THE 50 STATES OF SOLAR



A QUARTERLY LOOK AT AMERICA'S FAST-EVOLVING DISTRIBUTED SOLAR POLICY & REGULATORY CONVERSATION



Formerly the NC Solar Center

February 2015 (Quarter Ending December 31, 2014)

AUTHORS AND ACKNOWLEDGEMENTS

This report was authored by Benjamin Inskeep, Jim Kennerly, and Autumn Proudlove of the NC Clean Energy Technology Center at NC State University, with research support from Chad Laurent and Kathryn Wright of Meister Consultants Group of Boston, MA and Heather Calderwood, Ethan Case, Kate Daniel, and Achyut Shrestha of the NC Clean Energy Technology Center. The authors also would like to thanks to Jocelyn Durkay of the National Conference of State Legislatures, who provided thoughtful review and comments on the final report.





ORIGIN

This report is intended as a follow-up to the "Standby & Fixed Cost Charges and Net Energy Metering Debates" adjunct to <u>Rethinking Standby and Fixed Cost Charges</u>, a joint report for the Department of Energy's SunShot Solar Outreach Partnership written by the NC Clean Energy Technology Center at NC State University and Meister Consultants Group. The report, which proposed a comprehensive framework for fair rate design in a distributed energy age, tracked developments related to net metering policy through to August 2014, when the report was released.

DISCLAIMER

This report summarizes the current state-level discussions around distributed solar PV sited on or very close to customer premises, specifically as it relates to net energy metering (or simply "net metering") policy, virtual net metering policy, rate design issues (related to standby, fixed cost and demand charges) and a brief note about new utility-owned and operated rooftop solar PV programs. It <u>does</u> <u>not</u> cover issues surrounding state-level policy associated with wholesale distributed solar qualifying facilities (QFs).

In addition, while the authors strive to provide the best information possible, neither the N.C. Clean Energy Technology Center nor N.C. State University make any representations or warranties, either express or implied, concerning the accuracy, completeness, reliability or suitability of the information. The N.C. Clean Energy Technology Center and N.C. State University disclaim all liability of any kind arising out of use or misuse of the information contained or referenced within this report.

TABLE OF CONTENTS

THE STATE OF STATE DISTRIBUTED SOLAR MARKETS AND POLICY	3
OUR APPROACH	4
PART I: CONTEXT AND OVERVIEW OF POLICY CHANGES	4
SUMMARY OF STATE ACTION	5
CHANGES TO NET METERING POLICY: SUMMARY AND HIGHLIGHTS	7
INCREASES IN FIXED CUSTOMER CHARGES: SUMMARY AND HIGHLIGHTS	8
ADDED SOLAR-SPECIFIC DEMAND OR FIXED CUSTOMER CHARGES: SUMMARY AND HIGHLIGHTS	8
EFFORTS TO STUDY THE VALUE OF SOLAR PV	9
CREATION OF UTILITY-OWNED CUSTOMER-SITED PV PROGRAMS	10
Q1 2015 OUTLOOK	10
PART II: CURRENT STATUS OF UTILITY AND STATE-LEVEL SOLAR REGULATORY AND POLIC	:Y
ACTION (Q4 2014)	12
WORKS CITED	22

THE STATE OF STATE DISTRIBUTED SOLAR POLICY AND MARKETS

In recent years, the cost of residential and commercial customer-sited solar photovoltaics (PV) has declined dramatically, making solar PV technology more available to a much broader base of residential and commercial customers. According to research from Lawrence Berkeley National Laboratory, the median cost of residential solar has decreased from \$12/Watt (W) in 1998 to about \$4.70/W in 2013.¹ Data obtained from EnergySage shows that in the third quarter (Q3) of 2014, regional residential solar PV costs now range from \$3.70/W to \$4.24/W (Figure 1).





The dramatic decline in cost of distributed, customer-sited solar PV is largely due to significant reductions in the cost of solar PV hardware. However, the overall value proposition of solar still depends heavily on supportive federal, state, and local policies that guarantee access to the grid, provide compensation for solar electricity generated, as well as policies that reduce hardware as well as "soft" costs (e.g., installation, permitting, inspection, etc.). At present, there are at least five increasingly common types of legislative or regulatory efforts that, if adopted, implemented, or changed, could strongly affect the value proposition of distributed solar:

- Actions related to net energy metering ("net metering") policies;
- Actions related to utility rate designs that increase fixed cost recovery from all customers (or strictly from solar customers);
- Actions related to official investigations of the "value of solar" or the creation of "value of solar" tariffs;
- Actions related to utilities owning and operating customer-sited solar PV; and

• Actions related to the legality of third-party solar ownership and electricity sales.

