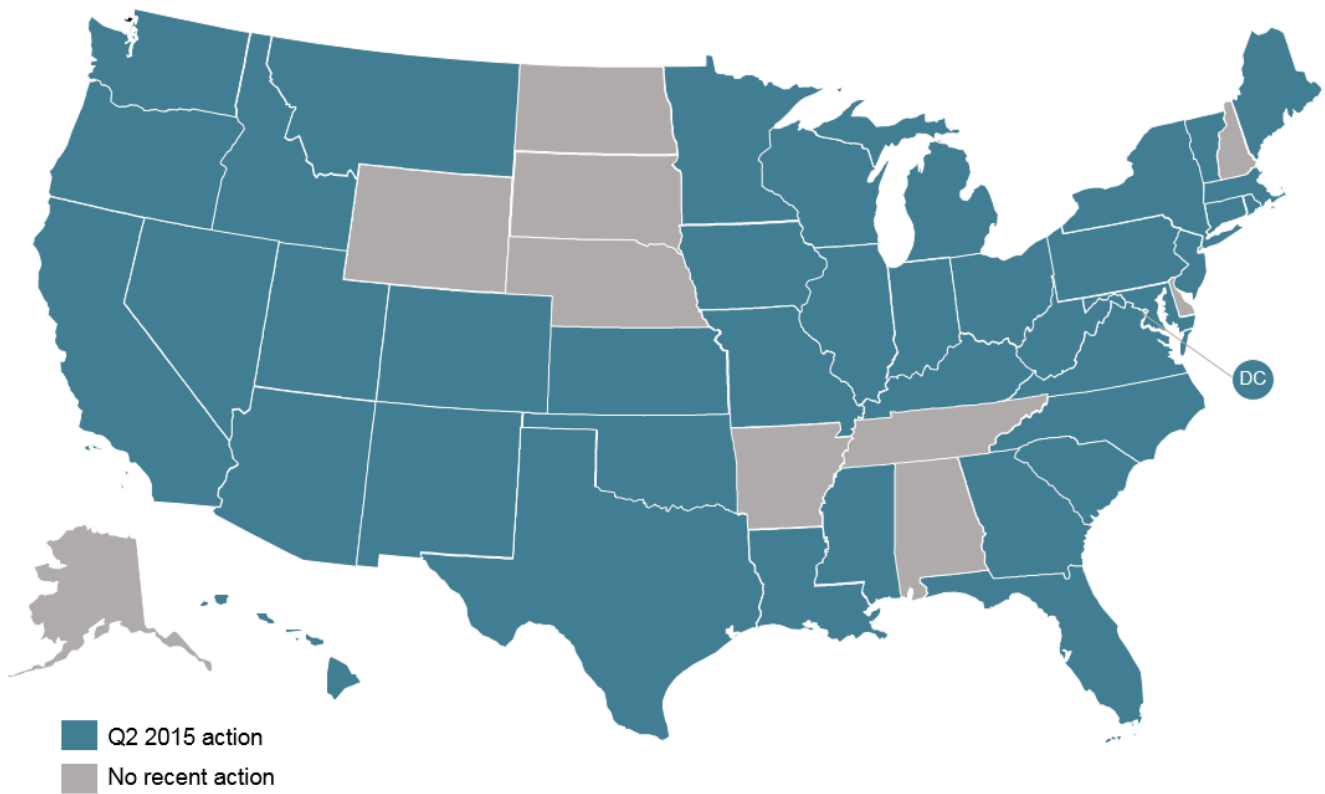


---

# THE 50 STATES OF SOLAR

---



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

Q2 2015

## AUTHORS

### **NC Clean Energy Technology Center**

Benjamin Inskip  
Heather Calderwood  
Ethan Case  
Kate Daniel  
Brian Lips  
Autumn Proudlove  
Achyut Shrestha

### **Meister Consultants Group**

Kathryn Wright  
Ryan Cook  
Chad Laurent



The NC Clean Energy Technology Center is a UNC System-chartered Public Service Center administered by the College of Engineering at North Carolina State University. Its mission is to advance a sustainable energy economy by educating, demonstrating and providing support for clean energy technologies, practices, and policies. The Center provides service to the businesses and citizens of North Carolina and beyond relating to the development and adoption of clean energy technologies. Through its programs and activities, the Center envisions and seeks to promote the development and use clean energy in ways that stimulate a sustainable economy while reducing dependence on foreign sources of energy and mitigating the environmental impacts of fossil fuel use.



Meister Consultants Group, Inc. (MCG) is an international sustainability consulting firm specializing in renewable energy policy and strategy development. With affiliates in the United States and Europe, MCG is a global leader in clean energy policy, climate change planning, and stakeholder dialogue. MCG works with clients across the globe, from multi-national finance institutions; to federal, state and local governments; to philanthropic foundations. MCG's unique approach provides solutions that are grounded in global best practices yet are tailored to local context.

## ACKNOWLEDGMENT

The authors would like to thank Tom Stanton of the National Regulatory Research Institute for his generous research assistance and insightful comments and review of a report draft. Any omissions or inaccuracies are the authors' own.

## CONTACT

Benjamin Inskip (ben\_inskeep@ncsu.edu)  
Kathryn Wright (kathryn.wright@mc-group.com)

## DISCLAIMER

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

## PREVIOUS EDITIONS

*The 50 States of Solar* is a quarterly publication. Previous editions of *The 50 States of Solar* are available for free download at [www.nccleantechcenter.ncsu.edu](http://www.nccleantechcenter.ncsu.edu) and [www.mc-group.com](http://www.mc-group.com).

# TABLE OF CONTENTS

STATE DISTRIBUTED SOLAR MARKETS AND POLICY OVERVIEW .....	4
PURPOSE OF THIS REPORT.....	5
APPROACH.....	5
Questions Addressed.....	5
Actions Included .....	5
Actions Excluded .....	6
OVERVIEW OF Q2 2015 POLICY CHANGES.....	6
Summary of State Actions .....	6
<b>Table 1.</b> Summary of Policy Actions (Q2 2015) .....	7
<b>Figure 1.</b> Recent Action on Net Metering, Rate Design, and Solar Ownership Policies.....	7
<b>Box 1.</b> In Brief: Top Five Solar Policy Developments of Q2 2015 .....	8
NET METERING POLICY CHANGES .....	8
<b>Table 2.</b> Summary of Net Metering and Virtual Net Metering Changes (Q2 2015).....	9
<b>Box 2.</b> A Note on Net Metering Terminology.....	9
<b>Figure 2.</b> Net Metering Action (Q2 2015) .....	10
<b>Table 3.</b> Net Metering Policy Updates (Q2 2015) .....	11
COMMUNITY SOLAR ACTION .....	17
<b>Box 3.</b> What is Community Solar?.....	17
<b>Figure 3.</b> Community Solar Action (Q2 2015).....	17
<b>Figure 4.</b> Community Solar Action (Q2 2015).....	18
DISTRIBUTED SOLAR VALUATION AND NET METERING STUDIES .....	20
<b>Figure 5.</b> Valuation Studies (Q2 2015).....	20
<b>Table 4.</b> Solar and Net Metering Study Action (Q2 2015).....	21
FIXED CHARGE INCREASES.....	25
<b>Figure 6.</b> Action on Residential Fixed Charge Increases (Q2 2015).....	25
<b>Table 5.</b> Residential Fixed Charge Increase Updates (Q1 2015).....	27
SOLAR AND DISTRIBUTED GENERATION CHARGE INCREASES .....	34
<b>Figure 7.</b> Action on Residential Solar/Distributed Generation Charges (Q2 2015).....	34
<b>Table 6.</b> Residential Solar/DG Charge Updates (Q2 2015) .....	35
THIRD-PARTY AND UTILITY OWNERSHIP .....	38
<b>Figure 8.</b> Action on Third-Party and Utility Solar Ownership (Q2 2015).....	38
<b>Table 7.</b> Third-Party and Utility Solar Ownership Action (Q2 2015) .....	39
MINIMUM BILLS .....	41

<b>Table 8. Third-Party Solar Ownership Updates (Q2 2015)</b> .....	41
Q3 2015 SOLAR POLICY OUTLOOK .....	43
ENDNOTES.....	44

## STATE DISTRIBUTED SOLAR MARKETS AND POLICY OVERVIEW

**Distributed solar continues to thrive in many U.S. markets.** Through the end of 2014, more than 600,000 homes and businesses had installed on-site solar.<sup>1</sup> The residential market grew by more than 50% annually in 2012, 2013, and 2014<sup>2</sup>—a trend that some experts predict will continue for 2015 and 2016.<sup>3</sup> These systems generate approximately one-third of the total U.S. solar electricity production.<sup>4</sup> Although other states have rapidly expanding distributed solar markets, California accounts for approximately half of all residential solar installations. Seventy-two percent of residential solar systems installed in 2014 were financed through a third-party ownership model (i.e., solar leasing or a third-party power purchase agreement (PPA)), although solar loan products are rising in popularity.<sup>5</sup>

**Community solar programs are expanding into new states and utility service areas, yet this option is not yet available to most U.S. residential customers.** Community solar has sparked strong interest among many electric utilities.<sup>6</sup> As of August 2014, there were 57 active or proposed utility-offered community solar programs in 22 states.<sup>7</sup> These utility programs range significantly in design and size. For example, Xcel Energy's community solar program in Colorado, stemming from Colorado's landmark 2010 community solar legislation, is currently capped at 30 megawatts annually, whereas Xcel Energy's community solar program in Minnesota does not have an aggregate cap, but limits the size of each community solar garden to 5 megawatts.

