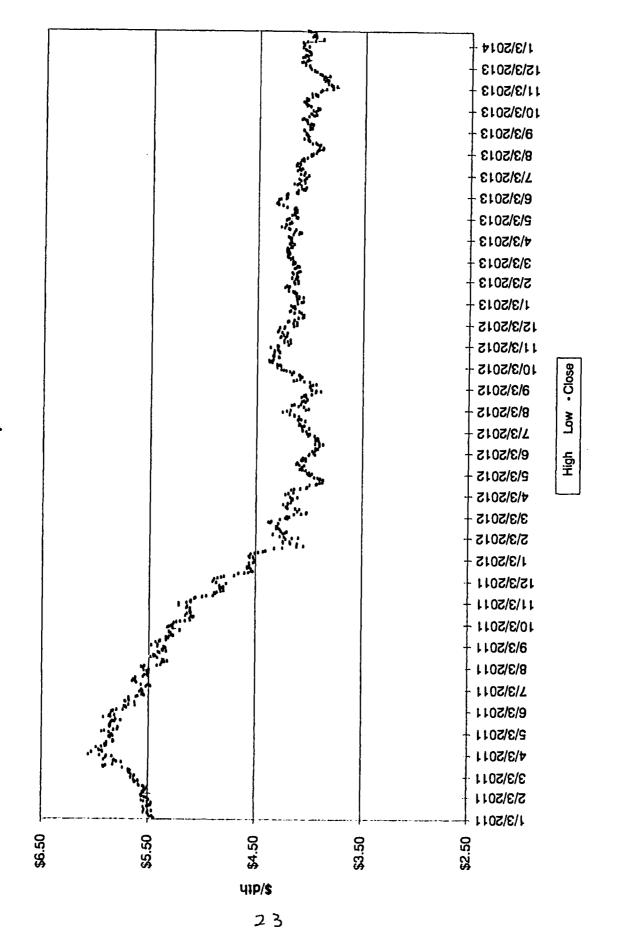
Winter 2012- 2013	\$	3.470	Winter 2013 2014	\$	4.024	Winter 2014- 2015	\$	4.084			
Summer 2012	\$	2.686	Summer 2013	\$	3.770	Summer 2014	\$	3.771	Summer 2015	\$	4.026
Average 2012	\$	2.753	Average 2013	\$	3.728	Average 2014	\$	3.893	Average 2015	\$	4.109
Dec-12		3.34	Dec-13		4.24	Dec-14		4.08	Dec-15		4.46
Nov-12		3.54	Nov-13	1	3.64	Nov-14		4.00	Nov-15		4.33
Oct-12		3.32	Oct-13	1	3.68	Oct-14	!	3.87	Oct-15	ļ	4.21
Sep-12	1	2.85	Sep-13	1	3.62	Sep-14	1	3.85	Sep-15	1	4.10
Aug-12	1	2.84	Aug-13		3.43	Aug-14		3.85	Aug-15	; ;	4.11
Jul-12	]	2.95	Jul-13	1	3.62	Jul-14		3.83	Jul-15	•	4.09
Jun-12	1	2.46	Jun-13		3.83	Jun-14	(	3.70	Jun-15	1	3.98
May-12		2.43	May-13	1	4.04	May-14	•	3.58	May-15	;	3.81
Apr-12	1	1.95	Apr-13		4.17	Apr-14	1	3.72	Apr-15	1	3.88
Mar-12		2.18	Mar-13	Ì	3.81	Mar-14	1	3.90	Mar-15		4.01
Feb-12		2.50	Feb-13		3.33	Feb-14	:	4.13	Feb-15	:	4.15
Jan-12	j	2.67	Jan-13	ł	3.33	Jan-14		4.21	Jan-15	!	4.18



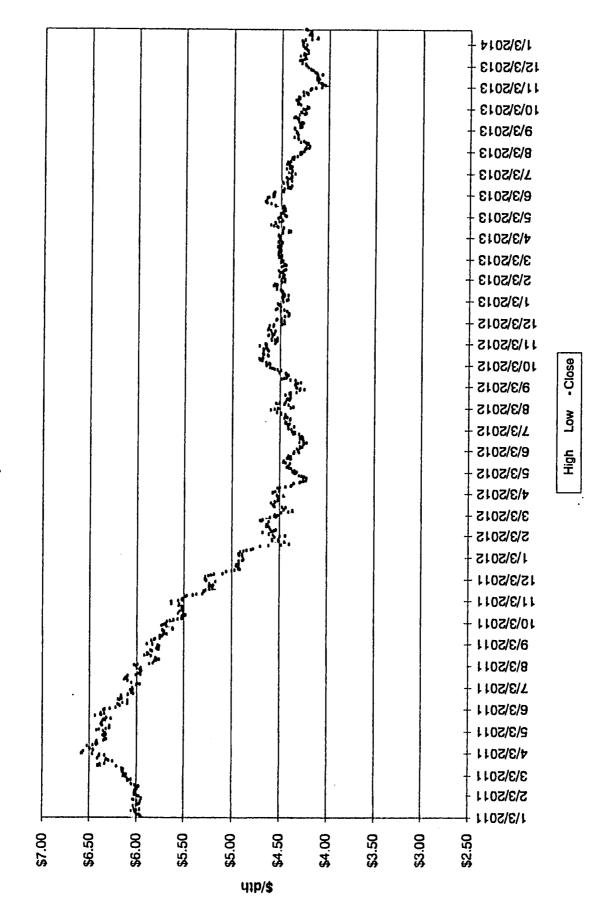
# Summer Strip 2014



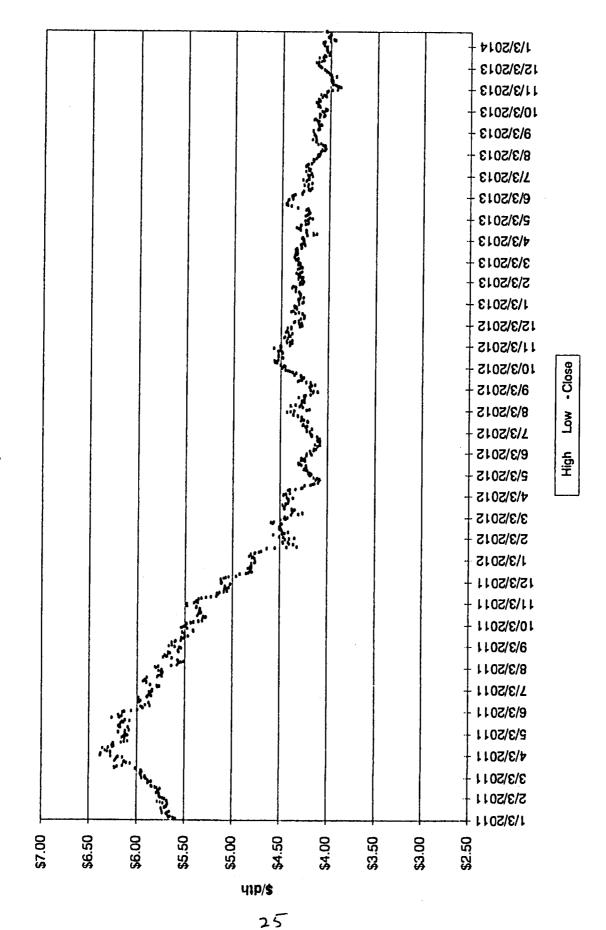
Winter Strip Nov14 - Mar15



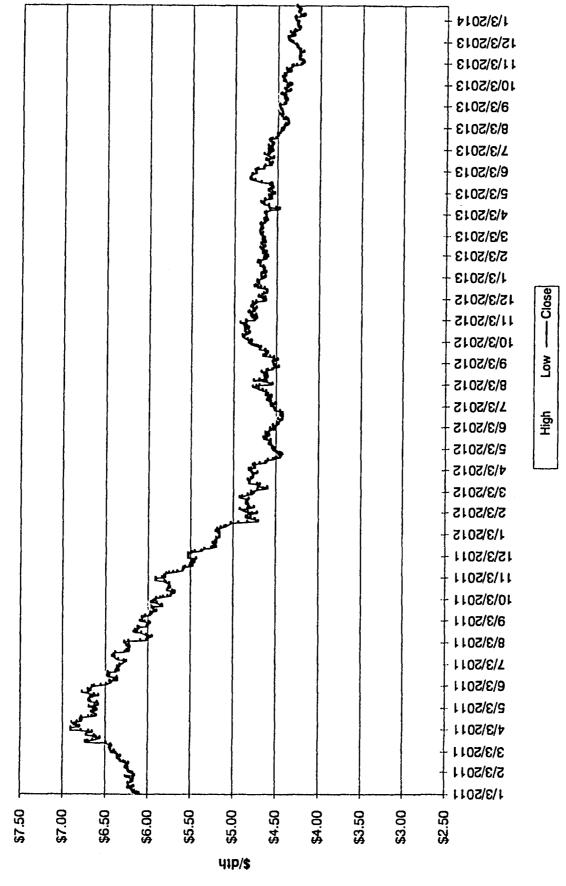
Summer Strip 2015



Winter Strip Nov15 - Mar16



Summer Strip 2016



Winter Strip Nov16 - Mar17



# Independent Statistics & Analysis U.S. Energy Information Administration

# **Short-Term Energy Outlook (STEO)**

**Natural Gas** 

# U.S. Natural Gas Consumption.

ElA expects that total natural gas consumption to average a record high 71.2 billion cubic feet per day (Bcf/d) in 2013, an increase of 1.5 Bcf/d (2.1%) from the previous year. Projected natural gas consumption falls by 1.6 Bcf/d (2.2%) in 2014 because of the forecast 4.6% decline in heating degree days and lower natural gas use by the electric power sector. In 2015, natural gas consumption increases by 1.4 Bcf/d with growth in use by the industrial and electric power sectors. The projected year-over-year increases in natural gas prices contribute to declines in natural gas used for electric power generation from 24.9 Bcf/d in 2012 to 22.3 Bcf/d in 2013 and 21.7 Bcf/d in 2014. However, as retirements of coal power plants rise in 2015 in response to the implementation of the Mercury and Air Toxics Standards, ElA expects natural gas consumption in the power sector to increase to 22.6 Bcf/d.

# U.S. Natural Gas Production and Trade.

<u>EIA expects natural gas marketed production will grow at an average rate of 2.1% in 2014 and 1.3% in</u> <u>2015. Rapid Marceilus production growth is causing natural gas forward prices in the Northeast to fall</u> <u>even with or below Henry Hub prices outside of peak-demand winter months.</u> Consequently, some drilling activity may move away from the Marcellus back to Gulf Coast plays such as the Haynesville and Barnett, where prices are closer to the Henry Hub spot price. EIA projects Gulf of Mexico production will continue a long-term decline and fall slightly in 2014 and moderately in 2015.

<u>LNG imports have declined over the past several years because higher prices in Europe and Asia are</u> more attractive to sellers than the relatively low prices in the United States. Several companies are planning to build liquefaction capacity to export LNG from the United States. <u>The first of the new</u> facilities to liquefy gas produced in the lower-48 states for export is expected to partially come online in the fourth quarter of 2015.

# U.S. Natural Gas Inventories.

Natural gas working inventories fell by 97 Bcf to 2,974 Bcf during the week ending December 27, 2013. Colder-than-normal temperatures during the month resulted in increased heating demand, prompting larger-than-normal withdrawals, and the highest withdrawal on record. <u>Stocks are now 562 Bcf less than</u> last year at this time and 289 Bcf less than the five-year (2008-12) average for this time of year. Ç

# **Crude Oil Prices**

Brent crude oil spot prices averaged between \$108/bbl and \$112/bbl for the sixth consecutive month in December 2013 at \$111/bbl. <u>EIA expects the Brent crude oil price to weaken as non-OPEC supply growth exceeds growth in world consumption. The Brent crude oil price is projected to average \$105/bbl and \$102/bbl in 2014 and 2015, respectively.</u>

The forecast WTI crude oil spot price, which fell from an average of \$106/bbi during September to \$94/bbl in November, increased to \$98/bbl in December as a result of strong U.S. refinery runs. EIA expects that WTI crude oil prices will average \$93/bbl in 2014 and \$90/bbl during 2015. The discount of WTI crude oil to Brent crude oil, which averaged \$18/bbl in 2012 and then fell to below \$4/bbl in July 2013, averaged \$12/bbl during the fourth quarter of 2013.