The purpose of this report is to provide state lawmakers and regulators, utilities, the solar industry, and other energy stakeholders with timely, accurate, informative, and unbiased quarterly updates on how states are choosing to adopt, implement, change, or abolish policies associated with the valuation and compensation related to customer-sited solar PV.

OUR APPROACH

This quarterly report describes regulatory and legislative activity related to distributed solar PV and electric utility rate design during the fourth quarter (Q4) of 2014 (October 1-December 31). Part I of this report provides context for the issue, a national-level summary of activity during Q4 2014, and a brief description of upcoming action occurring in Q1 2015. Part II summarizes state-specific action that occurred in Q4 2014.²

Actions tracked for this report include:

- Changes to state or local net metering policy, which includes aggregate net metering caps, system size limits, virtual and aggregate net metering rules, and compensation rates for net excess generation;
- Utility-initiated rate requests that propose increases in fixed charges that are significantly more than the overall revenue requirement increase requested;³
- Utility-initiated rate requests that add demand or fixed charges solely to solar PV or net-metered customers;
- Changes to the legality of third-party solar ownership and electricity sales;
- Legislative or regulatory-led efforts to study the value of distributed solar PV; and
- Regulated utility requests to own and operate residential customer-sited solar PV systems in their service territory.

Generally, this report focuses on actions affecting investor-owned utilities and large municipal utilities. While this report strives to be as comprehensive as possible, the fragmented landscape of electric utility regulation makes a fully comprehensive overview of all relevant action by all utilities time-prohibitive and beyond the scope of this report.

PART I: CONTEXT AND OVERVIEW OF POLICY CHANGES

While the declining cost of PV coupled with supportive policies and incentives have provided utility customers with a better solar PV value proposition, some in the electric utility industry have expressed

concern about the challenges associated high penetrations of solar and other distributed energy resources (DER). A recent *Utility Dive* survey of utility executives found more than three-fourths were experiencing minimal, stagnant, or declining load growth. This is in part due to the combination of demand-side management (DSM), energy efficiency, and other DER. While utility executives listed DER as the biggest opportunity for growth in the next five years, a majority were unsure how to build a business model around it. Old infrastructure and the current regulatory model were listed among the top three most pressing challenges at their utility.⁴

In its *Disruptive Challenges* report, the Edison Electric Institute highlights potential concerns related to the proliferation of DER under traditional utility business models, including declining utility market share, reduced profitability and investor returns, and increased utility risk exposure to stranded costs. As more customers implement DER options and purchase less electricity from utilities, utilities may have to increase rates to earn the same return on investment—which in turn could accelerate additional customer adoption of DER.⁵

Others have examined the opportunity for DER to provide grid services, including avoided energy and capacity costs, avoided generation, distribution, and transmission, avoided line losses, avoided price and supply risks and other system benefits. The Regulatory Assistance Project concludes that because of these DER services, potential cross-subsidies could flow in either direction—either from DER customers to non-participating customers, or vice versa—and suggests that regulators implement a methodology that fairly considers these benefits and "build policies, regulations and tariffs that recognize the characteristics of their state and utility in question."⁶

As a result of these evolving discussions, many utilities, state regulators, and state lawmakers have initiated efforts to actively address the emerging (and shifting) distributed energy landscape, with many solar policies in particular taking the spotlight. While states including California, New York, Hawaii, Minnesota, and Massachusetts have initiated efforts to restructure major components of how their utilities are regulated,⁷ others are embarking on a more incremental path, allowing electric utilities to restructure their rates in order to modulate immediate or near-term impacts to their business model. The latter is the primary focus of this report.

SUMMARY OF STATE ACTION

During Q4 2014 and the months leading up to it, there were at least 64 separate instances in 33 states and the District of Columbia where there was significant policy and regulatory activity related to distributed solar PV and rate design (Figure 2). Unlike in Q1 2015, which will feature substantial legislative action, most legislatures were not in session during Q4 2014, and thus the action related to policies pertaining to distributed solar value occurred at state regulatory commissions.



Recent Action on Net Metering and Rate Design Policies

Table 1. Summary of action in Q4 2014

Description	# of	% by	Affected States/	% by
	Actions	Туре	Districts	Type*
Changes to Net Metering Policies	28	44%	23 (incl. DC)	70%
Fixed Charge Increase	18	28%	10	30%
Studies or Tariff Changes Related to "Value of	10	16%	10	30%
Solar"				
Fixed or Demand Charges Applied to Solar	6	9%	6	18%
Only				
Creation of Utility-Owned Solar PV Programs	2	3%	1	3%
Totals	64	100%	33 (incl. DC)	-

*Totals sum to more than 100% because multiple types of action can occur in one state.