**Despite strong near-term growth projections for distributed solar, mid- to long-term policy uncertainties pose a challenge for the industry.**

- At the federal level, an important policy supporting residential solar, the 30% investment tax credit, is set to expire after December 31, 2016.<sup>8</sup>
- At the state level, the general trends are that solar rebate incentives are decreasing, solar tax incentives are expiring, renewable portfolio standards are nearing their targets, net metering caps are being reached, and net metering and rate design are undergoing regulatory and legislative review.

**Rate design, net metering, and distributed solar ownership are among the most contentious ongoing renewable energy policy issues.** Some states have initiated studies or opened dockets to address these issues, and others have already approved some changes.

**Many utilities have proposed or advocated for changes to net metering rules or residential customer rate design.** Many utilities claim that net-metered customers are unfairly subsidized under existing net metering rules. The utility industry's chief concern is the recovery of its fixed costs to avoid both stranded assets and cost shifts, where non-solar customers pay a larger share of the fixed costs than solar customers who continue to use the grid.<sup>9</sup> Consequently, many utilities have proposed net metering changes, such as reducing compensation rates for the electricity customers put onto the grid, or rate design changes imposing higher costs on solar customers. Thus far, no consensus on the presence or

absence of a cost shift has been reached, based on empirical evidence. Many (but not all—e.g., Louisiana) studies conducted by state governments on these issues show that existing net-metered customers produce net benefits to all customers (e.g., Mississippi) and that solar electricity production results in substantial value, comparable to or in excess of the retail rate (e.g., Maine).

## PURPOSE OF THIS REPORT

**The purpose of this quarterly report is to provide state lawmakers and regulators, electric utilities, the solar industry, and other energy stakeholders with timely, accurate, informative, and unbiased quarterly updates on how states are choosing to study, adopt, implement, amend, or discontinue policies associated with distributed solar photovoltaics (PV). This report catalogues proposed and enacted legislative and regulatory policy and rate design changes affecting the distributed solar PV value proposition during the second quarter (Q2) of 2015 (April 1-June 30), with an emphasis on the residential sector.**

## APPROACH

The authors identified relevant policy changes through state utility commission docket searches on state websites or through Advanced Energy Economy's DocketDash tool (<http://powersuite.aee.net>), bill searches using Advanced Energy Legislation Tracker ([www.aeltracker.org](http://www.aeltracker.org)) and LexisNexis ([www.lexisnexis.com](http://www.lexisnexis.com)), energy news articles, and direct communication with stakeholders and regulators in the industry. Despite the authors' best efforts to be comprehensive, omissions might have occurred. Where relevant information, including dockets, is unavailable, readers are invited to send omissions or corrections to the authors for inclusion in future editions.

## Questions Addressed

This report addresses several questions about the changing U.S. solar policy landscape:

- How are (1) state regulatory bodies and legislatures and (2) investor-owned and public power utilities addressing fast growing markets for distributed solar PV?
- What changes to traditional rate design features and net metering policies are being proposed, approved, and implemented?
- Where are distributed solar markets potentially affected by policy or regulatory decisions on community solar, third-party solar ownership, and utility-led residential rooftop solar programs?

## Actions Included

This quarterly report focuses on cataloguing and describing important proposed and adopted policy changes affecting solar customer-generators of investor-owned utilities and large publicly-owned

utilities, along with some notable examples (but not a comprehensive review) of rate design changes at electric cooperatives. Specifically, actions tracked in this issue include:

- Significant changes to state or utility **net metering** or **community solar** laws and rules, including program caps, system size limits, aggregate net metering rules, and compensation rates for net excess generation
- Legislative or regulatory-led efforts to study the **value of solar, net metering**, or **distributed generation policy**, e.g., through a regulatory docket or a cost-benefit analysis
- Utility-initiated rate requests for **charges applicable only to residential customers with solar PV** or other types of distributed generation, such as added monthly fixed charges, demand charges, stand-by charges, or interconnection fees
- Utility-initiated rate requests that propose a 10% or larger increase in either **fixed charges** or **minimum bills** for all residential customers
- Changes to the legality of **third-party solar ownership**, including solar leasing and solar third-party solar PPAs, and proposed **utility-led rooftop solar** programs

In general, this report considers an “action” to be a relevant (1) legislative bill that has been passed by at least one chamber or (2) a regulatory docket, utility rate proposal, or rulemaking proceeding. One key exception is that introduced legislation related to third-party sales is included irrespective of whether it has passed at least one chamber, as only a small number of bills related to this policy have been introduced.

## Actions Excluded

In addition to excluding most legislation that has been introduced, but not advanced, this report excludes a review of state actions pertaining to solar incentives, as well as more general rate design changes, like decoupling or time-of-use tariffs. The report also excludes changes to solar access laws, interconnection rules, and renewable portfolio standards. Details and updates on these policies and incentives are available at [www.dsireusa.org](http://www.dsireusa.org).

## OVERVIEW OF Q2 2015 POLICY CHANGES

### Summary of State Actions

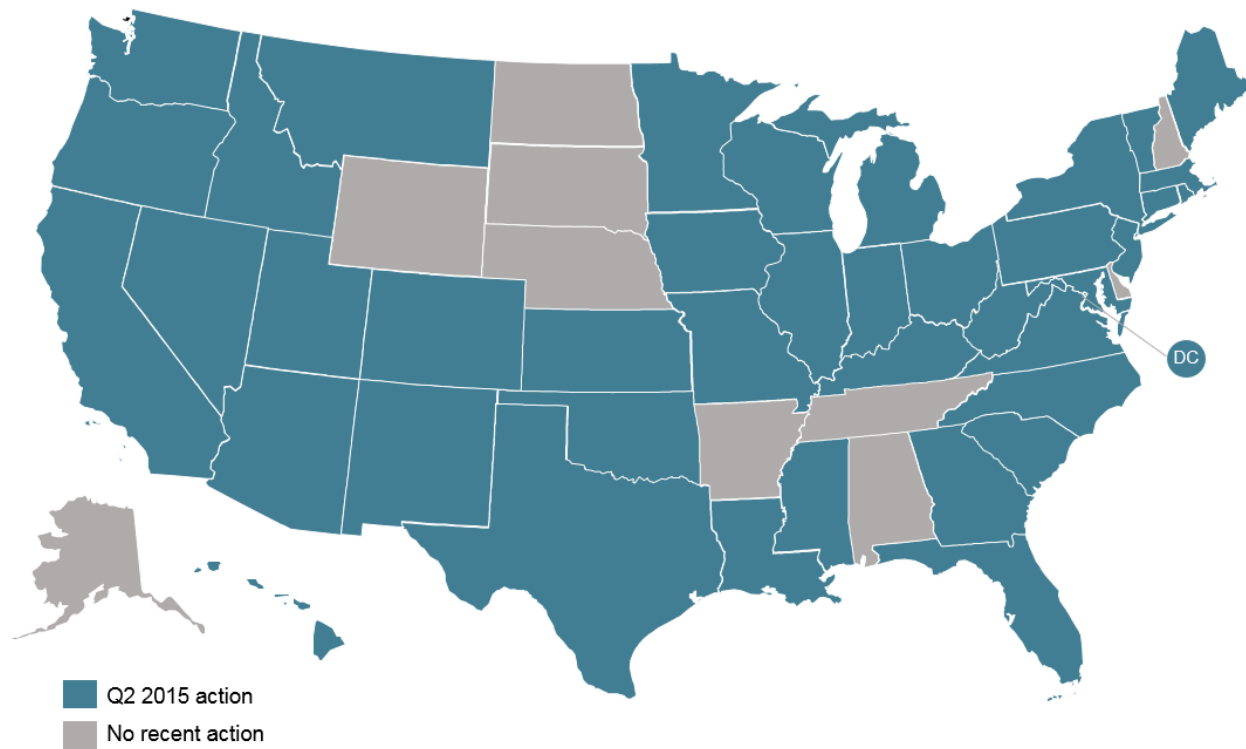
Table 1 provides a summary of state actions related to net metering, rate design, or solar ownership during Q2 2015. Of the 87 actions catalogued, 32 were related to fixed charge increases, followed by net metering policy changes (18) and studies or discussions of net metering and solar valuation (15). Box 1 highlights the top actions of Q2 2015, described in greater detail in the following sections. The actions occurred across 40 states and the District of Columbia in Q2 2015 (Figure 1).