#### Duke Energy Hedging Program Remaining Base Not Yet Locked in Winter 2013-14

	••••••••					%
		Dth/Day				System
November	December	January	February	March	Total	Supply

#### Duke Energy Ohio Previously Hedged

Col Gulf Mainline
Col Gulf Malnline
Col Guif Mainline
Gulf South
Tex Gas Zone 1

Total System Supply

## Duke Energy Kentucky

Previously Hedged

Col Guif Mainline Col Guif Mainline Col Guif Mainline

Total System Supply

<u>Duke Energy-Totai</u> Previously Hedged Total





#### Gas Resources Hedging Program Market indicators Summary February 20, 2014

	Price	Term	Comments	Page
Weather	Pressure			Ref
Long Term Forecast (Apr 14Jun 14)	<b>+</b>	Long	NOAA predicting above average temperatures for April 2014June 2014 for the majority of the CONUS.	12
Mid Term Forecast (30-60 days)	t	Long	March is predicted to be 12.2% colder than normal based on 10 year normals and April weather is predicted to be 9.3% colder than normal.	13
Short Term Forecast (6-10 days)	t	Short	Above normal temperatures across the western portion of CONUS and below normal temperatures across the majority of the rest of the CONUS.	14
Storage Inventory				
EIA Weekly Storage Report	t	Long	Storage withdraws for the week ending February 14th were 250 Bcf. Storage levels are at 1.443 TCF which is 40.3% lower than last year and 33.9% lower than the 5 year average.	15
ndustry Publications				
PIRA Energy Group Winter 2013/14: Second Summer 2014: Second	ł	Long	GAS PRICE SCORECARD: April 2014October 2014 Gas Price Outlook "Neutral" based on fundamentals such as "Ejectric Generation", and "Residential/Commercial Demand".	16-17
Gas Daily & PIRAPrice Projections	f	Long	PiRA is comparing anticipated storage levels to levels late in the 1st quarter of 2003 when prices nearly doubled from mid-\$5 to over \$10. PIRA forecasts ending storage balance to be between 1.16 Tcf to 1.18 Tcf with a year to year deficit widening to over 900 Bcf. PIRA believes the opportunity for bullish Henry Hub price during Bidweek. Goldman Sachs increases 2014 NYMEX forecast by \$.025 to \$4.50/MMBtu and lowering storage level to 1.198 Tcf. According to GS there is a need for higher production to reach comfortable inventory levels by Nov. 1st.	18
Gas DailyRefilling Storage	t	Long	More analysts predicting end of withdrawal season at 1.2 Tcf. As a result, there is a need for demand destruction and supply growth of 2 Bcf/d. Citi Research questions that supply will increase to meet demands citing reduced imports from Canada, pipeline constraints and lag time to move rigs.	19
Bovernment Agencies				
Energy Information Administration Winter 2014/15: \$4,138 Summer 2014: \$3.989	Ļ	Long	The projected Henry Hub natural gas spot price averages \$4.166/MMBtu for 2014 and \$4.108/MMBtu for 2015.	20
Technical Analysis				
Summer 2014 Strip Chart		Short	Closed at \$4.78	21
Winter 2014-15 Strip Chart	1	Short	Closed at \$4.88	22
Summer 2015 Strip Chart	<b>+</b>	Short	Closed at \$4.01	23
Winter 2015-16 Strip Chart	<b>•</b> •	Short	Closed at \$4.27	24
Summer 2018 Strip Chart	<b>•</b> •	Short	Closed at \$3.99	25
Winter 2016-17 Strip Chart	<b>▲</b> →	Short	Closed at \$4.29	26
Economy			EIA projects total natural gas consumption will average 70.2 Bcf/d in 2014.	
Demand	<b>←→</b>	Long	The projects total natural gas consumption will average 70.2 octo th 2014. The projected year-over-year increases in gas prices contribute to declines in gas used for electric generation from 22.3 Bcf/d in 2013 to an estimated 21.7 Bcf/d in 2014.	27-28
Supply	<b>←→</b>	Long	Total marketed production expected to increase from 2.2% in 2014 and 1.2% in 2015.	27-28
Oil Market	<b></b>	Long	Brent crude projected to average \$105 per barrel in 2014 and \$101 per barrel in 2015. EIA expects WTI crude to average \$93 per barret in 2014 and \$90 in 2015.	27-28

Meeting Minutes: 426 Annex Conference Room - 1:00 pm

Attendees: Jim Mehring, Joachim Fischesser, Mitch Martin, Rick Colvin, Jeff Kern, Steve Niederbaumer

Discussed current market conditions (continued run-up in prices) including current weather forecasts (extended extreme coid), storage levels (including estimate of 1.1 to 1.2 Tcf balance by the end of March) and various analysts projections, challenges for retilling storage as well as EIA's forecasts for Supply and Demand of the Natural Gas markets and Oil prices. Discussed the current hedging positions for both DEO and DEK. Significant discussion took place regarding the run-up of prices for the Summer 2014 and Winter 14/15 strips while pricing for the remaining strips we follow were flat. Based on the discussion, a determination was made to hedge additional volumes for those later periods.

#### Duke Energy Kentucky Hedging Program - Current Position November 2013 - October 2014 As of 02/18/14

Load Forecast	Nov-13 Dec-13 Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14
City Gate Load Forecast (Mcf)										
TCO FSS Injections (Mcf) Total Requirements (Mcf)										
TCO FSS Withdrawals (Mcf)										
Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)										
Amount Hedged (dth/day)										
Fixed Price										
Fixed Price										
Fixed Price										
Fixed Price										
Total Hedged (dth/day)										
Total Hedged (dth)										
Types of Hedging Products (1)										
Fixed Price	-									
Pnce Caps No-Cost Collars										
Embedded Hedged Cost Winter										
Summer										
Estimated System Supply (Gross) Hedged % of System Supply										
Seasonal % of System Supply										
Amt Hedged with Storage @ City Gate Hedged (City Gate) (Dth)	<u>9</u>									
Storage Withdrawal (Dth)										
Market (Dth)										
Total (incl. Injections) (Dth) % Hedged & Storage										
Seasonal %										

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.



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### Duke Energy Kentucky Hedging Program - Current Position November 2014 - October 2015 As of 02/18/14

	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Dct-15
Load Forecast City Gate Load Forecast (Mcf)			-									
TCO FSS Injections (McI)												
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
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Total Hedged (dth)												
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Types of Hedging Products (1) Fixed Price												
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Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage Seasonal %												
(1) Maximum percentage allowed per type	of hedging pro	duct is 25% f	or Winter mo	nths and 40%	Summer mor	nths.						

KyPSC Case No. 2012-180 2014 Annual Report PUBLIC Page 277 of 325

### Duke Energy Kentucky Hedging Program - Current Position November 2015 - October 2016 As of 02/18/14

Load Forecast	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16
City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)												
Amount Hedged (dth/day) Fixed Price ( TBD TBD Total Hedged (dth/day) Total Hedged (dth)												
<u>Types of Hedging Products (1)</u> Fixed Price Price Caps No-Cost Collars												
Embedded Hedged Cost Winter Summer												
Estimated System Supply (Gross) Hedged % of System Supply Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate Hedged (City Gate) (Dth) Storage Withdrawal (Dth)												
Market (Dth) Total (incl. Injections) (Dth) % Hedged & Storage Seasonal %												
(1) Maximum percentage allowed per type	of hedging pro	duct is 25% fo	or Winter moi	nths and 40%	Summer mon	iths.						

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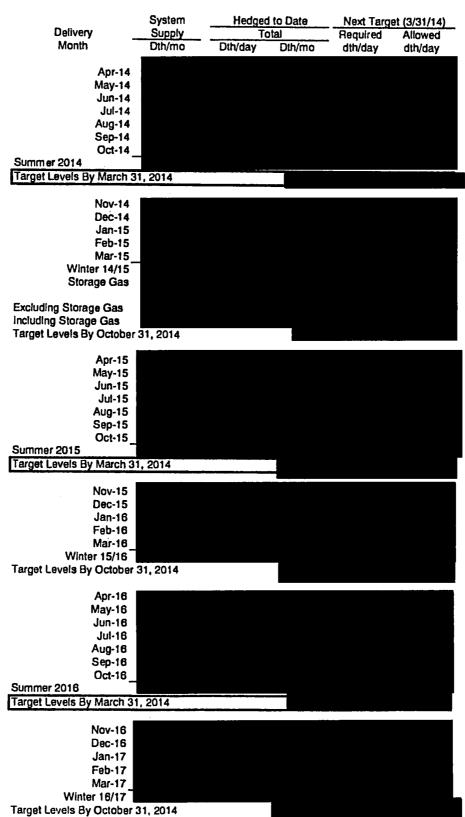
#### Duke Energy Kentucky Hedging Program - Current Position November 2016 - October 2017 As of 02/18/14

Land Farmant	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17
Load Forecast City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf) Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
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Total Hedged (dih/day) Total Hedged (dih)												
Types of Hedging Products (1)												
Fixed Price Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter Summer												
Estimated System Supply (Gross) Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth) Total (incl. Injections) (Dth)												
% Hedged & Storage Seasonal %												

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

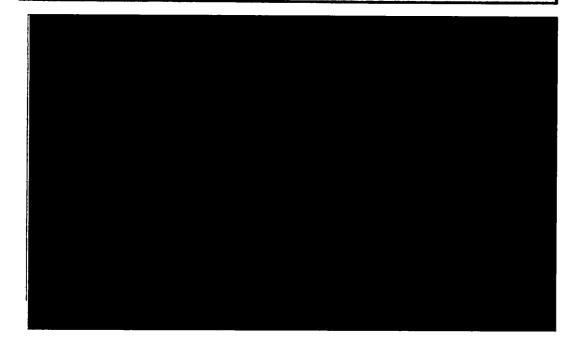
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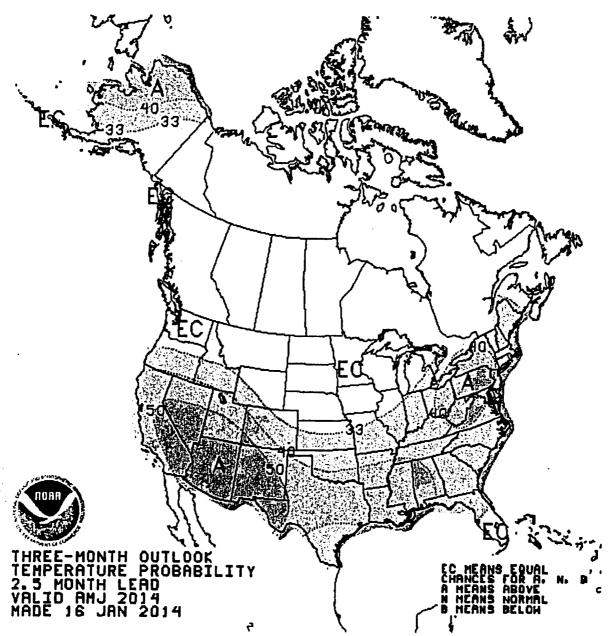
#### Duke Energy Kentucky Hedging Program Current Position