As illustrated in Table 1, a plurality of the changes (28 of 64) were related to net metering policy, and 18 instances across 10 states (28% of all activity) were related to increases in fixed customer charges. This reflects a broader shift by many utilities away from applying fixed charges or demand charges exclusively on solar PV-owning customers, which was observed, by comparison, in only 6 states.

CHANGES TO NET METERING POLICY: SUMMARY AND HIGHLIGHTS

Figure 3 shows states with action on net metering policy in Q4 2014. Net metering policy in the largest distributed solar markets was characterized by near-term expansions of net metering policies balanced by investigating future, more substantial changes to net metering policies. For example, regulators in New York, on their own motion as part of the Reforming the Energy Vision process, increased the cap on net-metered systems from 3% to 6% of 2005 peak load, while Nevada regulators issued a draft order including a report directing utilities to conduct cost-of-service studies to determine if net metering rate changes are necessary.

Net metering policies were also expanded in several states with smaller distributed solar markets. Most notably, the intervening parties (including utilities) in South Carolina proposed a settlement agreement in which South Carolina would formally become the 44th state in the nation with standard-offer net metering. A final ruling on the settlement is due on March 20th, and the final rules of a new Distributed Energy Resource program are due in June 2015.



Recent Action on Net Metering Policies

Figure 3

INCREASES IN FIXED CUSTOMER CHARGES: SUMMARY AND HIGHLIGHTS

As noted above, substantial utility increases in fixed charges, particularly for residential customers, are beginning to emerge as a trend to watch with regard to utility rate case dockets across the country. Figure 4 shows states with action on monthly fixed charge increases.

Two notable examples in which fixed charge increases were at issue in Q4 2014 were in Wisconsin and Connecticut. In Wisconsin, three utilities received approval for substantial fixed charge increases from the Wisconsin Public Service Commission, all of which were granted in full. In Connecticut, the largest investor-owned utility, Connecticut Light & Power, requested a substantial fixed charge increase, but unlike in Wisconsin, the Connecticut Public Utility Regulatory Authority granted only half of the increase.



Recent Action on Customer Fixed Charges

Figure 4

ADDED SOLAR-SPECIFIC DEMAND OR FIXED CUSTOMER CHARGES

As seen in Figure 5, there was action on five utility proposals to add charges specific to net-metered customers. PNM in New Mexico and SRP in Arizona both proposed substantial new demand charges on net-metered customers. Black Hills Energy in South Dakota withdrew a proposal that would have required new net-metered customers go on a special tariff that included a demand charge. Conversely, if South

Carolina's net metering settlement is approved, utilities will not be permitted to propose solar-specific customer charges until 2025.



Recent Action on Charges for Net-Metered Systems

EFFORTS TO STUDY THE VALUE OF SOLAR PV

The bulk of value of solar action was led by states initiating or continuing studies into the value of distributed solar PV. This is generally the first step to developing a consistent value of solar methodology and allowing utilities to offer value of solar tariffs. The results of these studies may also influence future changes to utility net metering policies. Figure 6 shows states that saw action on proceedings related to the value of solar.

Minnesota adopted a value of solar methodology earlier in 2014, but no investor-owned utility has applied to use the value of solar tariff as of the end of Q4 2014. Austin Energy, one of the few utilities currently offering a value of solar tariff, increased the rate paid under the tariff and is now allowing credits for excess generation to roll over, rather than expire.



Recent Action on Value of Solar Tariffs/Studies

CREATION OF UTILITY-OWNED CUSTOMER-SITED PV PROGRAMS

Two utilities in Arizona proposed new programs to begin offering utility-owned residential solar PV. Arizona Public Service's proposed program offers participating customers a \$30 monthly bill credit, while Tucson Electric Power's proposed program will fix participating customers' monthly electricity payments for 25 years after paying a \$250 administrative fee. Both programs were approved by the Arizona Corporation Commission as pilot programs and are slated to begin in the spring of 2015.