**Table 1. Summary of Policy Actions (Q2 2015)**

Policy Type	# of Actions	% by Type	# of States/ Districts/ Territories
Residential fixed charge increase	32	37%	18
Net metering	18	21%	16
Solar valuation or net metering study	15	17%	15
Community solar	8	9%	7 + DC
Residential solar/DG charge	6	7%	5
Third-party ownership of solar	5	6%	4
Minimum bill increase	2	2%	2
Utility-led rooftop PV programs	1	1%	1
<b>Total</b>	<b>87</b>	<b>100%</b>	<b>40 states + DC + 0 territories</b>

Note: The “# of States/ Districts/ Territories” total is not the sum of the rows, as some states have multiple actions.

**Figure 1. Recent Action on Net Metering, Rate Design, and Solar Ownership Policies**





## Box 1. In Brief: Top Five Solar Policy Developments of Q2 2015

### 1. NET METERING POLICIES REMAIN IN THE SPOTLIGHT

The Mississippi Public Service Commission issued proposed net metering rules in April 2015. Meanwhile, states including **California**, **New York**, and **Maine** are leading the way in developing net metering successor tariffs and policies.

### 2. THIRD-PARTY OWNERSHIP DEVELOPING IN THE SOUTHEAST

The expansion of third-party ownership models such as solar PPAs and leases is a highlight of Q2 2015. Many states, primarily in the Southeast, have taken action or are investigating third-party financing models. **Georgia's** H.B. 57 went into effect on July 1, while **Florida**, **North Carolina**, and **Virginia** have ballot measures, proposals, or legislation pending.

### 3. COMMUNITY SOLAR EXPANDS

A number of states have passed legislation for community solar pilot programs to expand access to solar energy. Pilot programs passed in **Connecticut** and **Maryland**. Meanwhile, **Minnesota** is limiting community solar gardens to 5 MW maximum per location, but remains poised to become a national leader in the coming years in total installed community solar capacity.

### 4. GEORGIA POWER BEGINS SELLING ROOFTOP SOLAR

**Georgia** Power announced that it would begin selling rooftop solar systems to customers through an unregulated affiliate company starting Q3 2015, which was enabled by the passage of H.B. 57.

### 5. NEVADA CLARIFIES NET METERING CAP, TO CREATE NEW TARIFF

In June, **Nevada** enacted S.B. 374, which clarified the net metering cap as 235 MW. Previously, state law specified the cap as 3% of NV Energy's peak capacity (~7,500 MW).<sup>10</sup> The bill instructs the Public Utilities Commission to finalize a new tariff for customer-generators by the end of 2015. The 235 MW cap is projected to be reached as early as Q3 2015.

## NET METERING POLICY CHANGES

Net metering policy actions in Q2 2015 came in several different forms (see Table 2). Most notable was the release of proposed net metering rules from the Mississippi Public Service Commission. Mississippi is currently one of only six states that do not have statewide net metering policies.

Sixteen states enacted or are considering changes to existing net metering policies. Some states are expanding net metering by increasing aggregate caps or allowing meter aggregation or virtual net metering. New Jersey and Nevada took actions to raise their statutory "trigger" level and cap, respectively, to accommodate new systems. Simultaneously, both California and Maine are examining successor tariffs to net metering. The California Public Utilities Commission released the final version of its Public Tool, which will be used to analyze policy proposals. In other cases, states are moving to

place restrictions on the types of facilities allowed to participate in programs. For example, proposed rules in Pennsylvania would limit net-metered facilities to produce not more than 200% of on-site load.

**Table 2. Summary of Net Metering and Virtual Net Metering Changes (Q2 2015)**

Type of Change	# of Instances	% by Type	# States/ Districts/ Territories
Net metering rules	14	78%	13
Net excess generation	5	28%	4
Aggregate cap	2	11%	3
Virtual net metering	2	11%	1
REC ownership	2	11%	2
Meter aggregation	1	6%	1
<b>Total</b>	<b>18 Actions</b>	<b>100%</b>	<b>16 States</b>





Note: Total does not reflect sum of the rows because one action can include multiple types of changes.



### Box 2. A Note on Net Metering Terminology




“Net excess generation” includes changes to how utilities compensate customers for excess electricity they export to the grid. An “aggregate cap” refers to the total limit on net-metered systems allowed by a state or a utility, whereas the “system size limits” are capacity sizes allowed for individual systems to net meter. “Aggregate net metering” refers to a program design allowing one or more customers to aggregate multiple electric meters for the purpose of allocating net metering credits. “Virtual net metering” is a type of aggregate net metering where credits from one solar PV system are used to offset multiple customers’ electricity bills. “Meter aggregation” is another type of aggregate net metering in which a single customer may be able to offset electrical use from multiple meters on his or her property.<sup>11</sup> “Net metering rules” encompass other policy changes to net metering not covered by any of the other categories. “REC ownership” refers to rules that specify whether renewable energy credits generated by a net-metered system shall accrue to the solar PV system owner or the utility company.










**Table 3. Net Metering Policy Updates (Q2 2015)**

State	Type of Change	Description	Source
Arizona 	Net Excess Generation	Tucson Electric Power (TEP) and UniSource Energy Services (UNS), sister utilities owned by Fortis, both filed requests to the Arizona Corporation Commission in March to revise the rate at which customers are credited for net excess generation to the rate the utility pays for wholesale renewable energy. In June, both utilities withdrew the requests as a separate issue; UNS included the net metering changes in a general rate case filed in June, and TEP plans to include the proposal in a general rate case to be filed later this year.	Docket No. <a href="#">E01933A-15-011</a> and <a href="#">E-04204A-15-0099</a>
California 	Net Metering Rules, Net Excess Generation	In July 2014, the California Public Utilities Commission (CPUC) issued an order establishing a new proceeding to address a net metering successor tariff and other net metering issues pursuant to A.B. 327. In June 2015, CPUC released a final version of its Public Tool, which will be used to analyze possible successor tariffs. Parties can file proposed successor tariffs no later than July 2, 2015, and reply to parties' proposed successor tariffs no later than September 3, 2015. (The successor tariff will apply when a utility reaches a net metering cap of 5% of its aggregate customer peak demand or July 1, 2017, whichever is sooner.)	<a href="#">Docket No. R1407002</a>
Florida 	Net Metering Rules	In March 2015, Tampa Electric Company filed to make modifications to their NM-1 net metering tariff. The proposed request was suspended in June pending further review.	<a href="#">Docket No. 150099</a>
Hawaii 	Net Excess Generation, Net Metering Rules	In August 2014, Hawaiian Electric Companies (HECO) proposed a Distributed Generation Integration Plan that was deemed insufficient by the Public Utilities Commission in March 2015. In June 2015, HECO proposed a new plan that included a host of changes. The plan's "Grid-Supply Option" includes reducing the rate paid for electricity exported to the grid for customer-generators from the retail rate to \$0.18 - \$0.29 per kWh, depending on the utility subsidiary.	<a href="#">Docket No. 2014-0192</a>  <a href="#">Final Statement of Position of the Hawaiian Electric Companies</a>


<p>Illinois</p> 	<p>Net Metering Rules, Meter Aggregation</p>	<p>In April 2015, the Illinois Commerce Commission (ICC) initiated a rulemaking proceeding on the state’s net metering rules. The proposed rule adds new, clarifying definitions, enables web-based electric application procedures, and requires a case-by-case consideration of meter aggregation by the utility and an explanation by the utility to the ICC if the request is denied. The proposed rules also align ICC net metering rules with previously enacted legislation.</p>	<p><a href="#">Docket No. 15-0273</a></p>
<p>Iowa</p> 	<p>Net Metering Rules</p>	<p>Iowa’s two investor-owned utilities, MidAmerican Energy and Alliant Energy (Interstate Power and Light), are refusing to net meter solar PV systems using a third-party power purchase agreements (PPAs). In July 2014, the Iowa Supreme Court issued a ruling (<i>SZ Enterprises LLC d/b/a Eagle Point Solar v. Iowa Utilities Board</i>, No. 13–0642) that effectively allowed third party power purchase agreements in the state for the first time, determining that Eagle Point Solar did not meet the definition of a “public utility” under state law when it entered into such an arrangement with a local government. In June 2015, Eagle Point Solar filed a complaint with the Iowa Utilities Board, seeking a ruling that net metering a system financed by a third party does not constitute a “resale” of energy and “large general service” customers (i.e., customers that have a demand charge) are eligible to net meter (Alliant Energy does not currently permit them to net meter).</p>	<p><a href="#">“Iowa Utilities: No Net Metering for Third-Party Solar Projects”</a><sup>12</sup></p> <p><a href="#">“Complaint Alleges Iowa Utility Is Violating Solar Ruling”</a><sup>13</sup></p> <p><a href="#">FCU-2015-0009</a></p>