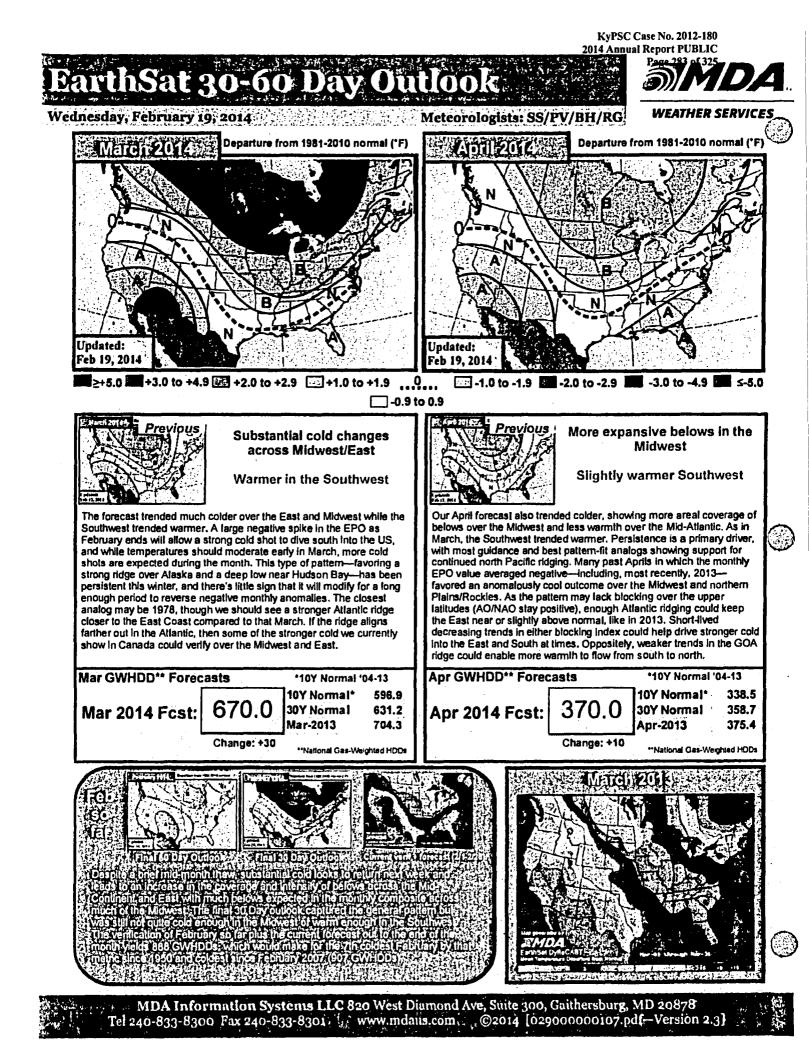


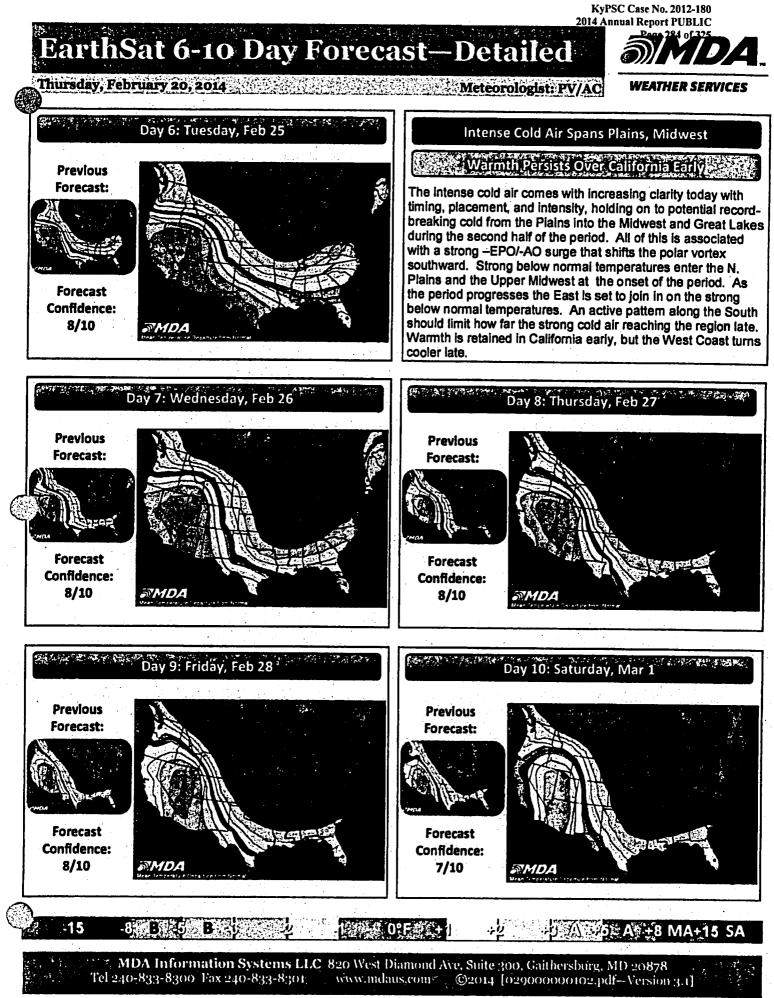
# COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

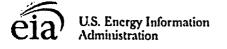
		ic Prices:				
		osing Price				
	5-yr. avg.	Last Year	PIRA	EIA	NYMEX	Hedged Prices
	(09/10-13/14)	(2013-2014)	28-Jan-14	11-Feb-14	20-Feb-14	Ohio Kentuc
Mar	\$3.71	\$3.43		64.000	AC 050	
Apr	•• <b>I</b>	\$3.98		\$4.320 \$4.010	\$6.050 \$4.897	\$ \$
May		\$4.15		\$3.830	\$4.738	ŝ
Jun	\$3.72	\$4.15		\$3.930	\$4.747	\$
Jul	\$3.90	\$3.71		\$4.050	\$4.772	\$
Aug		\$3.46		\$4.050	\$4.790	\$
Sep	\$3.31	\$3.57		\$4.030	\$4.748	\$
Oct	\$3.57	\$3.50		\$4.020	\$4.699	\$
Nov	\$3.61	\$3.50		\$4.130	\$4.795	\$
Dec	\$3.93	\$3.82		\$4.160	\$4.854	\$
Jan	\$4.18	\$4.41		\$4.200	\$4.989	\$
Feb	\$4.21	\$5.56		\$4.170	\$4.970	\$
2 Month Avg	\$3.76	\$3.93	·····	\$4.075	\$4.921	
	ər Average			\$3.989	\$4.770	
Winter /	Average			\$4.196	\$5.132	











#### Weekly Natural Gas Storage Report

for week ending February 14, 2014 (). Released: Evolution 30, 2014 as 10,30 a m (). Next Release: Evoluting 27, 2014

#### Summary text CSV JSNWorking gas in underground storage, lower 48 states

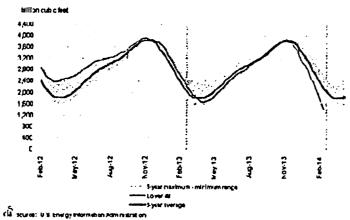
						Historical C	ompariso	ns
		billion	Stocks cubic feet (Bcf)			tur ago 2/14/13)	5-Year average (2009-2013)	
Region	02/14/14	02/07/14	net change	Implied flow	(8cf)	% change	(13 cf)	% change
East	685	814	-129	-129	1,119	-38.8	1,049	-34.7
West	229	259	-30	-30	369	-37 9	329	-30 4
Producing	529	620 R	-91	-91	930	-43.1	806	-34 4
Salt	17	109	32	-32	226	65.9	139	-446
Nonsalt	452	510 R	-58	-58	703	-35.7	667	-32.2
Total	1,443	1,693 R	-250	-250	2,418	-40.3	2,184	-33.9

R=Revised. Resubmissions of data resulted in increasing estimates of working gas stocks in the Producing Nonsalt region by approximately 7 Bcf for the week ending February 07, 2014. The reported revision caused the stocks tor February 07, 2014 to change from 1,686 Bcf to 1,693 Bcf.

#### Summary

Working gas in storage was 1.443 Bcf as of Friday, February 14, 2014, according to EtA estimates. This represents a net decline of 250 Bcf from the previous week. Stocks were 975 Bcf less than last year at this time and 741 Bcf below the 5year everage of 2.164 Bcf. In the East Region, stocks were 964 Bcf below the 5-year average following net withdrawels of 129 Bcf. Stocks in the Producing Region were 277 Bcf below the 5-year average of 806 Bcf aher a net withdrawel of 91 Bcf. Stocks in the West Region were 100 Bcf below the 5 year average after a net drawdown of 30 Bcf. At 1.443 Bcf, total working gas is below the 5-year below.





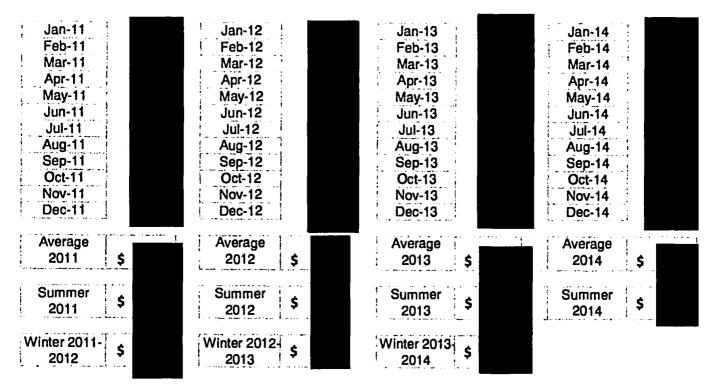
Note: The shaded area indicates the range between the historical infrienzitiand neurinum values for the weikly serve from 2009 through 2013.

Source: Form EIA 912 "Weakly Underground Natural Cas Storage Report " The dashed vertical lines articate current and year ago weakly psinds.





### PIRA North American Gas Price Overview Per MMBTU January 28, 2014 Release

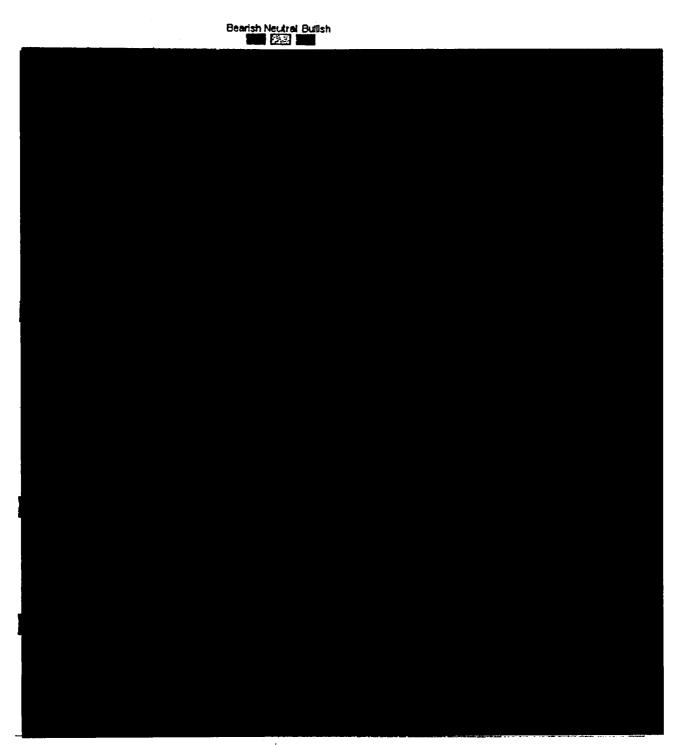


### North American Gas Forecast Monthly

January 28, 2014

NATURAL GAS

# U.S. GAS PRICE SCORECARD: APRIL 2014 - OCTOBER 2014



PIRA Energy Group, 3 Park Avenue, 26<sup>th</sup> Floor, New York, NY 10016-5989 (Tel) 212-686-6808 (Fax) 212-686-6628 www.pira.com <sup>2</sup> For authorized subscribers only. Copyright > 2014 PIRA Energy Group. All rights reserved.

# **Price Projections**

### Waiting for March Bidweek Fireworks—PIRA 2/19/2014

Forecasts of another cold spell point to storage levels triggering intense competition for spot gas during the March Bidweek auction. March weather could push storage down to levels within striking distance of late first quarter 2003. In late February 2003, Henry Hub prices nearly doubled from mid-\$5 to over \$10 as LDC's sought to acquire enough spot gas to sustain deliveries to customers in the advent of an extremely cold March.