Q1 2015 OUTLOOK

With most state legislatures in session, Q1 2015 is expected to contain a flurry of solar policy legislation to accompany action by state regulators. Proposed bills or ballot initiatives in Georgia, Florida, and Indiana would allow third-party solar power purchase agreements or leasing.⁸ Indiana in particular appears likely to become the next solar policy flashpoint, with a proposed bill to change compensation for net excess generation from the retail rate to the avoided cost rate and allow a monthly fixed charge for net-metered systems. Meanwhile, bills in Massachusetts and Missouri could potentially expand net metering.⁹

Utility proposals to address issues associated with distributed energy resources through net metering and rate design changes are expected to continue into Q1 2015. For example, as part of a January proposal to

increase circuit threshold for solar from 120% daytime minimum load to 250%, Hawaiian Electric Companies proposed to end net metering, reducing credits for solar electricity sent to the grid from the retail rate (\$0.295-\$0.359) to a Transitional Distributed Generation tariff (\$0.147-\$0.223 per kWh).¹⁰

Decisions are expected in a number of important dockets pertaining to net metering, fixed charge increases, and rate design. Of particular interest, a final ruling is expected by March in South Carolina on its net metering settlement agreement. Part II offers a more comprehensive review of issues pending before state energy regulators, including many that are expected to be decided in Q1 2015.

PART II: CURRENT STATUS OF UTILITY AND STATE-LEVEL SOLAR REGULATORY AND POLICY ACTION (Q4 2014)

State	Type of Policy Affected by Activity	Description of Q4 Activity	Source
Arizona	Net Metering Policy	In December 2014, the Arizona Corporation Commission (ACC) opened a generic docket to investigate solar distributed generation business models and practices and their impacts on utilities and ratepayers.	Docket No. E-00000J-14-0415
	Utility-Owned Solar Program	In December 2014, the ACC voted "no objection" to a proposal by Arizona Public Service (APS) to implement the AZ Sun DG Program, a residential rooftop solar program where it would "rent" for a \$30/month bill credit low-income homeowners' roof space and install a total of 10 MW solar. The utility would own the system and the electricity generated and be responsible for maintaining the equipment. APS must demonstrate the expense is "prudent" before charging for the program in electricity rates in its next rate case.	Docket No. E-01345A-14-0250
	Utility-Owned Solar Program	In December 2014, the ACC approved a proposal by Tucson Electric Power (TEP) to implement a utility-owned residential distributed generation program. Under the program, up to 600 participants pay a \$250 administrative fee to have their monthly electricity payments fixed for 25 years. Local solar companies will partner with TEP to install and maintain the systems, and TEP will own and operate the systems. The prudency of the program will be determined in TEP's next rate case.	Docket No. E-01933A-14-0248
	Solar Charge	The Salt River Project (SRP) municipal utility proposed to its elected board to vote on a new demand charge, an extra fixed charge, a 60% decrease in per-kilowatt- hour energy rates, and other rate design changes for customers installing net- metered systems on or after December 8, 2014, which in total are projected to increase monthly bills for new net-metered customers by approximately \$50 on average. Existing installations would be grandfathered for a 10-year period, after which the new rate would apply.	<u>SRP Proposal</u>

Arkansas	Net Metering Policy	Introduced in November 2014, H.B. 1004 would change reimbursement for net excess generation from the retail rate to a monthly true-up at the utility's avoid costs of wholesale power minus a transmission fee.	<u>H.B. 1004</u>
California	Net Metering Policy, Value of Solar Study, Fixed Charge	In July 2014, the California Public Utilities Commission issued an order establishing a new proceeding to address a net metering successor tariff and other net metering issues pursuant to A.B. 327 of 2013. A.B. 327 extended the state's Net Metering Policy to offer net metering until July 1, 2017 (or the program cap is reached), allowed for utilities to mandate time-of-use pricing (or offer it as default service) by January 1, 2018, and allowed the Commission to approve a utility request for a monthly fixed charge based on the customer's income level. In December 2014, a public workshop was held on the development of a "Public Tool" used to measure the costs and benefits of potential successor tariff options.	Docket No. R1407002, Docket No. R1206013, Docket No. R1408013
Colorado	Net Metering Policy	In March 2014, The Public Utilities Commission opened a miscellaneous proceeding to consider the issues of retail renewable distributed generation and net metering. The PUC held hearings in July, October, and December, with one more planned for 2015.	Docket No. 14M-0235E
Connecticut	Fixed Charge	In May 2014, Connecticut Light and Power proposed raising its residential monthly fixed charge from \$16 to \$25.50. In December 2014, the Public Utilities Regulatory Authority approved a residential monthly fixed charge of \$19.25.	Docket No. 14-05-06
District of Columbia	Net Metering Policy	In September 2014, the Public Service Commission released its proposed rules for community net metering, pursuant to the 2013 Community Solar Renewable Energy Act. However, no action was taken to implement the rules during Q4 2014.	D.C. Register Notice ID 5092711