<p>Maine</p> 	<p>Net Metering Rules</p>	<p>Maine’s legislature directed the Public Utilities Commission (PUC) to convene a stakeholder group for the purpose of creating an alternative to net energy billing. The legislative action (called a “resolve” in Maine) provides these guidelines for the PUC: (1) the alternative must provide fixed, long-term compensation mechanisms using market-based or capacity-based mechanisms when possible, (2) the PUC must prepare at least three aggregate market capacity scenarios, (3) the alternative must allow all major market segments to participate, (4) the alternative must include a way to monetize the benefits of distributed generation for ratepayers, and (5) the PUC must develop a process and timeline for transitioning from net energy billing to the proposed alternative. The resolve was enacted in late June 2015 when the legislature overrode the governor’s veto.</p>	<p><a href="#">H.P. 863</a></p>
<p>Massachusetts</p> 	<p>Net Metering Rules</p>	<p>In June 2015, SolarCity submitted a request to the Department of Public Utilities for an advisory ruling on the ability of a combined solar and storage project to net meter under current Massachusetts statutes and regulations. SolarCity is planning to request an advisory ruling at a later date on net metering eligibility for combined solar and storage projects, in general.</p>	<p><a href="#">Docket No. 15-77</a></p>
<p>Minnesota</p> 	<p>Net Metering Rules, REC Ownership, Net Excess Generation</p>	<p>The Minnesota Public Utilities Commission (PUC) has issued proposed rules to revise the state’s net metering policy. The proposed rules specify that a net-metered facility may elect kWh credits for monthly net excess generation in place of a payment at the avoided cost rate. The proposal also clarifies the definition of a standby charge and specifies that generators own all RECs unless other ownership is expressly stated in a contract between a generator and a utility, or stated otherwise by law or by the PUC.</p>	<p><a href="#">Docket No. 13-729</a></p>
	<p>Net Metering Rules</p>	<p>In July 2015, Minnesota enacted an energy and jobs bill containing a provision that, beginning July 1, 2015, a municipal utility or a co-op can begin charging new net metering customers a "reasonable and appropriate" fee for customers those who generate their own electricity through wind or solar.</p>	<p><a href="#">H.F. No 3</a></p>

Mississippi 	Net Metering Rules	In April 2015, the Mississippi Public Service Commission issued proposed net metering rules. A detailed request for public comments (due July 1, 2015) on a wide range of net metering and interconnection issues accompanied the proposed rules.	<a href="#">Docket No. 2011-AD-002</a>
Nevada 	Aggregate Cap, Net Metering Rules	In June 2015, Nevada enacted S.B. 374, which addresses several net metering issues. It changes the aggregate capacity limit for net-metered systems under the current state rules from 3% of total peak capacity for all utilities to a total of 235 megawatts (MW). It also directs the state’s electric utilities to submit new net metering tariffs to come into effect once the 235 MW cap is reached. Those tariffs must be filed by July 31, 2015, and the Public Utilities Commission of Nevada must approve or decline the tariffs by December 31, 2015. If the Commission does not approve a new tariff by December 31, the utility must continue to offer net metering to customers under existing state rules until the Commission approves a new tariff. The Commission has broad latitude in what may be approved in the tariffs, including separate rate classes or monthly fees for net-metered customers. The 235-MW cap is expected to be reached as early as Q3 2015.	<a href="#">S.B. 374</a>
New Jersey 	Aggregate Cap	S.B. 2420 authorizes the New Jersey Board of Public Utilities (BPU) to limit net metering to 2.9% of the total annual kWh sold in the state by each electric power supplier during the prior one-year period. The bill is currently before the Governor for approval. There is no set cap for net metering in New Jersey, but the statute allows the BPU to limit net metering customers to 2.5% of the peak demand. The total capacity of net - metered systems in NJ have long surpassed the 2.5% “trigger,” and but the BPU has allowed net metering to continue beyond this percentage.	<a href="#">S.B. 2420</a>
New Mexico 	Net Excess Generation	In December 2014, the Public Service Company of New Mexico (PNM) proposed eliminating “net metering banking” (month-to-month carryover of credits earned from net excess generation) for new installations starting in 2016. The New Mexico Public Regulation Commission unanimously rejected PNM’s proposal in May 2015.	<a href="#">Docket No. 14-00332-UT</a>

New York 	Virtual Net Metering	In April 2015, the New York Public Service Commission adopted a plan for transitioning remote net metering from a monetary to a volumetric credit. Previously, rules allowed a non-residential customer with remote net metering at a site where a non-demand rate was in effect to obtain monetary credits that could be applied to its satellite sites; in comparison, on-site net metering credits were are volumetric credits that were are generally lower than monetary rates.	<a href="#">Docket No. 14-E-0151/14-E-0422</a>
	Virtual Net Metering	In May 2015, the New York Public Service Commission initiated a proceeding to resolve the issue concerning a tariff provision at of many major electric utilities that restricts remote net metering to host-satellite relationships involving a single generator. The current law restricts any facility that is already net metered from being designated again as a satellite account to absorb any additional remote net metering credits from another host site. Utilities are were directed to file comments by June 29, 2015.	<a href="#">Docket No. 15-01056/15-E-0267</a>
Pennsylvania 	Net Metering Rules	In April 2015, the Pennsylvania Public Utility Commission (PUC) proposed a net metering system size limitation of 200% of load for on-site generation. The PUC ended public comment on the rules at the end of May, and the draft will be subject to 18 months of reviews by state lawmakers and regulators before it is finalized.	<a href="#">Docket No. L-2014-2404361</a>
South Carolina 	Net Metering Rules	Pursuant to S.B. 1189, passed in 2014, which establishing established voluntary distributed generation programs for utilities and subsequent settlement agreements arising from a stakeholder process, Duke Energy Carolinas, Duke Energy Progress, and South Carolina Electric & Gas have filed proposed programs. Proposed renewable energy tariffs for each major IOU were shared with the South Carolina Public Service Commission on June 2, 2015. The current tariffs call for offsetting on-peak and off-peak consumption with corresponding generation. Monthly net excess generation will be carried over on an off- and on-peak basis. Total excess generation accumulated in a year will be paid out in March at the avoided cost rate.	<a href="#">Docket No. 2014-246-E</a>  <a href="#">Docket No. 2015-205-E</a> (SC G&E) <a href="#">Docket No. 2015-204-E</a> (Duke Energy Progress) <a href="#">Docket No. 2015-203-E</a> (Duke Energy Carolinas)



<p>Vermont</p> 	<p>REC Ownership, Net Metering Rules</p>	<p>In June 2015, Vermont’s governor signed H.B. 40 into law. This bill changes the default owner of RECs associated with net-metered systems from the customer to the utility, effective July 2015. Customers still have the option of retaining the RECs generated by their system, but must now elect this option at the time of application. Beginning in January 2017, the value of the credit provided for electricity generated by net-metered systems will be reduced for customers electing to retain ownership of their RECs.</p>	<p><a href="#">H.B. 40</a></p>
--	--	--	--------------------------------

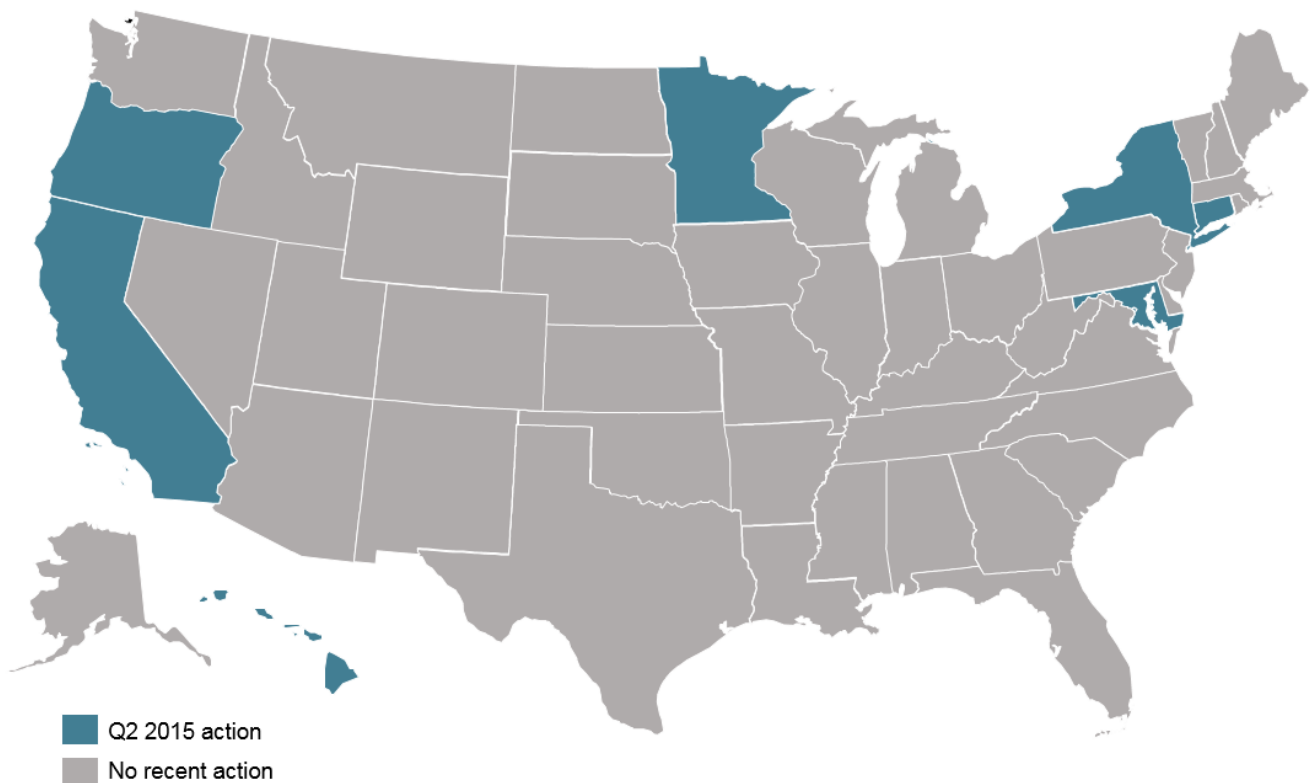
## COMMUNITY SOLAR ACTION

There were formal actions in several states this quarter to establish policies for community solar programs. Community solar is often used as a method of expanding access to solar energy for individuals who live in homes or apartments unsuitable for solar systems or who might not be able to afford on-site installations. During Q2 2015, Connecticut approved a 6 MW pilot program. In previous years, two similar bills were defeated. Maryland adopted similar legislation for a pilot program. Two states also began processes to develop formal community solar rules and tariffs (New York and Oregon). In total, eight states took actions on community solar this quarter.