PIRA's February Reference Case reflects gas-weighted heating degree days that average 8-10% above the 10-year normal with end-month storage reduced to 1,160 to 1,180Bcf and a year to year deficit widening to over 900 BCF.

"The tremendous run-up of March gas futures within the past several days thus sets the stage for the prospect of even more bullish Henry Hub price fireworks during next week's Bidweek auction."

### Goldman Sachs Lifts 2014 Price Call, Slashes Storage Outlook on Demand--2/14/2014

Goldman Sachs has revised their 2014 NYMEX price forecast by 25 cents to \$4.50/ MMBtu while lowering their March 31<sup>st</sup> storage inventory level by 14% to 1.198 Tcf. Citing weather forecast showing below-normal temperatures for the majority of the US through mid-February as their reason.

The 1.198 Tcf figure "reinforces the need for higher production growth than what we now embed for the year in order for the market to reach comfortable inventories by the end of October 2014." As a result, to incentivize production in the Fayetteville and Haynesville shale's, Goldman estimated that prices will remain elevated in 2014, supporting their \$4.50/MMBtu forecast.

"Goldman noted, however, that since the US storage and delivery system has arguably passed the harshest test ever recorded in terms of winter inventory draws with no widespread delivery issues outside the traditionally bottlenecked areas such as New York the market may increase its tolerance for lower end-October inventory levels than the levels we have observed in recent years." Goldman expects October 31<sup>st</sup> inventory levels at 3.625 Tcf.

# **Storage**

# Refilling Gas Storage to Comfortable Levels Poses Challenges for Market—February 6, 2014

With more analysts projecting that storage levels will end the withdrawal season at 1.2 Tcf or lower the market has begun focusing on the hurdles to refilling storage to a comfortable level by October 31<sup>st</sup>.

According to FirstEnergy Capital, to meet the record injections needed this summer to refill storage we will need some demand destruction and supply growth on average of 2 Bcf/d.

Storage operators have withdrawn 1.641 Tcf so far this season which is 45% more than the 1.127 Tcf withdrawn last year and 38% more than the five-year average of 1.186 Tcf.

IHS CERA indicates that storage inventories will be rebuilt largely by reducing coal displacement in the power sector. That was about 6 Bcf/d of demand in 2013. Reducing this element of demand will result in upward pressure in 2014. With the coming demand surge beginning in 2015, we have likely had our last sub-\$4 year for a while.

Citi Research questions whether supply will increase to meet these demands—citing lower gas exports expected from Canada, continued pipeline constraints out of the Marcellus Shale and the lag time needed to move more rigs into Haynesville and Barnett shale's and away from liquids-rich areas.

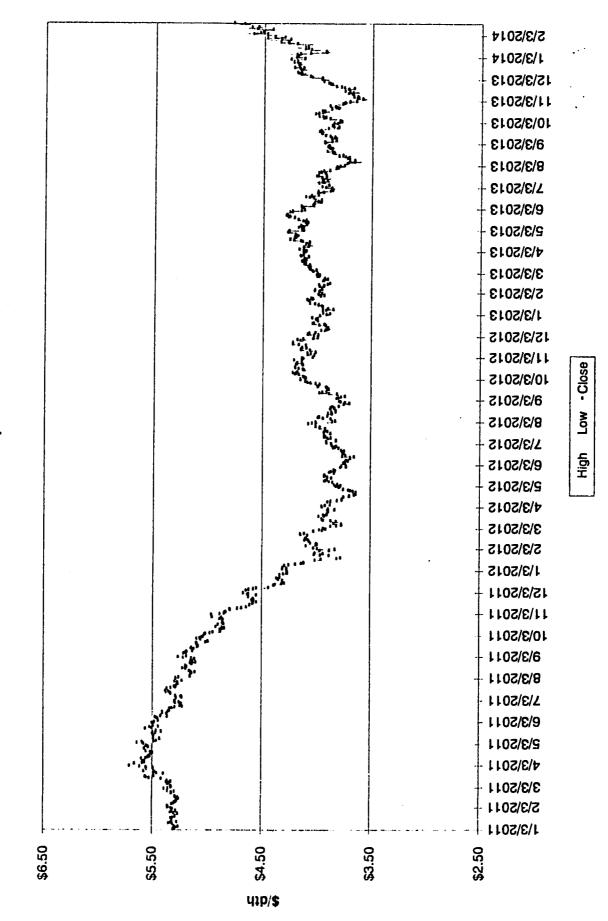
"The much-discussed \$4.50/MMBtu price threshold at which producers could increase gas drilling has not been tested before—with more producers focusing on oil/gas liquids properties yielding higher returns and with the volatile forward curve just barely passing this price threshold, a strong production response is far from certain."

## Energy Information Administration Henry Hub Pricing Per MMbtu February 11, 2014 Release

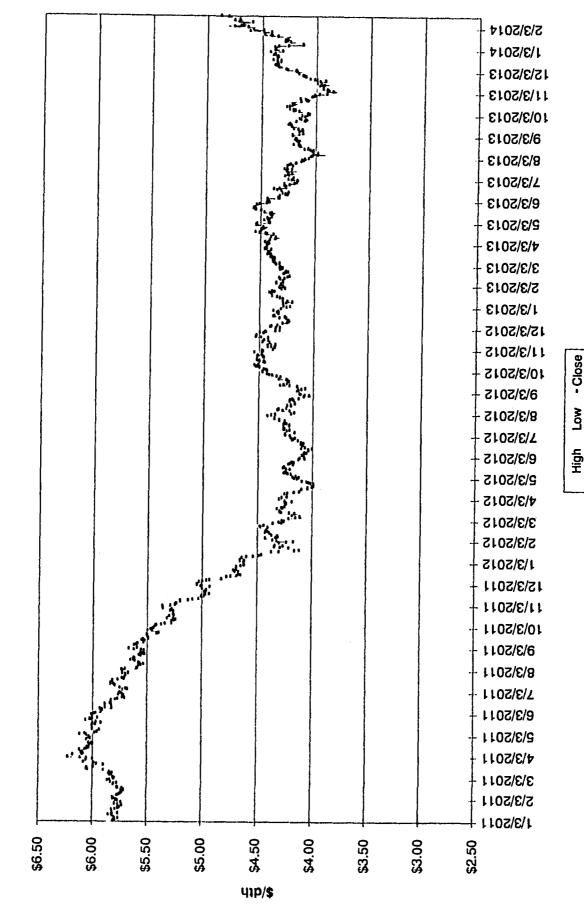
Winter 2012 2013	\$	3.470	Winter 2013 2014	\$	4.332	Winter 2014- 2015	\$	4.136			
Summer 2012	\$	2.686	Summer 2013	\$	3.770	Summer 2014	\$	3.989	Summer 2015	\$	4.033
Average 2012	\$	2.753	Average 2013	\$	3.728	Average 2014	\$	4.166	Average 2015	\$	4.108
Dec-12		3.34	Dec-13		4.24	Dec-14	•••	4.16	Dec-15		4.39
Nov-12		3.54	Nov-13	[	3.64	Nov-14		4.13	Nov-15		4.29
Oct-12		3.32	Oct-13		3.68	Oct-14		4.02	Oct-15	1	4.20
Sep-12		2.85	Sep-13	]	3.62	Sep-14		4.03	Sep-15		4.11
Aug-12	-	2.84	Aug-13	1	3.43	Aug-14		4.05	Aug-15		4.12
Jul-12		2.95	Jul-13	]	3.62	Jul-14		4.05	Jul-15	1	4.10
Jun-12		2.46	Jun-13	i	3.83	Jun-14		3.93	Jun-15		3.99
May-12		2.43	May-13	!	4.04	May-14		3.83	May-15	1	3.82
Apr-12		1.95	Apr-13	<b>f</b> 1	4.17	Apr-14		4.01	Apr-15	ł	3.89
Mar-12		2.18	Mar-13		3.81	Mar-14		4.32	Mar-15	•	4.02
Jan-12 Feb-12		2.67 2.50	Jan-13 Feb-13		3.33 3.33	Jan-14 Feb-14		4.71 4.75	Jan-15 Feb-15	:	4.20 4.17



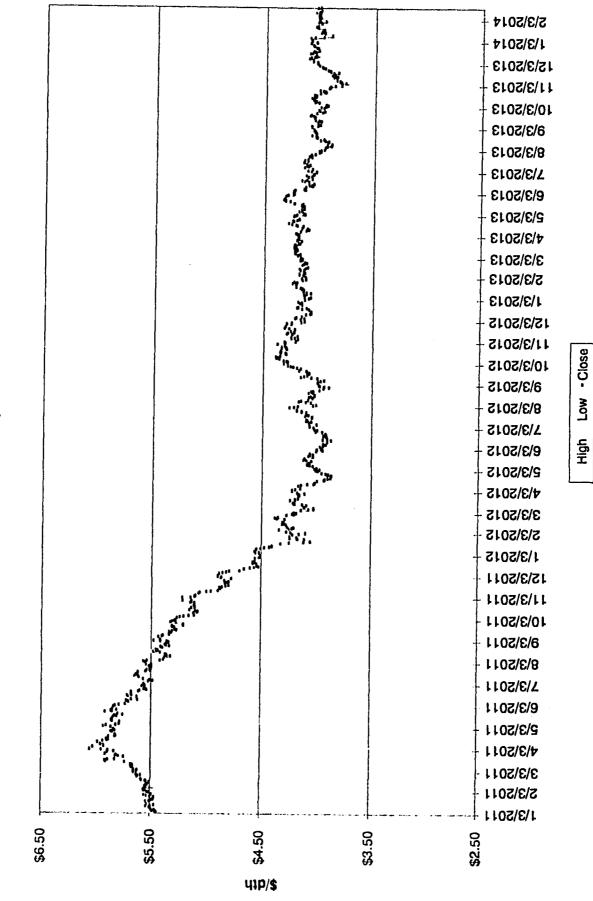
Hedging Meeting 02-20-2014.xlsx



Summer Strip 2014

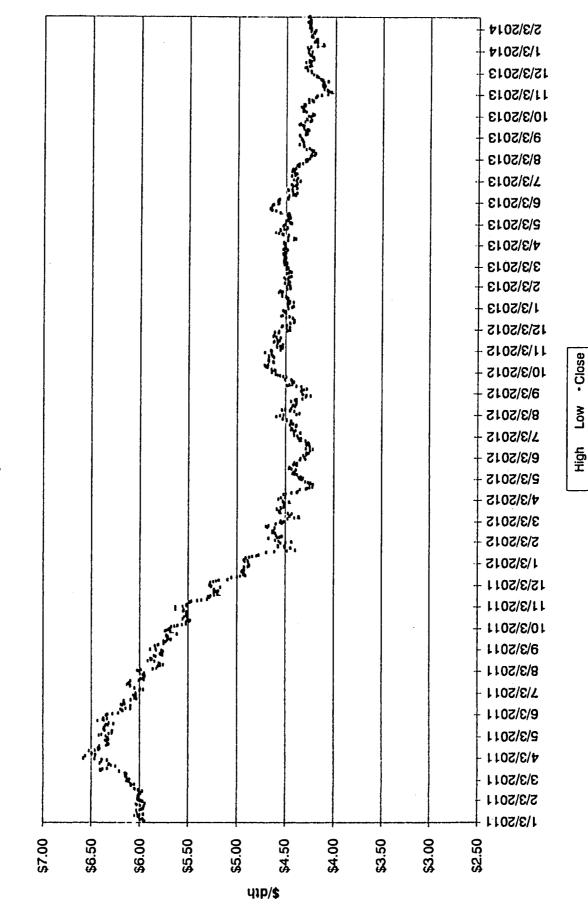


Winter Strip Nov14 - Mar15



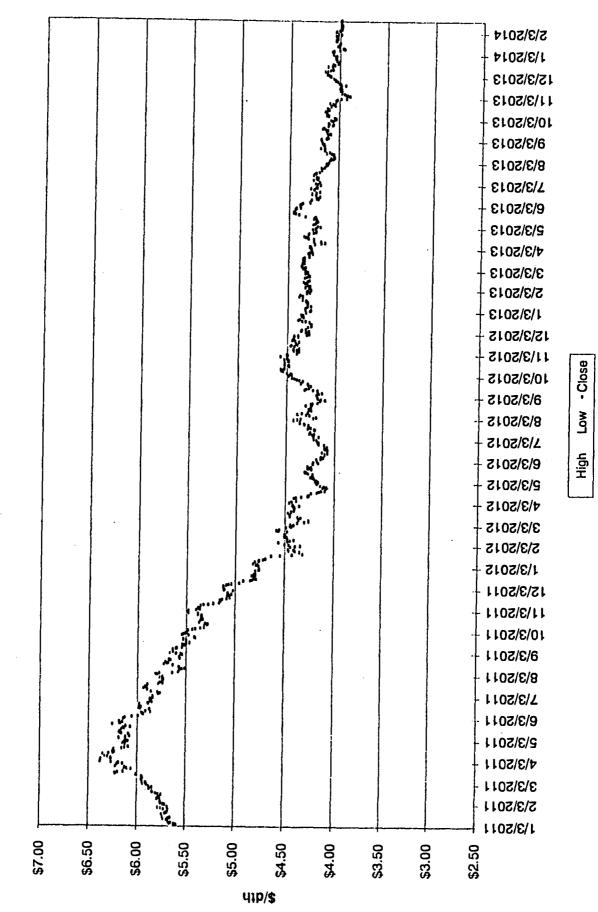
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Summer Strip 2015