Hawaii	Net Metering Policy, Fixed Charge, Solar Charge	In August 2014, Hawaiian Electric Companies proposed a "Distributed Generation 2.0" Net Metering Policy for customers beginning in 2017 that includes a monthly fixed charge of \$50-\$61, an additional monthly fixed charge of \$12-\$16 for net- metered customers, and a decrease in compensation for net excess generation from the retail rate (\$0.30/kWh) to a near-wholesale rate (\$0.16/kWh). The Hawaiian Public Utilities Commission subsequently opened a separate docket to investigate distributed energy resource policies.	Dockets No. 2014-0183, 2011-0206, and 2014-0192, PUC White Paper
Indiana	Fixed Charge	In December 2014, Indianapolis Power and Light proposed a residential monthly fixed charge increase from \$11 to \$17 and a small commercial monthly fixed charge increase from \$11.38 to \$30.	<u>Docket No. 44576</u>
Iowa	Net Metering Policy	In January 2014, the Iowa Utilities Board (IUB) issued an order commencing an inquiry into issues surrounding distributed generation, including possible changes to net metering and interconnection rules, which remains pending before the IUB. The Board declined to assert jurisdiction over non-rate-regulated utilities' net metering policies. However, no action was taken during Q4 2014.	<u>NOI-2014-0001</u>
Kansas	Net Metering Policy	H.B. 2101, enacted in April 2014, revised the net metering rules for new systems installed after July 1, 2014. The statute reduced capacity limits for residential and commercial net-metered systems, reduced payment for monthly net excess generation from the retail rate to the utility's monthly system average cost, and allowed utilities to seek approval to implement time-differentiated rates, minimum bills, and other rate structures for DG customers. However, no further action was taken during Q4 2014.	<u>H.B. 2101</u>
Kentucky	Fixed Charge	In November 2014, Kentucky Utilities and Louisville Gas and Electric proposed raising their residential fixed charges from \$10.75 to \$18.00.	<u>2014-00371</u> , <u>2014-00372</u>
	Fixed Charge	In December 2014, Kentucky Power proposed raising fixed charges from \$8 to \$16 for residential and from \$11.50 to \$19.50 for small commercial customers.	<u>2014-00396</u>

Louisiana	Value of Solar Study	In May 2014, the Louisiana Public Service Commission hired a consultant to study the value of solar PV and net metering in Louisiana. As of the end of Q4, the study has not been completed, and the results are pending.	Dockets No. <u>R-31417</u> and <u>X-33192</u>
Maine	Value of Solar Study	In April 2014, the Maine Public Utilities Commission (PUC) was directed to prepare a report determining the value of distributed solar energy generation in Maine by February 15, 2015. A draft was submitted by the PUC's consultant, Clean Power Research, in Q4, and comments are currently being accepted.	<u>S.P. 644</u> , <u>Docket No. 2014-</u> <u>00171</u>
Maryland	Fixed Charge	In October 2014, Choptank Electric Cooperative filed a rate case application with the Public Service Commission to increase its residential monthly fixed charge from \$10 to \$17 and indicated its support for eventually increasing it to the Cost of Service Study value of \$29.54 in its direct testimony.	Docket No. 9368
Massachusetts	Net Metering Policy	In August 2014, the DPU was directed to investigate the feasibility, impacts, & benefits of allowing small hydroelectric generating facilities to net meter. A report and draft legislation to implement the DPU's recommendations is to be submitted by July 1, 2015.	<u>Docket No. 14-118</u>
	Net Metering Policy	In early January 2015, the DPU adopted an order to increase aggregate capacity caps to 5% of a distribution company's historical peak load for public facilities, and 4% for private facilities. This maintains the increases ordered by MA Senate Bill 2214 in late July 2014.	<u>Docket No. 14-104</u>
	Net Metering Policy	In November 2014, the Department of Energy Resources established the Net Metering and Solar Task Force, pursuant to Ch. 251 of the Acts of 2014, section 7. This task force will review the long-term viability of net metering and make program and incentive recommendations to support solar growth in the state.	Massachusetts Department of Energy Resources' <u>Net Metering</u> and Solar Task Force Home Page