### Box 3. What is Community Solar?




“Community solar” refers to a voluntary program for customers where a solar PV system “provides power and/or financial benefits to, or is owned by, multiple community members.”<sup>14</sup> While some community solar projects share similarities with utility-scale solar projects (e.g., large in size, located off-site from consumption, ground-mounted systems, utility-side of the meter), this report treats it as a type of distributed solar, as it is community-focused and allows residential customers participation.

Figure 3. Community Solar Action (Q2 2015)



**Figure 4. Community Solar Action (Q2 2015)**

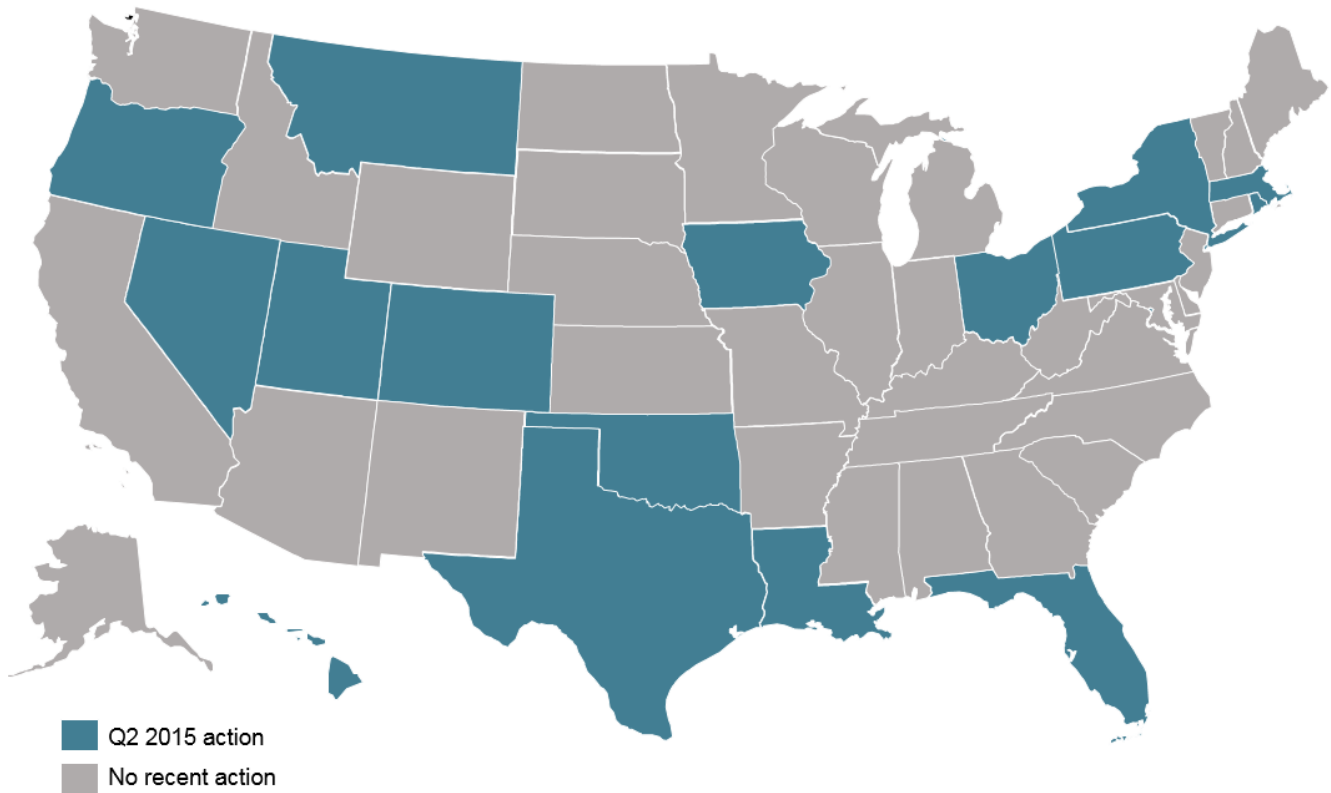
State	Description	Source
<p>California</p> 	<p>Pursuant to S.B. 43 of 2013, the California Public Utilities Commission (CPUC) issued a decision in January 2015 outlining steps for investor-owned utilities to implement the 600-MW Green Tariff Shared Renewables (GTSR) Program. In Q2 2015, the process was in “Phase IV,” which involves CPUC consideration of issues related to program design, procurement, environmental justice, and rate design. The Phase IV (Track A) proposed decision is expected November 2015, and investor-owned utilities are expected to begin offering GTSR in 2016.</p>	<p><a href="#">Docket No. A1201008</a></p>
<p>Connecticut</p> 	<p>S.B. 928, enacted in June 2015, requires the Department of Energy and Environmental Protection (DEEP) to create a three-year pilot “shared energy facility program.” These systems must (1) be Class I renewable energy sources, (2) have nameplate capacity of 4 MW or less, and (3) have at least two subscribers. The facilities can be owned by any for-profit or nonprofit organization, who can contract with a third-party entity to build, own, or operate such facilities. The aggregate capacity of the projects under the pilot program is capped at 6 MW.</p>	<p><a href="#">S.B. 928</a></p>
<p>District of Columbia</p>	<p>In May 2015, the District of Columbia Public Service Commission issued a Notice of Final Rulemaking to the amendments to net metering rules in accordance with the Community Energy Amendment Act of 2013. The rulemaking for the community energy net metering has been finalized and will be adopted 30 days after it is published in the D.C. Register.</p>	<p><a href="#">Docket No. RM9-2015-01-E-13</a></p>
<p>Hawaii</p> 	<p>S.B. 2010, enacted May 2015, allows “any person or entity” to “own or operate an eligible community-based renewable energy project.” The bill requires utilities to file community renewable energy tariffs with the Hawaii Public Service Commission by October 1, 2015.</p>	<p><a href="#">S.B. 1050</a></p>
<p>Maryland</p> 	<p>H.B. 1087, enacted in April 2015, authorizes the Maryland Public Service Commission to establish a three-year pilot program for community solar projects in the state. Community solar projects must be 2 MW in size or less, and participation is open to both residential and commercial customers.</p>	<p><a href="#">H.B. 1087</a></p>

<p>Minnesota</p> 	<p>In March 2015, the Minnesota Public Utilities Commission (PUC) declined a request by Xcel Energy to create an aggregate cap of 80 MW for the community solar gardens program. In April 2015, Xcel indicated that it would limit solar garden approval to those sized 1 MW or less, preventing co-located gardens of larger sizes. Through the end of Q2, more than 1,166 MW<sub>DC</sub> of projects were proposed, with a substantial amount coming from co-located gardens.<sup>15</sup> In June 2015, the PUC agreed to a settlement capping co-located projects at 5 MW<sub>AC</sub>.</p>	<p><a href="#">Docket No. 13-867</a></p>
<p>New York</p> 	<p>In February 2015, the New York Public Service Commission instituted a proceeding to develop a community net metering program and proposed rules for implementing community net metering. The deadline to submit comments on the proposal ended in April 2015.</p>	<p><a href="#">Docket No. 15-E-0082</a></p>
<p>Oregon</p> 	<p>In June 2015, Governor Brown signed H.B. 2941, which requires the Oregon Public Utility Commission to open a proceeding to take public comment on community solar program design. The proceeding is to examine a range of program designs and consider ratepayer access, the role of utilities, and program costs. The legislation orders the Commission to recommend a community solar program design to the Legislature by November 1, 2015.</p>	<p><a href="#">H.B. 2941</a></p>






# DISTRIBUTED SOLAR VALUATION AND NET METERING STUDIES





There are many debates underway about how to properly value key attributes of distributed generation while also addressing potential cost-shifting among customer-generators and other customers. During Q2 2015, 16 states published a study, proposed new studies, or had ongoing, formal regulatory discussions regarding the proper value of distributed solar generation or net metering policies (see Figure 5). Of note is the Electric Reliability Council of Texas’s forthcoming proposal to compensate distributed energy resource (DER) production at the wholesale price. Hawaii’s work on a successor to net metering continues to evolve. Hawaiian Electric Companies has currently proposed adjustments to both minimum bills and net metering compensation rates.