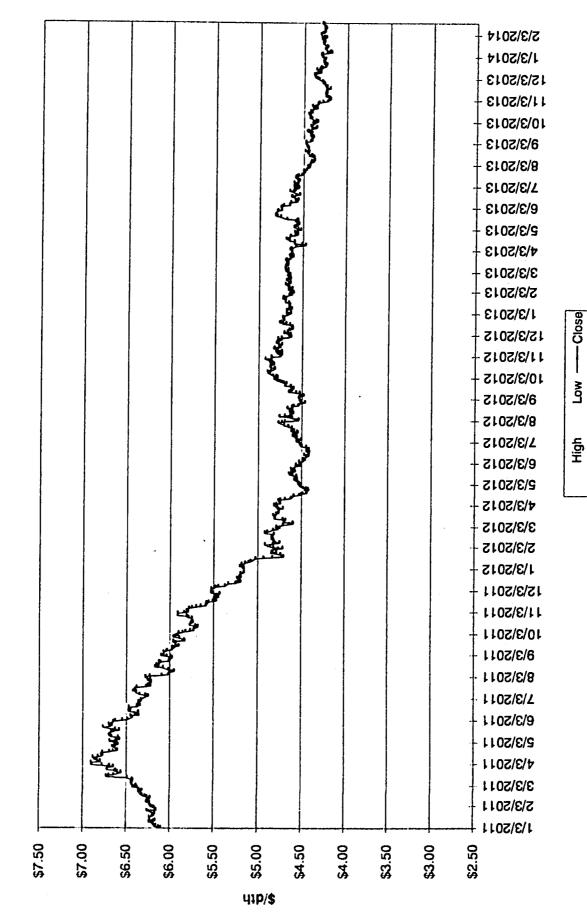


Winter Strip Nov15 - Mar16

24



Summer Strip 2016



Winter Strip Nov16 - Mar17

26



# Independent Statistics & Analysis U.S. Energy Information Administration

# **Short-Term Energy Outlook (STEO)**

### **Natural Gas**

### U.S. Natural Gas Consumption.

EIA expects total natural gas consumption will average 70.2 Bcf/d in 2014. This represents an upward revision of 0.6 Bcf/d from last month's STEO and is largely attributable to an increase in January consumption. The projected year-over-year increases In natural gas prices contribute to declines In natural gas used for electric power generation from 24.9 Bcf/d in 2012 to 22.3 Bcf/d in 2013 and 21.7 Bcf/d in 2014. However, as retirements of coal power plants rise in 2015 in response to the implementation of the Mercury and Air Toxics Standards, EIA expects natural gas consumption in the power sector to increase to 22.6 Bcf/d.

### U.S. Natural Gas Production and Trade.

EIA expects natural gas marketed production will grow at an average rate of 2.2% in 2014 and 1.2% in 2015. RapId Marcellus production growth is causing natural gas forward prices in the Northeast to fall even with or below Henry Hub prices outside of peak-demand winter months. Consequently, some drilling activity may move away from the Marcellus back to Gulf Coast plays such as the Haynesville and Barnett, where prices are closer to the Henry Hub spot price. EIA projects Gulf of Mexico production will increase by 1.7% in 2014 before falling 2.3% in 2015.

Liquefied natural gas (LNG) imports have declined over the past several years because higher prices in Europe and Asia are more attractive to sellers than the relatively low prices in the United States. Several companies are planning to build liquefaction capacity to export LNG from the United States. The first of the new facilities to liquefy gas produced in the Lower-48 states for export is expected to come online in the fourth quarter of 2015.

Growing domestic production over the past several years has replaced pipeline imports from Canada, while exports to Mexico have Increased. EIA expects these trends will continue through 2015. EIA projects net imports of 3.5 Bcf/d in 2014 and 2.6 Bcf/d in 2015, which would be the lowest level since 1987. Over the longer term, the EIA Annual Energy Outlook 2014 projects the United States will be a net exporter of natural gas beginning in 2018.

U.S. Natural Gas Inventories. <u>Natural gas working inventories fell by 262 Bcf to 1,923 Bcf during</u> the week ending January 31, 2014. Colder-than-normal temperatures during the month resulted in increased heating demand, prompting larger-than-normal withdrawals, and a new record high monthly withdrawal (surpassing the previous record set in December 2013). Stocks are now 778 Bcf less than last year at this time and 556 Bcf less than the five-year (2009-13) average for this time of year.

## **Crude Oil Prices**

Brent crude oil spot prices averaged between \$108/bbl and \$112/bbl for the seventh consecutive month in January. <u>EIA expects the Brent crude oil price to weaken as non OPEC supply growth exceeds growth in world consumption. The Brent crude oil price is projected to average \$105/bbl and \$101/bbl in 2014 and 2015, respectively.</u>

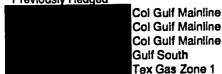
The forecast WTI crude oil spot price, which increased from a monthly average of \$94/bbl in November to \$98/bbl in December because of strong U.S. refinery crude oil runs, fell back to \$95/bbl in January 2014. <u>EIA expects that WTI crude oil prices will average \$93/bbl in 2014 and \$90/bbl during 2015</u>. The discount of WTI crude oil to Brent crude oil, which averaged \$18/bbl in 2012 and then fell below \$4/bbl in July 2013, averaged \$14/bbl in January 2014. <u>EIA expects the discount of WTI crude oil to Brent crude oil.</u> EIA expects the discount of WTI crude oil to Brent crude oil to Brent crude oil to Brent crude get \$11/bbl over the forecast, reflecting the economics of transporting and processing the growing production of light sweet crude oil in U.S. and Canadian refineries.

%

#### **Duke Energy** Hedging Program Remaining Base Not Yet Locked In Winter 2013-14

		Dth/Day			System		
November	December		February	March	Total	Supply	

#### Duke Energy Ohio **Previously Hedged**



Col Guif Mainline Col Gulf Mainline Gulf South Tex Gas Zone 1

Total System Supply

**Duke Energy Kentucky** 

Previously Hedged

Col Gulf Mainline Col Gulf Mainline **Col Gulf Mainline** 

Total System Supply

Duke Energy-Total **Previously Hedged** Total

Hedging Meeting 02-20-2014.xlsx

#### Gas Resources Hedging Program Market Indicators Summary March 27, 2014

Ref           12           13           14           15           16-17
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29-30
29-30

Meeting Minutes: 426 Annex Conference Room - 1:00 pm

Attendees: Chuck Whitlock, Mike Brumback, Mitch Martin, Jeff Kern, Steve Niederbaumer

Reviewed the results of the transaction resulting from the February 20, 2014 Hedging Meeting. Fixed price deal for Duke Kentucky was completed on February 21, 2014 with the for the Dub/d for the period November 1, 2015--October 31, 2016 at a price of the transaction resulting being the lowest bidder. Discussed market fundamentals including weather, storege inventory levels, PIRA and EIA price forecasts, economic influences on supply and demand and technical analysis on Summer and Winter Strip prices. Significant discussion took place around the low storage level (below 0.9 TCF which is the first time in 11 years that the level is below 1.0 Tcf) with 10 day in the withdraw season still to be reported, and the expected below normal weather for the next 6 to 10 days. Based on these factors, a decision was made to hedge additional volumes at this time. Discussions took place as to what hedging product to use and the volume to be hedged. Based on the discussion, a fixed price product to lock in current rates will be used in the amount of the Duke Kentucky.

#### Duke Energy Kentucky Hedging Program - Current Position November 2013 - October 2014 As of 03/25/14

Load Forecast		Nov-13 Dec-13 Jan-14 Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14
City Gate Load Forecast (Mcf) TCO FSS Injections (Mcf) Total Requirements (Mcf)										
TCO FSS Withdrawals (Mcf) Other "Withdrawals" (Mcf) Total Withdrawals (Mcf)										
Amount Hedged (dth/day) Fixed Price Fixed Price Fixed Price Fixed Price Fixed Price Fixed Price Fixed Price Total Hedged (dth/day) Total Hedged (dth)										
<u>Types of Hedging Products (1)</u> Fixed Price Price Caps No-Cost Collars										
Embedded Hedged Cost Winter Summer										
Estimated System Supply (Gross) Hedged % of System Supply Seasonal % of System Supply	•									
Amt Hedged with Storage @ City Hedged (City Gate) (Dth) Storage Withdrawal (Dth) Market (Dth) Total (incl. Injections) (Dth) % Hedged & Storage Seasonal %	Gate									
(1) Maximum percentage allowed p	per ty	pe of hedging product is 25% for Winter months and 40%	Summer mor	nths.					•	

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#### Duke Energy Kentucky Hedging Program - Current Position November 2014 - October 2015 As of 03/25/14

	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jui-15	Aug-15	Sep-15	Oct-15
Load Forecast												
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)	-											
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (Mcf)												
Total Withdrawais (Mcf)												
Amount Hedged (dth/day)												
Fixed Price												
Fixed Price												
Fixed Price												
Total Hedged (dth/day)												
Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost	\$											
Winter												
Summer												
Esumated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

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#### Duke Energy Kentucky Hedging Program - Current Position November 2015 - October 2016 As of 03/25/14

Load Forecast	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (McI)												
Total Withdrawsis (Mcf)												
Amount Hedged (dth/day)												
Fixed Price												
Fixed Price												
TBD												
Total Hedged (dth/day)												
Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage												
Seasonal %												
(1) Maximum percentage allowed per type	of hedging pro	duct is 25% fo	or Winter mor	iths and 40%	Summer mor	iths.						