Minnesota	Value of Solar, Net Metering Policy	Pursuant to H.F. 279 of 2013, in April 2014 the Public Utilities Commission approved a value of solar tariff methodology that investor-owned utilities may apply to use as an alternative to net metering. In August 2014, the PUC approved Xcel Energy's revised Community Solar Garden tariff, which elected to use applicable retail rates, arguing the value of solar tariff was not in the public interest. As of the end of 2014, no investor-owned utility has applied to use the value of solar tariff.	<u>H.F. 729,</u> Dockets No. <u>13-867,</u> <u>14-65,</u> <u>14-1055</u>
	Net Metering Policy	In December 2014, the PUC issued proposed rules pursuant to H.F. 729 of 2013. The proposed rules prohibit standby charges to net-metered customers (100 kW or less), provide compensation rates for net excess generation, allow meter aggregation, and specify REC ownership with the customer-generator.	<u>H.F. 729,</u> Docket No. 13-729
Mississippi	Net Metering Policy, Value of Solar Study	The Public Service Commission (PSC) has opened a docket to develop net metering rules. (Mississippi is one of seven states without a state Net Metering Policy.) In an August settlement agreement with the Sierra Club, Mississippi Power agreed not to oppose key elements of the net metering rules being developed. In September 2014, a cost-benefit analysis on net metering completed for the Public Service Commission found a Net Metering Policy would have net benefits. In December 2014, Commission docketed the case to be heard January 15, 2015 at its regular public meeting.	<u>Docket No. 2011-AD-2,</u> (<u>Cost-Benefit Study</u> , <u>Settlement</u> <u>Agreement</u>)
Missouri	Fixed Charge	In August 2014, Empire District Electric proposed increasing fixed charges from \$12.52 to \$18.75 for residential customers, from \$21.32 to \$32.00 for small commercial customers, and from \$247.73 to \$3,790 for large industrial customers.	Docket No. ER-2014-0351
	Fixed Charge	In October 2014, Kansas City Power and Light proposed increasing its residential monthly fixed charge from \$9 to \$25.	Docket No. ER-2014-0370
Montana	Net Metering Policy	Introduced in 2014, several bills propose expanding the state's Net Metering Policy by establishing neighborhood and aggregate net metering, increasing the existing net metering cap from 50 kW to 1 MW, and changing treatment of net excess.	<u>S.B. 182, S.B. 134, H.B. 192, H.B.</u> 294, <u>H.B. 188</u>

New Mexico	Solar Charge, Net Metering Policy	In December 2014, PNM proposed implementing a solar distributed generation interconnection fee of \$6/kW/month and eliminating "net metering banking" (month-to-month carryover of credits earned from net excess generation) for new installations starting in 2016.	Docket No. 14-00332-UT
New York	Net Metering Policy, Value of Solar Study	In December 2014, the Public Service Commission raised the net metering cap from 3% to 6% of 2005 peak demand capacity. The PSC concurrently announced plans to advance community net metering as well as directed staff to develop a net metering successor tariff by providing an approach for pricing and valuing distributed energy resources that recognizes their benefits in accordance with the principles enunciated in Reforming the Energy Vision. E3 Economics has begun a net metering study, which was also requested as part of a separate PSC docket, Case 03-E-0188 in April 2014. The PSC also clarified that projects exceeding the 2MW net metering size cap were not allowed to be divided into smaller projects, and modified the remote net metering rules to count excess credits on a volumetric as opposed to monetary basis.	Dockets No. 14-E-0151, 14-M-0101, Net Metering Study Presentation
Nevada	Value of Solar Study	Pursuant to A.B. 428, which called for a study of the impacts on net metering on ratepayers, a 2014 analysis for the Public Utilities Commission (PUC) found that net metering is likely to have a minor impact on all rate classes. PUC recommended modifying the state net metering law to allow utilities to implement standby charges on net-metered customers and switch residential net-metered customers to time-of-use rates.	<u>Docket No. 13-07010</u>
	Net Metering Policy	In November 2014, the PUC issued a draft order including a report recommending that the PUC require NV Energy to conduct cost-of-service studies (due October 2015) for Nevada Power and Sierra Pacific Power to determine whether any systemic rate-design changes should be made for its customer classes. The report also recommends that the PUC continue to address the inter-class and intra-class subsidies.	<u>Docket No. 14-06009</u>