**Figure 5.** Valuation Studies (Q2 2015)



**Table 4. Solar and Net Metering Study Action (Q2 2015)**

State	Description	Source
<p>Colorado</p> 	<p>In March 2014, the Colorado Public Utilities Commission (PUC) opened a miscellaneous proceeding to consider the issues of retail renewable distributed generation and net metering. The PUC held four hearings, the last of which was in April 2015.</p>	<p><a href="#">Docket No. 14M-0235E</a></p>
<p>Florida</p> 	<p>The Florida Public Service Commission issued a request for comments regarding solar energy development and solar programs and received 143 responses.</p>	<p><a href="#">“Solar Energy in Florida - Request for Comments”</a><sup>16</sup></p>
<p>Hawaii</p> 	<p>The Hawaii Public Utilities Commission (PUC) is currently undergoing a two-phase, two-track (system integration and economics, and pricing) approach to addressing the immediate and future importance of distributed generation. Outcomes are ordered to include “new tariffs enabling customer self-supply and grid-supply options” and a distributed energy generation (DER) 2.0 Transition Plan that includes a new DER market-based procurement program. In June 2015, HECO proposed a new plan that would increase minimum bills and reduce net metering compensation from \$0.295 per kWh to \$0.18 per kWh for HECO (Oahu) customers, from \$0.359 per kWh to \$0.225 per kWh for HELCO customers, and from \$0.351 per kWh to \$0.231 per kWh for MECO customers. The PUC is currently reviewing the proposal.</p>	<p><a href="#">“Hawaiian Electric Companies Propose New Options to Support Continued Growth of Rooftop Solar”</a><sup>17</sup></p> <p><a href="#">“HECO Files with Regulators to Cut Solar Net Metering Rates in Half”</a><sup>18</sup></p> <p><a href="#">Docket No. 2014-0192</a></p>
<p>Iowa</p> 	<p>In January 2014, the Iowa Utilities Board (IUB) issued an order commencing an inquiry into issues surrounding distributed generation (DG), including possible changes to net metering and interconnection rules, which remains pending before the IUB. In Q2 2015, parties submitted comments in reply to specific questions in IUB’s April 2015 “Order Soliciting Additional Comments.”</p>	<p><a href="#">Docket No. NOI-2014-0001</a></p>
<p>Louisiana</p> 	<p>The Louisiana Public Service Commission accepted comments throughout Q2 2015 on its draft net metering study examining the impact of solar net metering on ratepayers. The draft study, released in February 2015, shows that the costs of solar net metering outweigh its benefits to ratepayers.</p>	<p><a href="#">Docket No. X-33192</a></p>

<p>Massachusetts</p> 	<p>The Massachusetts Net Metering Task Force, established by the Acts of 2014, submitted its final report to the Massachusetts legislature at the end of April 2015. The legislature will consider the report's findings in making changes to the state's net metering policy.</p>	<p><a href="#">Massachusetts Net Metering and Solar Task Force Final Report to the Legislature</a></p>
<p>Montana</p> 	<p>The Montana Legislature passed a Joint Resolution in April 2015 to appoint an interim committee to study the costs and benefits of net-metered generation. The study may examine the general impacts of net-metered systems, impacts on electricity supply resources, safety, system stability, subsidies, benefits to non-net-metered customers, economic development, and utility operations. The study is to be completed by September 2016.</p>	<p><a href="#">S.J. 0012</a></p>
<p>Nevada</p> 	<p>The Public Utilities Commission of Nevada issued a Final Order in March 2015 accepting the recommendations of a report on whether a separate customer class should be established for net metering or distributed generation customers. The Commission directed NV Energy to conduct a cost-of-service study to establish whether rate design changes are necessary, and to file any proposed rate changes as a result of the study, by July 31, 2015. A previous study conducted in July 2014 evaluated the costs and benefits of net metering in Nevada.</p>	<p><a href="#">Docket No. 14-06009 (Order 44816)</a></p>
<p>Ohio</p> 	<p>The Public Utilities Commission of Ohio held an informal net metering workshop in May 2015 to gather input from interested parties on a range of issues. Parties on the agenda to speak included FirstEnergy, Ohio Advanced Energy Economy, The Alliance for Solar Choice, Pettisville Local School, the Environmental Law &amp; Policy Center, The Ohio Environmental Council, and Direct Energy. Net metering rules are being reviewed in response to an Ohio Supreme Court case filed last summer.</p>	<p><a href="#">“Net Metering Going Under the Microscope in Ohio”</a><sup>19</sup></p> <p><a href="#">Ohio Power Company and AEP v. Public Utilities Commission of Ohio</a>, Case 2014-1290</p>

<p>Oklahoma</p> 	<p>The Oklahoma Corporation Commission (OCC) held the last of four meetings in June 2015 on implementing S.B. 1456 of 2014. The law allows utilities to apply to the OCC for approval to implement a higher fixed charge or demand charge on net metering customers. Oklahoma Gas and Electric Co. is expected to file a distributed generation tariff in their 2015 rate case, and the Public Service Co. of Oklahoma is expected to file a stand-alone distributed generation tariff by early fall 2015.</p>	<p><a href="#">“Utilities Eye Tariffs for Solar, Wind Users”<sup>20</sup></a></p>
<p>Oregon</p> 	<p>The Public Utility Commission of Oregon (PUC) has an open docket to investigate the resource value of solar, including whether net metering results in any cost shifts and impacts to the electricity grid. A scoping workshop was held in June 2015, and the PUC will issue a memo on the scoping workshop in July.</p>	<p><a href="#">Docket No. UM 1716</a></p>
<p>Pennsylvania</p> 	<p>In April 2015, the Pennsylvania Public Utility Commission released its report on distributed generation potential. The report looked at the cost-effectiveness of various distributed generation technologies, including PV, on meeting the state's electricity load. The report concluded that PV fails the Total Resource Cost (TRC) test. The statewide TRC benefit-cost ratio was 0.29 for the residential sector and 0.31 for the non-residential sector. The study concludes that for solar PV to be cost effective, the average installed cost would need to come down to \$1.74 per Watt for non-residential systems and \$2.15 per Watt for residential systems.</p>	<p><a href="#">Distributed Generation Potential Study for Pennsylvania</a></p>
<p>Rhode Island</p> 	<p>S.B.0081, enacted in June 2015, requires the Rhode Island Public Utilities Commission (PUC) to open a docket by July 2015 to consider rate design and cost allocation among rate classes, taking into account the effects of net metering and increasing distributed energy resources. Electric utilities are required to file a revenue-neutral allocated cost-of-service study for all rate classes and propose new rates for all customers in each rate class. The PUC will determine new rates taking into account various factors including benefits of distributed-energy resources, services provided by net-metered customers, equitable ratemaking principles, and others. The PUC can choose to consider any reasonable rate design option, including fixed charges, minimum monthly charges, demand charges, volumetric charges, or any combination thereof. The PUC shall issue an order before March 2016, and the new rates would take effect after April 2016.</p>	<p><a href="#">S.B. 0081, Docket No. 4545</a></p>









<p>Texas</p> 	<p>In Q2 2015, the Electric Reliability Council of Texas (ERCOT) held a workshop on a tentative proposal to allow distributed energy resources (DERs) to earn wholesale prices for the energy they produce on the condition that the DERs be aggregated in areas where power delivery to the end customer is currently expensive. The proposal is not yet official, and a full concept paper is expected to be released in Q3 2015.</p>	<p><a href="#">“Texas Mulls New Grid Markets For Aggregated Distributed Energy Resources”<sup>21</sup></a></p>
<p>Utah</p> 	<p>In August 2014, the Utah Public Service Commission opened a docket to review the costs and benefits of net metering. A technical conference was held in November 2014 to outline PacifiCorp’s study of a load research study for residential net metering customers. The results of this study are expected by September 2015, and an analytical framework for the cost-benefit study will be set by the end of Q3 2015. Workgroup meetings, settlement meetings, and public hearings will continue over summer and fall.</p>	<p><a href="#">Docket No. 14-035-114</a></p>








Table 5 details proposed and adopted (if applicable) utility fixed charge increases for Q2 2015. **Of the 32 proposed changes presented in Table 5, the average existing monthly residential fixed charge is \$9.70, and the average proposed fixed charge is \$15.45—an increase of 59.3%.**



Regulators decided 15 of the 32 proposed charge increases in Q2 2015, allowing rates to increase in nine instances across five states, and holding fixed charges at existing levels in six cases across four states. In eight out of nine cases where the regulatory agency allowed a rate increase, it did not allow rates to increase by the full amount proposed by the utility. While utility proposals in these cases would have increased rates by an average of \$4.71 per month, regulators allowed rates to increase by an average of \$2.50 per month, just over half of the requested amount. In one state (Kentucky) regulators approved a rate increase for one utility, and rejected rate increases for two others.