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KyPSC Case No. 2012-180 2014 Annual Report PUBLIC Page 303 of 325



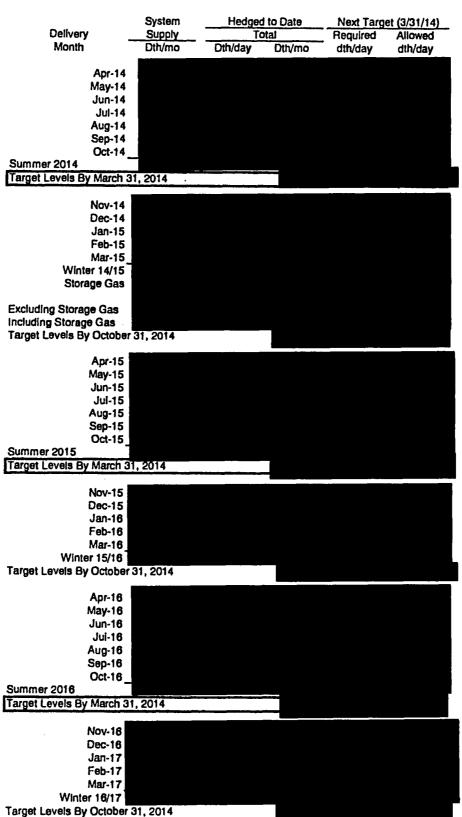
#### **Duke Energy Kentucky** Hedging Program - Current Position November 2016 - October 2017 As of 03/25/14

`	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17
Load Forecast												
City Gate Load Forecast (Mcf)												
TCO FSS Injections (Mcf)												
Total Requirements (Mcf)												
TCO FSS Withdrawals (Mcf)												
Other "Withdrawals" (Mcf)												
Total Withdrawals (Mcf)												
Amount Hedged (dth/day)												
TBD												
TBD												
TBD												
Total Hedged (dth/day)												
Total Hedged (dth)												
Types of Hedging Products (1)												
Fixed Price												
Price Caps												
No-Cost Collars												
Embedded Hedged Cost												
Winter												
Summer												
Summer												
Estimated System Supply (Gross)												
Hedged % of System Supply												
Seasonal % of System Supply												
Amt Hedged with Storage @ City Gate												
Hedged (City Gate) (Dth)												
Storage Withdrawal (Dth)												
Market (Dth)												
Total (incl. Injections) (Dth)												
% Hedged & Storage Seasonal %												
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1					-							

(1) Maximum percentage allowed per type of hedging product is 25% for Winter months and 40% Summer months.

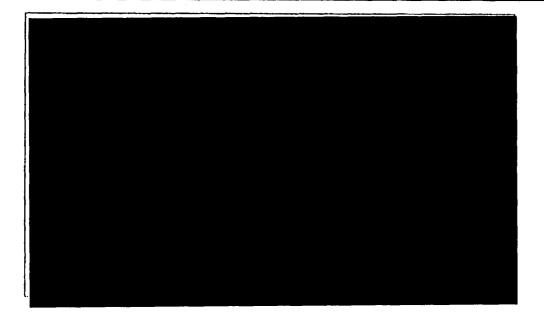
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#### Duke Energy Kentucky Hedging Program Current Position



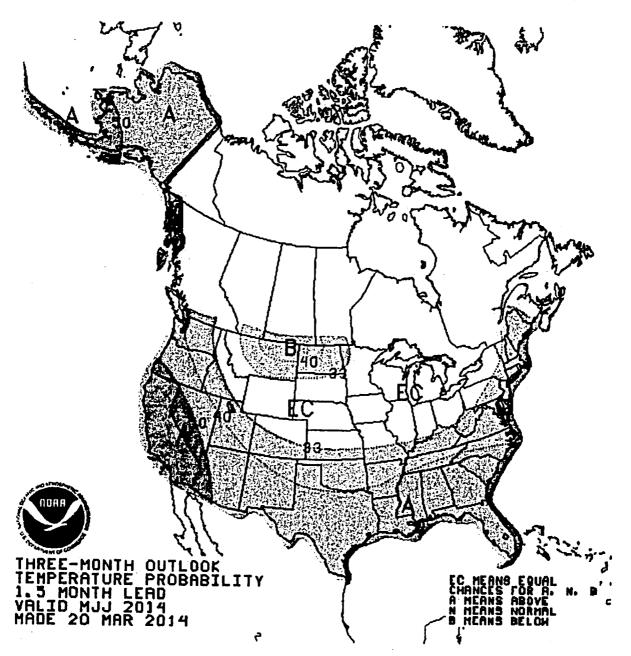
### COMPARISON OF HISTORIC SPOT & PROJECTED PRICES TO CURRENT FUTURES PRICES

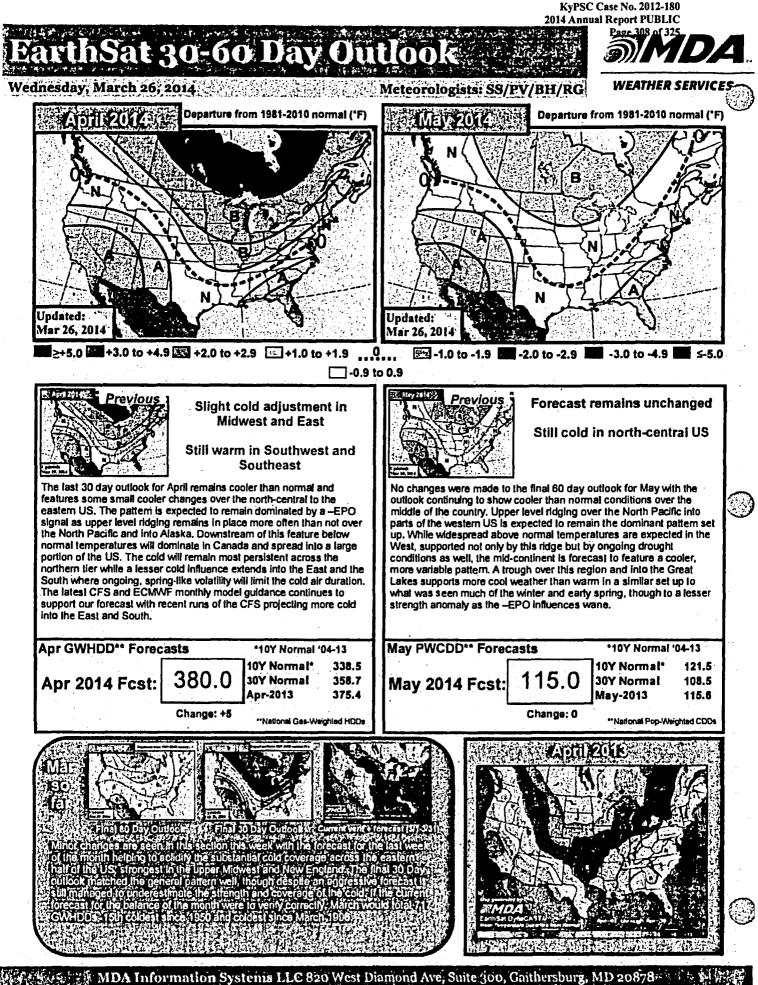
	Histor	ic Prices:						
	NYMEX C	osing Price						
	5-yr. avg.	Last Year	PIRA	EIA	NYMEX	] [	Hedge	ed Prices
	(09/10-13/14)	(2013-2014)	25-Mar-14	11-Mar-14	27-Mar-14	[	Ohio	Kentucky
Apr	\$3.58	\$3.98		\$4.180	\$4.409	1	\$	
May	\$3.63	\$4.15		\$4.020	\$4.405		\$	
Jun	\$3.72	\$4.15		\$4.140	\$4.432		\$	
Jul	\$3.90	\$3.71		\$4.220	\$4.468		\$	
Aug	\$3.80	\$3.46		\$4.230	\$4.466		\$	
Sep	\$3.31	\$3.57		\$4.270	\$4.442		\$	
Oct	\$3.57	\$3.50		\$4.300	\$4.456		\$	
Nov	\$3.61	\$3.50		\$4.360	\$4.478		\$	
Dec	\$3.93	\$3.82		\$4.400	\$4.612		5	
Jan	\$4.18	\$4.41		\$4.330	\$4.680		\$	
Feb	\$4.21	\$5.56		\$4.260	\$4.652		\$	
Mar	\$3.87	\$4.86		\$4.110	\$4.545		\$	
12 Month Avg	\$3.77	\$4.05		\$4.235	\$4.504			
	er Average			\$4.194	\$4,440			
Winter A	verage			\$4.292	\$4.593			



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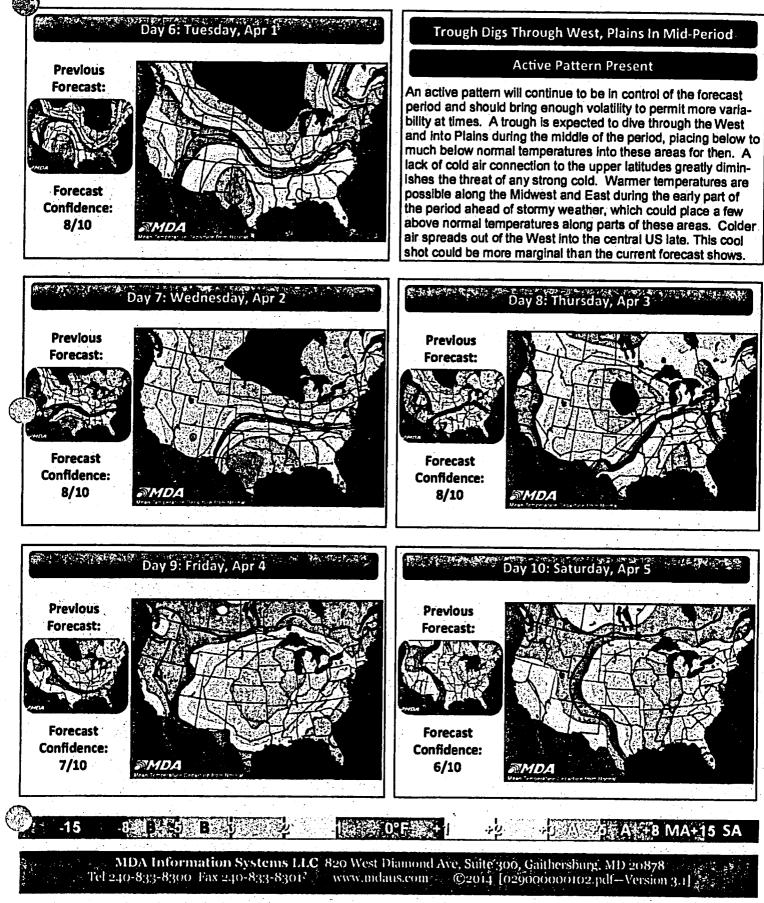
MDA Information Systems LLC 820 West Diamond Ave, Suite 300, Gaithersburg, MD 20878 [1] Tel 240-833-8300 Fax 240-833-8301 [1] www.indaus.com [2] ©2014 [029000000107.pdf-Version 2.3]

KyPSC Case No. 2012-180 14-Annual Report PUBLIC

# EarthSat 6-10 Day Forecast—Detailed

Thursday, March 27, 2014 Meteorologist: PV/AC

WEATHER SERVICES





#### Weekly Natural Gas Storage Report

for week ending Narch 21, 2014 | Released: March 27, 2011 at 10 20 a m | Next Ralease: April 3 2014

Summary lext CSV JSNWorking gas in underground storage, lower 48 states

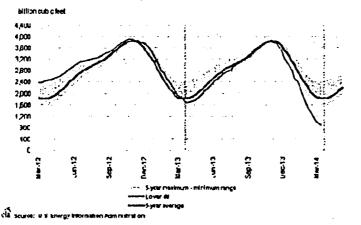
						ompariso	arisona			
		billion	Stocks cubic feet (Bcf)			er ago 1/21/13)	5-Year average (2009-2013)			
Region	03/21/14	03/14/14	net change	Implied flow	(8cf)	% change	(Bcf)	% chenge		
East	356	395	-39	-39	720	50.6	775	-54.1		
West	164	167	·3	·3	335	51.0	293	-44 0		
Producing	376	391	-15	-15	739	-49.1	754	-50 1		
Salt	65	62	3	3	178	63.5	143	-54 5		
Nonsalt	311	329	-18	-18	560	44.5	611	-49 t		
Total	896	953	-57	-57	1,795	-50.1	1,822	-50.8		

#### Summary

1 .. ...