Ohio	Net Metering Policy	In May 2014, Public Utilities Commission adopted changes to the net metering rules that raised the cap for residential systems to 25 kW and affirmed that net- metered customers are entitled to the full value of net excess generation. The rule has yet to be approved by the Joint Committee on Agency Rule Review. In response to the rule, American Electric Power Company filed a lawsuit, which is now before the state Supreme Court.	Docket No. 12-2050-EL-ORD
Oklahoma	Net Metering Policy	S.B.1456, enacted in April 2014, allows utilities and regulated electric cooperatives to apply to the Oklahoma Corporation Commission (OCC) for approval to apply a fixed charge to customer-generators who install net-metered distributed generation on or after November 1, 2014.	<u>S.B. 1456</u>
	Net Metering Policy	Executive Order 2014-07 clarified that S.B. 1456 does not necessarily require increased charges for distributed generation customer-generators and directed the OCC to consider alternative rate reforms such as time-of-use, minimum bills, and demand charges before allowing the implementation of a fixed charge for net-metered systems.	<u>E.O. 2014-07</u>
Pennsylvania	Net Metering Policy	In February 2014, the Pennsylvania Public Utilities Commission (PUC) proposed regulatory changes to net metering tightening the definition of customer generator to ensure that net-metered systems are primarily serving on-site loads. The changes also require systems over 500 kW to receive approval from the PUC to net meter. The comment period ended in September, but no final rule has been issued yet.	Docket No. L-2014-2404361
	Fixed Charge	In August 2014, West Penn Power proposed an increase in its residential monthly fixed rate from \$5.00 to \$7.35. In October 2014, the Public Utility Commission (PUC) suspended the filing until May 3, 2015, and instituted an investigation to determine the lawfulness, justness, and reasonableness of the filing.	Docket No. R-2014-2428742

Pennsylvania (Cont'd)	Fixed Charge	In August 2014, Pennsylvania Power proposed an increase in its residential monthly fixed rate from \$8.89 to \$12.71. In October 2014, the PUC suspended the filing until May 3, 2015, and instituted an investigation to determine the lawfulness, justness, and reasonableness of the filing.	Docket No. R-2014-2428743
	Fixed Charge	In August 2014, Pennsylvania Electric proposed an increase in its residential monthly fixed rate from \$7.98 to \$11.92. In October 2014, the PUC suspended the filing until May 3, 2015, and instituted an investigation to determine the lawfulness, justness, and reasonableness of the filing.	Docket No. R-2014-2428744
	Fixed Charge	In August 2014, Metropolitan Edison proposed an increase in its residential monthly fixed rate from \$8.11 to \$13.29. In October 2014, the PUC suspended the filing until May 3, 2015, and instituted an investigation to determine the lawfulness, justness, and reasonableness of the filing.	Docket No. R-2014-2428745
South Carolina	Net Metering Policy	In April 2014, S.B. 1189 created South Carolina's Distributed Energy Resource program, which establishes (subsequent to the Public Service Commission adopting final rules) net metering for all utilities with 100,000 or more customers, program caps and capacity limits, and incentives for customers to purchase or lease solar equipment less than 1 MW by June 2015.	<u>S.B. 1189</u>
	Net Metering Policy	Pursuant to S.B. 1189, in December 2014 utilities and solar advocates filed a formal settlement agreement on net metering rules with the Public Service Commission that, if approved, would require utilities implement net metering at the full retail rate for 10 years and prohibits utilities from imposing any solar-specific fees on customer-generators who install panels before 2021.	<u>Docket No. 2014-246 E</u>
South Dakota	Solar Charge	In September 2014, Black Hills Power withdrew a proposal that would have required customer-generators with systems installed on or after October 1 to go on a Residential Demand Service rate schedule that included a \$9.75/kW demand charge.	Docket No. EL14-026

Tennessee	Value of Solar Study	In 2014, the Tennessee Valley Authority (TVA) formed a stakeholder group to discuss the "integrated value" of distributed generation (DG). The group will develop a methodology to determine the value DG provides to the electric grid and the value the grid provides to DG owners. Programs developed with this methodology are likely to be seen in 2016.	<u>TVA Study - Distributed</u> <u>Generation Integrated Value</u>
Texas	Value of Solar Tariff	In December 2014, Austin Energy announced increased customer compensation for energy generated under the Value of Solar Tariff starting in January 2015 from \$0.107/kWh to \$0.113/kWh. It will also allow credits from net excess generation to rollover indefinitely instead of expiring.	<u>Austin Energy's Value of Solar</u> <u>Tariff</u>
	Net Metering Policy	In September 2014, San Antonio's municipal utility CPS Energy proposed a change to its Net Metering Policy. The alternative plan would involve a competitive bidding process for power purchase agreements (PPAs). Systems owned by customers themselves would not be eligible for participation.	<u>Greentech Media article</u>
Utah	Net Metering Policy, Value of Solar Study	In May 2014, S.B. 208 required the Utah Public Service Commission (PSC) to convene a process to evaluate the costs and benefits of net metering and to determine a "just and reasonable" rate structure based on those costs and benefits. The PSC opened a new docket for comments and proceedings related to the costs and benefits of net metering and held a technical conference in November.	<u>S.B. 208</u> , <u>Docket No. 14-035-114</u>
	Solar Charge	In August 2014, the PSC rejected Rocky Mountain Power's proposed \$4.65 monthly fee for net metering customers.	<u>Docket No. 13-035-184</u>
Vermont	Net Metering Policy	In 2014, Vermont's Act 99 required the Public Service Commission to file a report on the impacts of net metering to kick-off a public engagement on future net metering rule revisions. The report was filed in October 2014, and the stakeholder process began in November.	Public Service Board of Vermont