**Table 5. Residential Fixed Charge Increase Updates (Q1 2015)**

State	Utility	Current Monthly Solar/DG Charge	Proposed Monthly Solar/DG Charge	Approved Monthly Solar/DG Charge	Description	Source
Arizona 	UniSource Energy Services	\$10	\$20	<i>Pending</i>	In its May 2015 application for changes to its rates, UniSource Energy Services proposed an increase in the basic service charge for residential customers. The rate case includes several other proposed changes, including a demand-based rate mandatory for solar customers and changes to its net metering tariff.	<a href="#">Docket No. E-04204A-15-0142</a>
Idaho 	Avista Utilities	\$5.25	\$8.50	<i>Pending</i>	Avista Utilities filed a general rate case with the Idaho Public Utilities Commission in June 2015. The proposed rate changes included a 62% increase in the residential fixed charge.	<a href="#">Docket No. AVU-15-05</a>
Indiana 	Indianapolis Power and Light	\$11	\$17	<i>Pending</i>	In December 2014, Indianapolis Power and Light proposed a residential monthly fixed charge increase.	<a href="#">Docket No. 44576 - NONE</a>
Kansas 	WeStar	\$12	\$27 / \$50	<i>Pending</i>	In March 2015, Westar Energy proposed a residential monthly fixed charge increase. The monthly basic service fee would increase from \$12 to \$15, with an annual increase of \$3 for four years to \$27. The Residential Stability Plan rate option features a \$50 fixed charge.	<a href="#">Docket No. 15-WSEE-115-RTS</a>




Kentucky 	Kentucky Utilities	\$10.75	\$18	\$10.75	In November 2014, Kentucky Utilities proposed increasing its residential monthly fixed charge. In June 2015, the Kentucky Public Service Commission denied the fixed charge increase when it approved a joint settlement agreement.	<a href="#">Docket No. 2014-00371</a>
	Louisville Gas and Electric	\$10.75	\$18	\$10.75	In November 2014, Louisville Gas and Electric proposed increasing its residential monthly fixed charge. In June 2015, the Kentucky Public Service Commission denied the fixed charge increase when it approved a joint settlement agreement.	<a href="#">Docket No. 2014-00372</a>
	Kentucky Power	\$8	\$16	\$11	In June 2015, the Kentucky Public Service Commission issued an order approving an increase to residential monthly fixed charges to \$11. This ruling modified terms of a settlement agreement between Kentucky Power, the Kentucky Industrial Utility Customers (KIUC), and the Kentucky School Boards Association (KSBA) for a monthly fixed charge of \$14. Notably, the Attorney General did not accept the settlement.	<a href="#">Docket No. 2014-00396</a>
Michigan 	DTE Energy	\$6	\$10	<i>Pending</i>	In December of 2014, DTE Energy proposed increasing its residential monthly fixed charge. The Proposal for Decision Target date is October 8, 2015.	<a href="#">Docket No. 17767</a>



Missouri 	Empire District Electric	\$12.52	\$18.75	\$12.52	In August 2014, Empire District Electric proposed a residential monthly fixed charge increase. In June 2015, the Missouri Public Service Commission approved a unanimous agreement (“Revised Stipulation and Agreement and List of Issues”), stipulating that there will not be a fixed charge increase for residential customers “at this time.”	<a href="#">Docket No. ER-2014-0351</a>
	Kansas City Power and Light	\$9	\$25	<i>Pending</i>	In October 2014, Kansas City Power and Light (KCP&L) proposed increasing its residential monthly fixed charge. In June 2015, a “Non-Unanimous Stipulation and Agreement” (to which KCP&L objects) was submitted to the Missouri Public Service Commission. Signatories agree the residential fixed charge should not increase.	<a href="#">Docket No. ER-2014-0370</a>
Montana 	Montana-Dakota Utilities	\$5.40 *	\$7.50 *	<i>Pending</i>	Montana-Dakota Utilities filed a general rate case in June 2015, seeking a 38.9% increase in the basic residential service charge (from \$0.18/day to \$0.25/day).	<a href="#">Docket No. D2015.6.51</a>
Nevada 	Nevada Power (NV Energy’s southern service territory)	\$10	\$15.25	\$12.75	The Nevada Public Utilities Commission (PUC) approved a settlement agreement over NV Energy’s general rate case for its southern service territory. The settlement agreement includes a \$2.75 increase in the residential monthly fixed charge, though the PUC has ordered Nevada Power to propose a new basic service charge in its next rate case that would recover 100% of fixed costs to residential customers in its next rate case.	<a href="#">Docket No. 14-05004</a>

New Mexico 	El Paso Electric	\$7	\$10	<i>Pending</i>	In May 2015, El Paso Electric proposed increasing its residential monthly fixed charge.	<a href="#">Docket No. 15-00127-UT</a>
	Public Service Company of New Mexico	\$5	\$12.70	\$5	In December 2014, the Public Service Co. of New Mexico (PNM) proposed increasing its residential monthly fixed charge. The New Mexico Public Regulation Commission unanimously voted to reject the change in May 2015, citing application incompleteness. PNM is expected to refile its rate case in September 2015.	<a href="#">Docket No. 14-00332-UT</a>
New York 	PSEG Long Island	\$10.95 *	\$20.08 *	<i>Pending</i>	PSEG Long Island filed for a rate plan that includes an increase in the residential fixed charge from \$10 to \$20 over a three-year period.	<a href="#">Docket No. 15-00262</a>
	Central Hudson Gas and Electric	\$24	\$29	\$24	In June 2015, the New York Public Service Commission approved a three-year electric and gas rate plan, based on recommendations on a previously issued joint proposal.	<a href="#">Docket No. 14-01484/14-G-0319</a>
	Consolidated Edison	\$15.76	\$18	\$15.76	In January 2015, Consolidated Edison proposed increasing its residential monthly fixed charge. The New York Public Service Commission approved a settlement in June 2015, freezing rates at their current levels.	<a href="#">Docket No. 15-00270/15-E-0050</a>
	New York State Electric and Gas Corporation (NYSE&G)	\$6.60	\$9	<i>Pending</i>	In May 2015, NYSE&G proposed increasing its residential monthly fixed charge.	<a href="#">Docket No. 15-01094/15-E-0285</a>

Oklahoma 	Public Service Company of Oklahoma	\$16.16	\$20	\$20	In April 2015, the Oklahoma Corporation Commission approved the Public Service Company of Oklahoma's proposed residential monthly fixed charge increase.	<a href="#">Docket No. PUD 201300217</a>
Oregon 	Portland General Electric	\$10	\$11	<i>Pending</i>	Portland General Electric filed a general rate case in February 2015. It includes an increase in the residential monthly fixed charge of 10%. A final order is due by December 2015.	<a href="#">Docket No. UE 294</a>
Pennsylvania 	Metropolitan Edison	\$8.11	\$13.29	\$10.25	In April 2015, the Pennsylvania Public Utility Commission approved a joint settlement agreement allowing a rate increase lower than originally requested by the Metropolitan Edison.	<a href="#">Docket No. R-2014-2428745</a>
	Pennsylvania Electric	\$7.98	\$11.92	\$9.99	In April 2015, the Pennsylvania Public Utility Commission approved a joint settlement agreement allowing a rate increase lower than originally requested by the Pennsylvania Electric.	<a href="#">Docket No. R-2014-2428743</a>
	West Penn Power	\$5	\$7.35	\$5.81	In April 2015, the Pennsylvania Public Utility Commission approved a joint settlement agreement allowing a rate increase lower than originally requested by West Penn Power.	<a href="#">Docket No. R-2014-2428742</a>
	Pennsylvania Power	\$8.89	\$12.71	\$10.85	In April 2015, the Pennsylvania Public Utility Commission approved a joint settlement agreement allowing a rate increase lower than originally requested by Pennsylvania Power.	<a href="#">Docket No. R-2014-2428744</a>
	PECO Energy	\$7.13	\$12	<i>Pending</i>	In March 2015, PECO filed to increase its delivery rates from \$7.13 a month to \$12.	<a href="#">Docket No. R-2015-2468981</a>



Pennsylvania (continued) 	PPL Energy	\$14.13	\$20	<i>Pending</i>	In April 2015, the Pennsylvania Public Utility Commission voted to investigate PPL Energy's rate increase request and assigned it to an administrative judge for public hearing.	<a href="#">Docket No. R-2015-2469275</a>
Texas 	Southwestern Public Service Company	\$7.60	\$9.50	<i>Pending</i>	In December 2014, Xcel energy proposed an increase in its residential monthly fixed charge.	<a href="#">Docket No. 43695</a>
Washington 	Avista Utilities	\$8.50	\$14	<i>Pending</i>	Avista Utilities originally requested an increase in its monthly fixed charge from \$8.50 to \$14.00. This fixed charge increase was dropped under a settlement agreement reached in May 2015. The Washington Utilities and Transportation Commission has yet to approve the settlement. Public hearings will be held in September.	<a href="#">Docket No. UE-150204</a>