Working gas in slorage was 896 Bcf as of Friday, March 21, 2014, according to EIA estimates. This represents a net decline of 57 Bcf from the previous week. Stocks were 899 Bcf less than last year at this time and 926 Bcf below the 5year average of 1,822 Bcf. In the East Region, stocks were 419 Bcf below the 5-year average following net withdrawels of 39 Bcf. Stocks in the Producing Region were 378 Bcf below the 5-year average of 754 Bcf aher a net withdrawel of 15 Bcf. Stocks in the Wast Region were 129 Bcf below the 5-year average after a net drawdown of 3 Bcf. At 896 Bcf, total working gas is below the 5-year historical range.

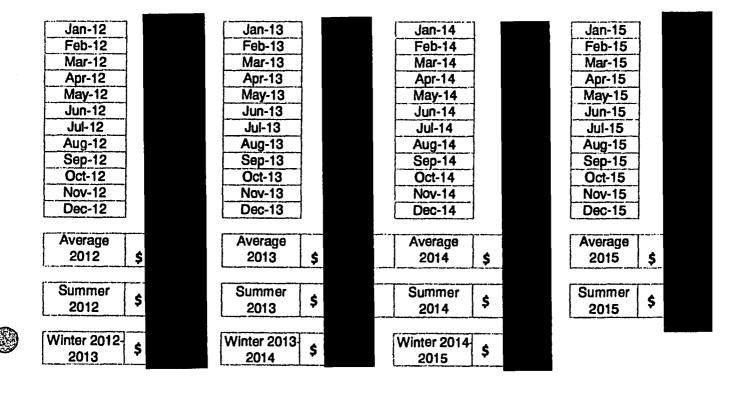
Working gas in underground storage compared with the 5-year maximum and missionum



Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2009 through 2013.

Source: Form EIA-912, "Weekly Underground Natural Gas Storage Report." The dashed vertical lines indicate current and year ago weekly periods

### <u>PIRA</u> North American Gas Price Overview Per MMBTU March 25, 2014 Release

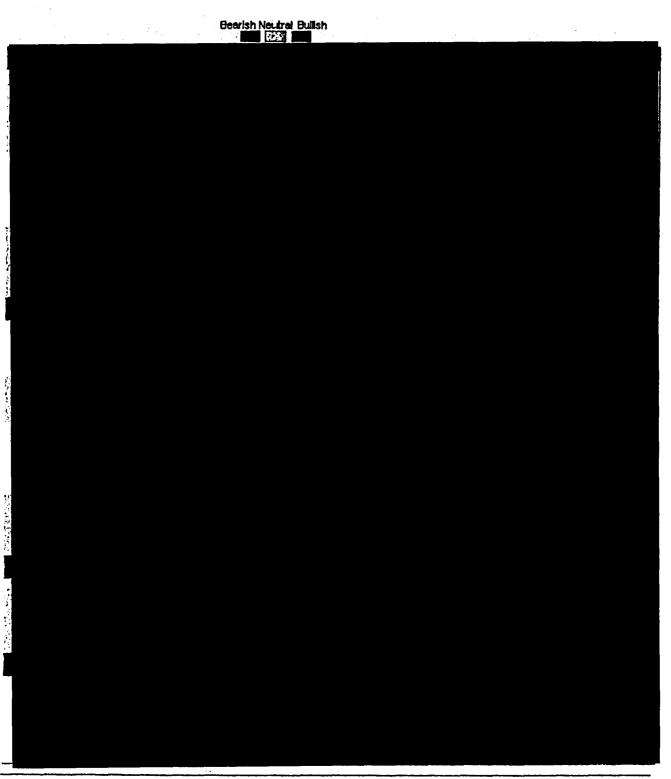


North American Gas Forecast Monthly

March 25, 2014

NATURAL GAS

# U.S. GAS PRICE SCORECARD: APRIL 2014 - OCTOBER 2014



PIRA Energy Group, 3 Park Avenue, 26<sup>th</sup> Floor, New York, NY 10016-5969 (Tel) 212-686-6808 (Fax) 212-686-6628 www.pira.com <sup>2</sup> For authorized subscribers only. Copyright © 2014 PIRA Energy Group. All rights reserved.

# **LNG Exports**

### Faster LNG Nods Would Send Signal—3/26/2014

Several lawmakers want the Obama administration to quickly approve more LNG export applications in response to the crisis in the Ukraine—expedited approvals would not lead to immediate construction or near-term deliveries of US gas to Europe and would be "irrelevant". Nearly all US LNG developers are targeting Asian markets, which offer a more attractive price than Europe.

With 24 applications in DOE's queue, Senator Lisa Murkowski said the agency needs to hasten its approval pace. "If, in fact, we were to accelerate the permitting process through DOE...that doesn't get gas to Ukraine or anywhere at least for a couple years. It is about the signal that is sent, about our leadership role from a geopolitical perspective." At a minimum, US LNG prospects could force Russia to offer more competitively priced gas—it's the potential competition that is really important. "Since energy exports are the mainstay of the still inefficient and lagging Russian economy, this is a penalty with teeth."

### Jordan Cove Gets Approval for Non-FTA Exports-3/25/2014

Jordan Cove received DOE approval to export LNG to countries without free trade agreement with the US. Jordan Cove is the first West Coast terminal, which is approved to export 800,000 Mcf/d for 20 years.

"The nod to Jordan Cove marks a total of 9.27 Bcf/d of approved LNG exports from the US. If all of the projects were to be built, which analysts say is unlikely, the total would be close to the amount of current exports by the world's largest LNG exporter, Qatar."

"Gas producing trade groups praised the decision and called for more expeditious treatment of the remaining 24 permits in front of DOE, while manufacturing trade groups condemned such a move, saving it would remove the US' competitive advantage of low cost energy."

### Freeport LNG Export Project Clears Key Hurdles at FERC---3/17/2014

FERC issued an environmental report stating that the three-train 1.8 Bcf/d gas liquidifaction facility planned for Quintana Island, Texas would not have significant environmental or safety impacts. According to FERC there are no alternatives to the proposed project "that would result in less environmental impact that would still address the purpose and need of the projects."

Public comments on the draft environmental impact statement will be accepted until May 5 and Freeport expects to receive FERC approval for the project by mid-2014. The first train is expected to start operations about 45 months after the approval.

# **Miscellaneous Information**

## 

To buy now or not to buy? Going by pure financials the spread between summer and winter strips offers little incentive to inject into storage. The spread between the strips is currently about 20 cents. In past years, the curve was more pronounced, creating more incentive for storage arbitrage.

LDCs aren't using storage to arbitrage, they will continue to put gas in storage for operational needs. The majority of storage is tied to utilities, which needs to buy at any cost, only 25% to 30% of storage owned by operators that are especially price-sensitive.

There are different opinions as if storage can be filled. American Gas Association believes that production this year will be able to ramp up to refill inventories to comfortable levels. "The market is saying it expects a 2 to 3 Bcf/d increase in gas production over the course of this year to meet the requirements to get sufficient supplies of gas back into storage, even with some natural gas going to cooling loads."

Planalytics does not believe storage will be refilled quickly because the highest number of nuclear plants (in 14 years) will be down for maintenance which will put pressure on injections an keep a floor under prices.

"It is first important to note that a much larger storage deficit must be overcome this year—930 Bcf vs 570 Bcf in 2003 and 348 Bcf in 2001. If we are to eat up this storage deficit over the next eight months, natural gas supply/demand must be roughly 3.75 Bcf/d loose to historical levels from April through October."

Planalytics Corby believes buyers are "foolish waiting for prices to come down", believing it is prudent for LDC's to begin buying gas now before prices go up. "At the moment, the low end-of-season-storage is already baked into the price, but also thinks it possible we will see price spikes as we go through the summer."

## Action Needed Ahead of Coal-Fired Power Plant Retirements— 3/7/2014

This winter's extreme cold snap left the power grid relying on old coal-fired power plants, and that crutch will disappear in a little over a year according to FERC Commissioner Moeller, potentially increasing demand for natural gas substantially. AEP is going to retire 7,100 MW out of its 25,000 MW in coal-fired generation in 2015. During the polar vortex, AEP was running 89% (6,300 MW) of that capacity.

The clock is ticking toward April 16, 2015, the compliance date for the EPA's MATS rule for emissions reductions from coal and oil fired generators. "We got a lot of power plants that are going to be shutting down in a little over one year, April 16, 2015...Almost all of them were running as best they could during the cold snap. And, so if that isn't a sobering wake-up call to policymakers, nothing short of a massive black out would be.

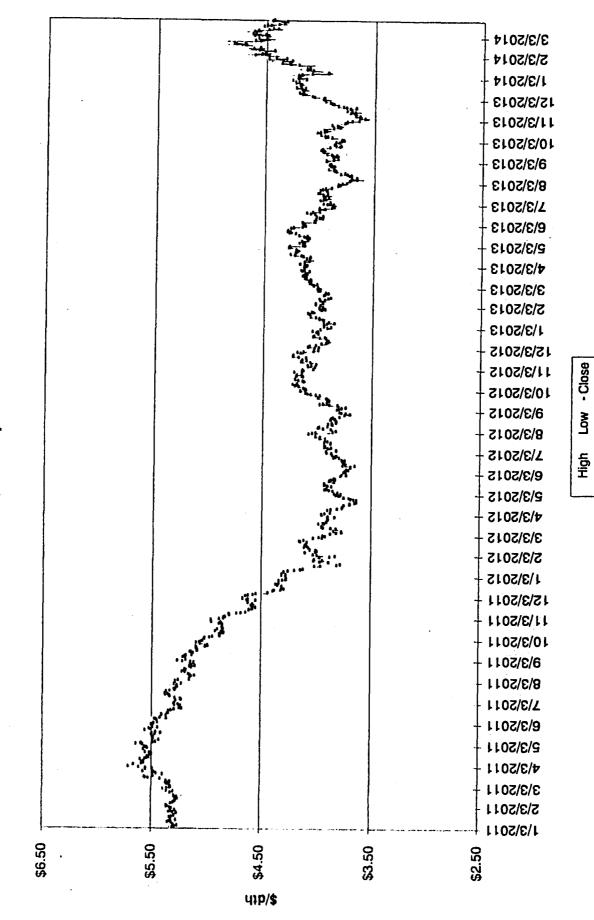
# Energy Information Administration Henry Hub Pricing Per MMbtu March 11, 2014 Release

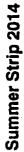
Winter 2012- 2013	\$ 3.470	Winter 2013- 2014	\$ 4.614	Winter 2014- 2015	\$ 4.292			
Summer 2012	\$ 2.686	Summer 2013	\$ 3.770	Summer 2014	\$ 4.194	Summer 2015	\$	4.034
Average 2012	\$ 2.753	Average 2013	\$ 3.728	Average 2014	\$ 4.443	Average 2015	\$	4.138
Dec-12	 3.34	Dec-13	 4.24	Dec-14	 4.40	Dec-15		4.40
Nov-12	3.54	Nov-13	3.64	Nov-14	4.36	Nov-15		4.31
Oct-12	3.32	Oct-13	3.68	Oct-14	4.30	Oct-15		4.21
Sep-12	2.85	Sep-13	3.62	Sep-14	4.27	Sep-15		4.12
Aug-12	2.84	Aug-13	3.43	Aug-14	4.23	Aug-15	Ì	4.13
Jul-12	2.95	Jul-13	3.62	Jul-14	4.22	Jul-15	1	4.10
Jun-12	2.46	Jun-13	3.83	Jun-14	4.14	Jun-15	1	3.99
May-12	2.43	May-13	4.04	May-14	4.02	May-15	1	3.81
Apr-12	1.95	Apr-13	4.17	Apr-14	4.18	Apr-15	1	3.88
Mar-12	2.18	Mar-13	3.81	Mar-14	4.48	Mar-15	1	4.11
Feb-12	2.50	Feb-13	3.33	Feb-14	6.00	Feb-15	]	4.26
Jan-12	2.67	<u>Jan-13</u>	3.33	Jan-14	4.71	Jan-15		4.33