Washington	Fixed Charge	In May 2014, Pacific Power and Light proposed raising its residential monthly fixed charge from \$7.75 to \$14, with a final decision expected in the first quarter of 2015.	Docket No. UE-140762
	Fixed Charge	Avista Utilities proposed raising its residential monthly fixed charge from \$8 to \$15. In November 2014, the Washington Utilities and Transportation Commission approved a multi-party settlement agreement raising residential monthly fixed charges from \$8 to \$8.50 and adopting a revenue-per-customer full decoupling mechanism for all fixed costs of Avista's electric and natural gas systems for the next five years.	Docket No. UE-140188
Wisconsin	Net Metering Policy	In December 2014, the Public Service Commission of Wisconsin (PSCW) approved Wisconsin Power and Light's change to its Net Metering Policy. For new installations beginning January 1, 2015, net excess generation will be credited at the avoided cost rather than the retail rate. Existing systems will be grandfathered for 10-year period.	Docket No. 6690-UR-123
	Fixed Charge	In December 2014, the PSCW approved an increase in Wisconsin Public Service Corporation's residential monthly fixed charge from \$10.40 to \$19.	Docket No. 6690-UR-123
	Fixed Charge	In December 2014, the PSCW approved an increase in Madison Gas and Electric's residential monthly fixed charge from \$10.44 to \$19.	Docket No. 3270-UR-120
	Fixed Charge, Solar Charge, Net Metering Policy	In December 2014, the PSCW approved an increase in We Energies residential monthly fixed charge from \$9.13 to \$16 but rejected a proposed requirement that net-metered customers own (as opposed to lease) their generating systems. We Energies new tariff for net-metered customers, effective January 2016, also includes a new demand charge of either \$3.794/kW (for "intermittent" generation sources) or \$8.602/kW and changed net excess generation from an annual to a monthly true-up.	Docket No. 5-UR-107

WORKS CITED

¹ Barbose, G., Weaver, S., & Darghouth, N. (2014, September). *Tracking the sun VII: An historical summary of the installed price of photovoltaics in the United States from 1998 to 2013*. Retrieved from http://www.lbl.gov/ ² Note, however, that this report also includes a degree of prior history that informs the current status of solar PV compensation and value debates that occurred during the quarter.

³ Monthly fixed charge increases examined in this report vary from 43% to more than 100%.

⁴ Utility Dive. (2015). State of the electric utility 2015.

⁵ Kind, P. (2013, January). *Disruptive challenges: Financial implications and strategic responses to a changing retail electric business*. Retrieved from

http://www.eei.org/ourissues/finance/documents/disruptivechallenges.pdf

⁶ Linvill, C., Shenot, J., & Lazar, J. (2013, November). *Designing distributed generation tariffs well: Fair compensation in a time of transition*. Retrieved from http://www.raponline.org/

⁷ Paulos, B. (2015, January 13). *Regulating the utility of the future: Implications for the grid edge*. Retrieved from http://www.greentechmedia.com/research

⁸ For example, see Salinero, M. (2015, January 17). Initiative could dramatically increase solar power production in Florida. *The Tampa Tribune*. Retrieved from tbo.com/news/politics/initiative-could-dramatically-increase-solar-power-production-in-florida-20150117/

⁹ Pyper, J. (2015, January 26). Indiana and West Virginia look to slash support for renewable energy. *Greentech Media*. Retrieved from http://www.greentechmedia.com

¹⁰ Trabish, H. (2015, January 26). Hawaiian Electric's plan to end solar net metering, explained. *Utility Dive*. Retrieved from http://www.utilitydive.com/news/hawaiian-electrics-plan-to-end-solar-net-metering-explained/356432/