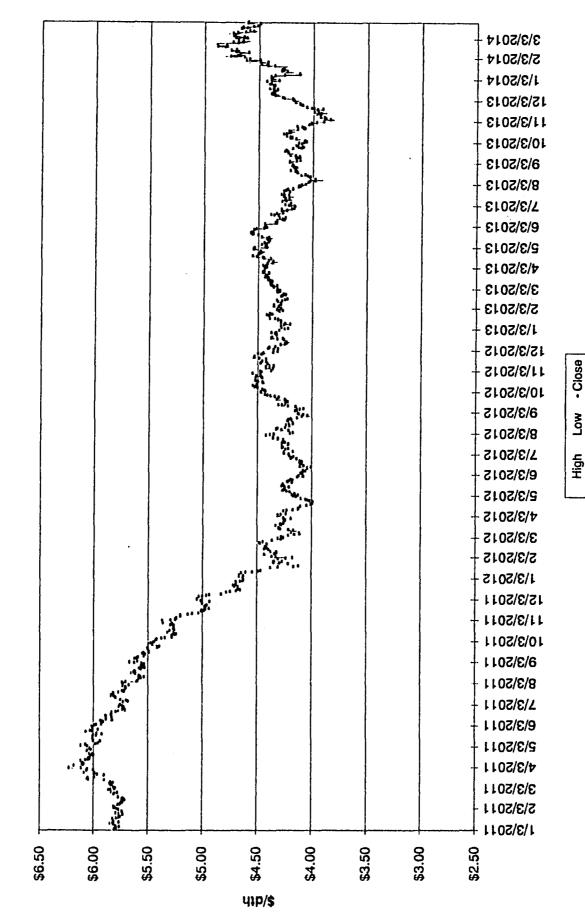
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#### Hedging Meeting 03-27-2014 xisx

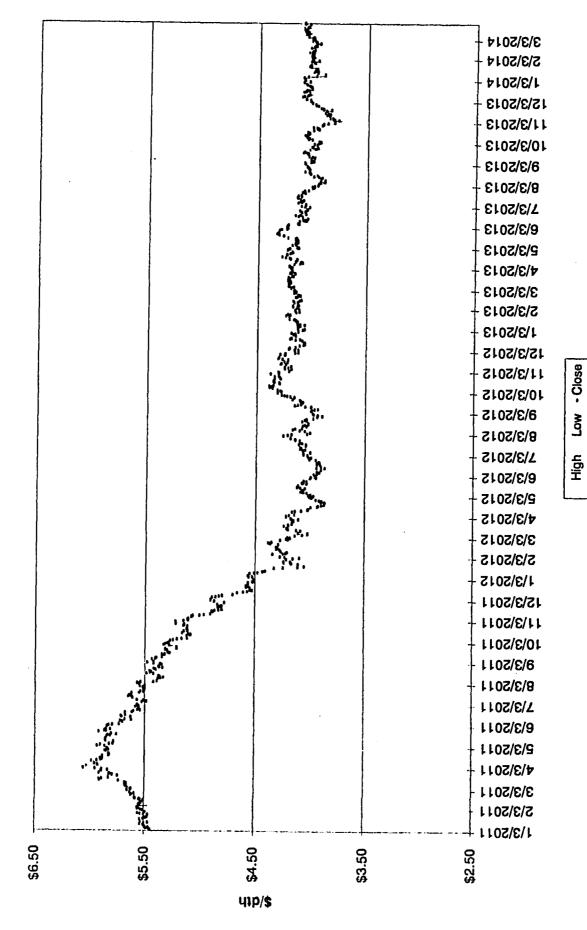




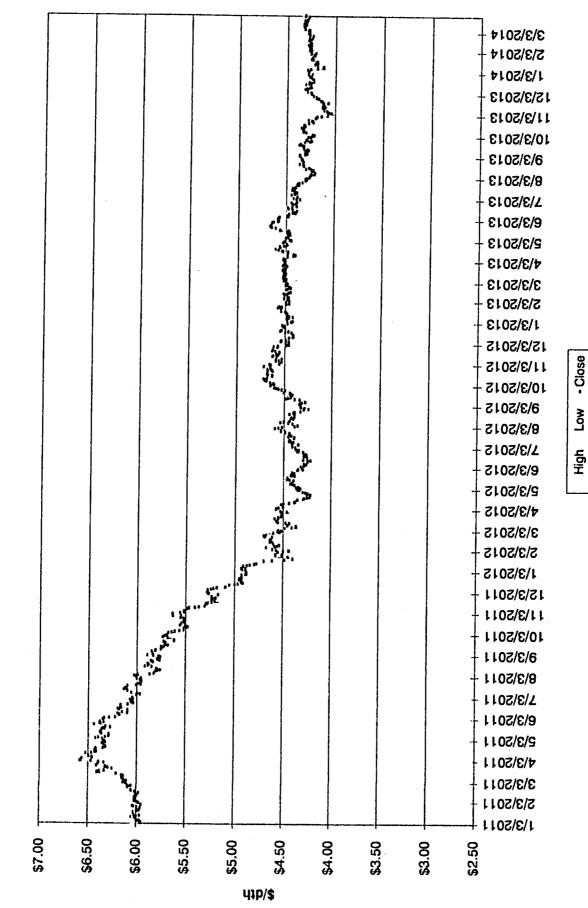
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Winter Strip Nov14 - Mar15

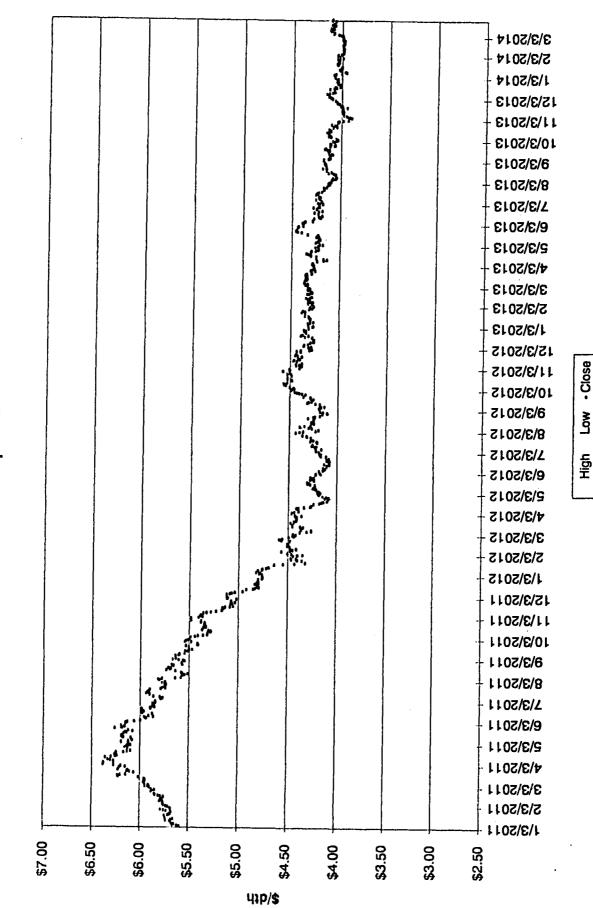


Summer Strip 2015





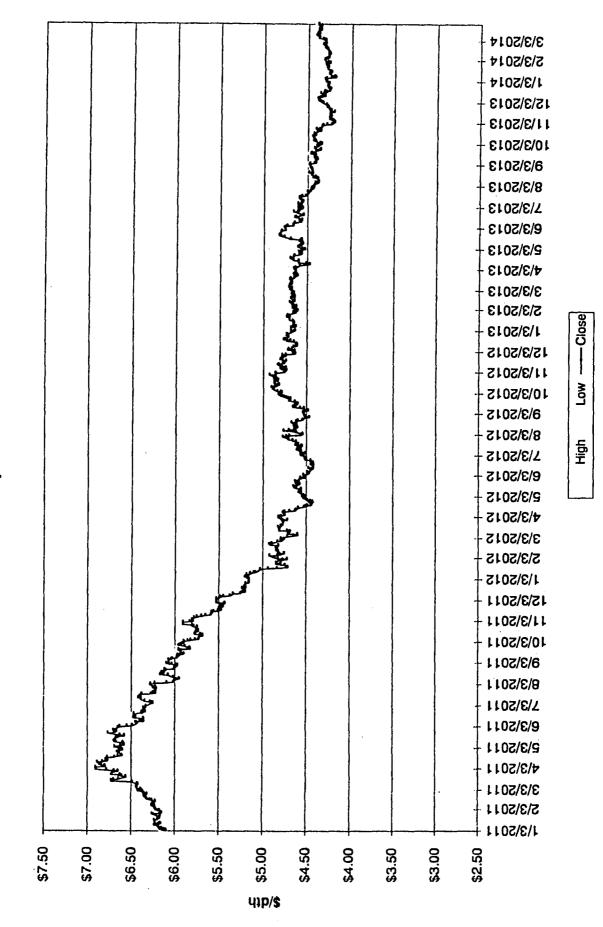




Summer Strip 2016

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# Independent Statistics & Analysis U.S. Energy Information Administration

# **Short-Term Energy Outlook (STEO)**

### Natural Gas

### **U.S. Natural Gas Consumption.**

EIA expects total natural gas consumption will average 71.3 Bcf per day (Bcf/d) in 2014, a drop of 0.1 Bcf/d from 2013. The projected year-over-year increases in natural gas prices contribute to declines in natural gas used for electric power generation from 24.9 Bcf/d in 2012 to 22.3 Bcf/d in 2013 and 22.0 Bcf/d in 2014. In 2015, total natural gas consumption falls by 0.3 Bcf/d as a decline in residential and commercial consumption more than offsets consumption growth in the industrial and electric power sectors. EIA expects natural gas consumption in the power sector to increase to 22.6 Bcf/d in 2015 with the retirement of some coal plants.

### U.S. Natural Gas Production and Trade.

EIA expects natural gas marketed production will grow at an average rate of 2.5% in 2014 and 1.1% in 2015. Rapid natural gas production growth in the Marcellus formation is causing natural gas forward prices in the Northeast to fall even with or below Henry Hub prices outside of peak-demand winter months. Consequently, some drilling activity may move away from the Marcellus back to Gulf Coast plays such as the Haynesville and Barnett, where prices are closer to the Henry Hub spot price.

Liquefied natural gas (LNG) imports have declined over the past several years because higher prices in Europe and Asia are more attractive to sellers than the relatively low prices in the United States. Several companies are planning to build liquefaction capacity to export LNG from the United States. <u>Cheniere Energy's Sabine Pass facility is planned to be the first to liquefy natural gas produced in the Lower 48 states for export. The facility has a total liquefaction capacity of 3 Bcf/d and is scheduled to come online in stages beginning in late 2015.</u>

<u>Growing domestic production over the past several years has displaced some pipeline imports</u> from Canada, while exports to Mexico have increased. EIA expects these trends will continue through 2015. EIA projects net imports of 3.6 Bcf/d in 2014 and 2.6 Bcf/d in 2015, which would be the lowest level since 1987. Over the longer term, the EIA Annual Energy Outlook 2014 projects the United States will be a net exporter of natural gas beginning in 2018.

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## **Crude Oil Prices**

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Brent crude oil spot prices in February averaged between \$108/bbl and \$112/bbl for the eighth consecutive month. <u>EIA expects the Brent crude oil price to weaken as non-OPEC supply growth exceeds growth In world consumption. The Brent crude oil price is projected to average \$105/bbl and \$101/bbl in 2014 and 2015, respectively.</u>

The WTI crude oil spot price, which fell to \$95/bbl in January 2014, increased to an average of \$101/bbl in February as a result of strong Midwestern refinery runs after cold-weather-related disruptions in January. <u>EIA expects that WTI crude oil prices will average \$95/bbl in 2014,</u> <u>\$2/bbl higher than last month's STEO, and \$90/bbl during 2015.</u> The discount of WTI crude oil to Brent crude oil averaged \$8/bbl in February after averaging more than \$13/bbl over the previous three months. <u>EIA expects the discount of WTI crude oil to average \$10/bbl in 2014 and \$11/bbl in 2015, reflecting the economics of transporting and processing the growing production of light sweet crude oil in U.S. and Canadian refineries.</u>