West Virginia 	Wheeling Power Company	\$5	\$10	\$8	In May 2015, the West Virginia Public Service Commission issued an order granting Wheeling Power Company and Appalachian Power the authority to increase residential customer monthly fixed charges from \$5 to \$8, which was lower than the utilities' request of \$10.	<a href="#">Docket No. 14-1152-E-42T and 14-1151-E-D<sup>1</sup></a>
	Appalachian Power Company	\$5	\$10	\$8	In May 2015, the West Virginia Public Service Commission issued an order granting Wheeling Power Company and Appalachian Power the authority to increase residential customer monthly fixed charges from \$5 to \$8, which was lower than the utilities' request of \$10.	<a href="#">Docket No. 14-1152-E-42T and 14-1151-E-D<sup>2</sup></a>
Wisconsin 	Wisconsin Public Service Corporation	\$19	\$25	<i>Pending</i>	In May 2015, the Wisconsin Public Service Corporation proposed a residential monthly fixed charge increase.	<a href="#">Docket No. 6690-UR-123</a>
	Northern States Power Company	\$8	\$18	<i>Pending</i>	In May 2015, Northern States Power Company proposed a residential monthly fixed charge increase.	<a href="#">Docket No. 4220-UR-121</a>

\* Denotes that the utility uses a daily fixed charge for residential customers instead of a monthly fixed charge. All daily charges are converted into monthly charges for this table using the following formula:  $[(365 \text{ days/year}) * (\$ \text{fixed charge/day})] / (12 \text{ months/year}) = \$ \text{fixed charge/month}$

<sup>1</sup> Note: According to the West Virginia Public Service Commission website, orders are posted on their website for public convenience and should not be considered official documents.

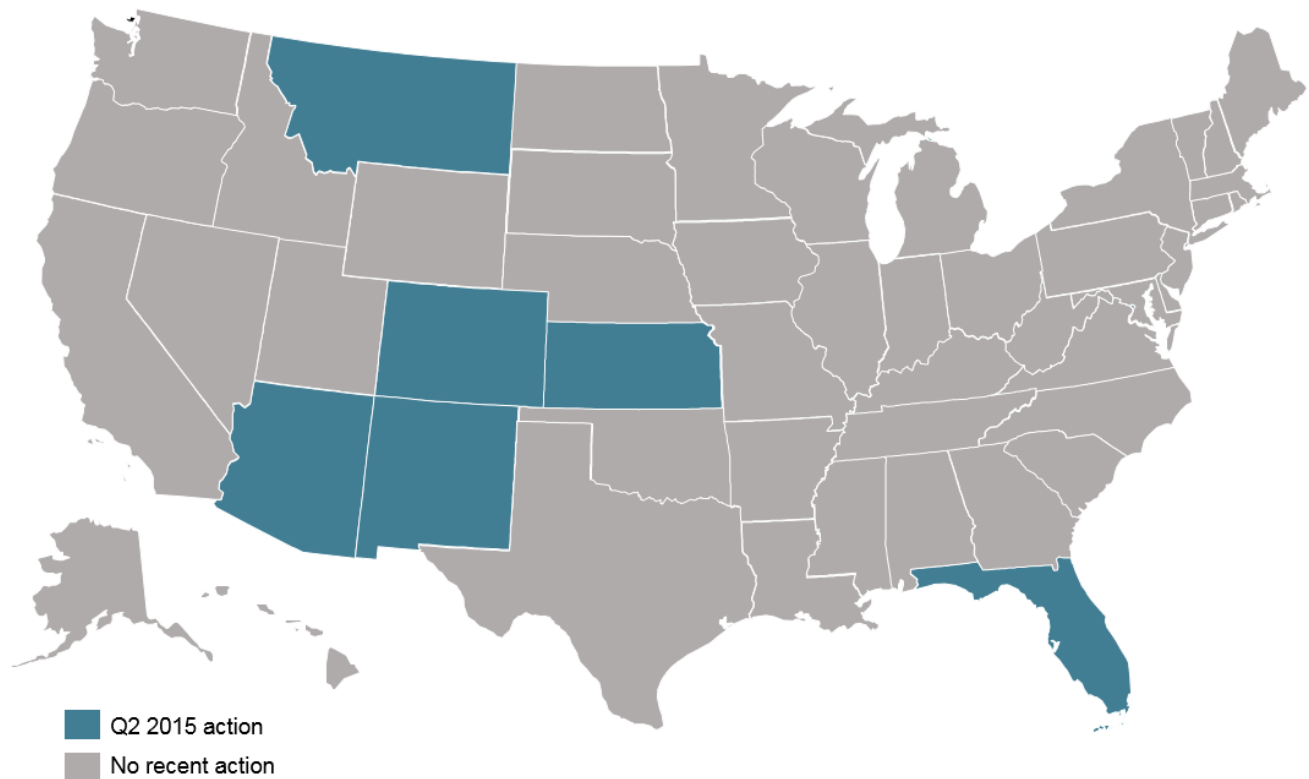
<sup>2</sup> Note: According to the West Virginia Public Service Commission website, orders are posted on their website for public convenience and should not be considered official documents.

## SOLAR AND DISTRIBUTED GENERATION CHARGE INCREASES


In 2013, Arizona Public Service (APS) was among the first utilities to propose extra charges that apply only to solar or net-metered customers, and the Arizona Corporation Commission approved a monthly charge of \$0.70 per installed kilowatt (kW). In Q2 2015, APS requested to increase the charge to \$3 per installed kW. Similar requests for fees on residential solar customers by Georgia Power in 2013 and Rocky Mountain Power in Utah in early 2014 were denied.




In Q2 2015, five states considered proposals to increase charges for customers with distributed generation, particularly in the form of demand charges (see Figure 7). None of these proposed charges has yet been approved, and some decisions have been postponed. In New Mexico, a new interconnection fee was rejected by the Public Regulation Commission. Action on other proposals is expected in Q3 2015 or in upcoming general rate cases.


**Figure 7. Action on Residential Solar/Distributed Generation Charges (Q2 2015)**



**Table 6. Residential Solar/DG Charge Updates (Q2 2015)**

State	Utility	Current Monthly Solar/DG Charge	Proposed Monthly Solar/DG Charge	Approved Monthly Solar/DG Charge	Description	Source
Arizona 	Arizona Public Service	\$0.70 per kW of installed PV	\$3 per kW of installed PV	<i>Pending</i>	Arizona Public Service filed a motion with the Arizona Corporation Commission in April 2015 to increase its Lost Fixed Cost Recovery charge for distributed generation systems, bringing total fees for an average system to ~\$21/month.	<a href="#">Docket No. E-01345A-13-0248</a>
	UniSource Energy Services	\$0	\$6.00 per kW from 0-7 kW; \$9.95 per kW for over 7 kW, based on the maximum 1-hour kW demand during the billing cycle	<i>Pending</i>	As part of its general rate case filed in June 2015, UniSource Energy Services proposed a mandatory new rate design for “partial requirements customers,” including new users of solar. The new rate has a three-part structure including a monthly service charge, a demand charge, and a volumetric energy charge. This rate is optional for standard residential customers.	<a href="#">Docket No. E-04204A-15-0142</a>

<p>Florida</p> 	<p>Lakeland Electric</p>	<p>\$0</p>	<p>\$4.50 per kW based on the maximum 30-minute integrated kilowatt demand in the billing cycle</p>	<p>\$4.50 per kW based on the maximum 30-minute integrated kilowatt demand in the billing cycle</p>	<p>Lakeland Electric, the first utility to sell solar hot water heater RECs, proposed a new Residential Service Demand tariff for all residential customers with solar PV systems. The new tariff includes a demand charge of \$4.50 per kilowatt plus the standard customer charge of \$9.50 and 2.232 cents per kilowatt-hour. The tariff may go into effect in October 2015 or January 2016.</p>	
<p>Kansas</p> 	<p>Westar Energy</p>	<p>\$0</p>	<p>\$3 per kW, based on the maximum 30-minute kW demand during the billing cycle</p>	<p><i>Pending</i></p>	<p>In March 2015, Westar Energy proposed a demand charge option for residential solar customers in a pending docket before the Kansas Corporation Commission. Solar customers can either opt-in to the Residential Demand Plan (RDP), which would include a \$3 per kW demand charge and a \$27 per month fixed charge, or the Residential Stability Plan (RSP), which includes no demand charges but a \$50 fixed charge. Two public hearings are scheduled for July 2015.</p>	<p><a href="#">Docket No. 15-WSEE-115-RTS</a></p>
<p>Montana</p> 	<p>Montana - Dakota Utilities</p>	<p>\$0</p>	<p>\$1.50 per kW, based on the maximum 15-minute kW demand during the billing cycle</p>	<p><i>Pending</i></p>	<p>In its June 2015 general rate case application, Montana-Dakota Utilities requested a new demand charge for net metering customers. Customers on the standard residential electric service rate would not face a demand charge.</p>	<p><a href="#">Docket No. D2015.6.51</a></p>

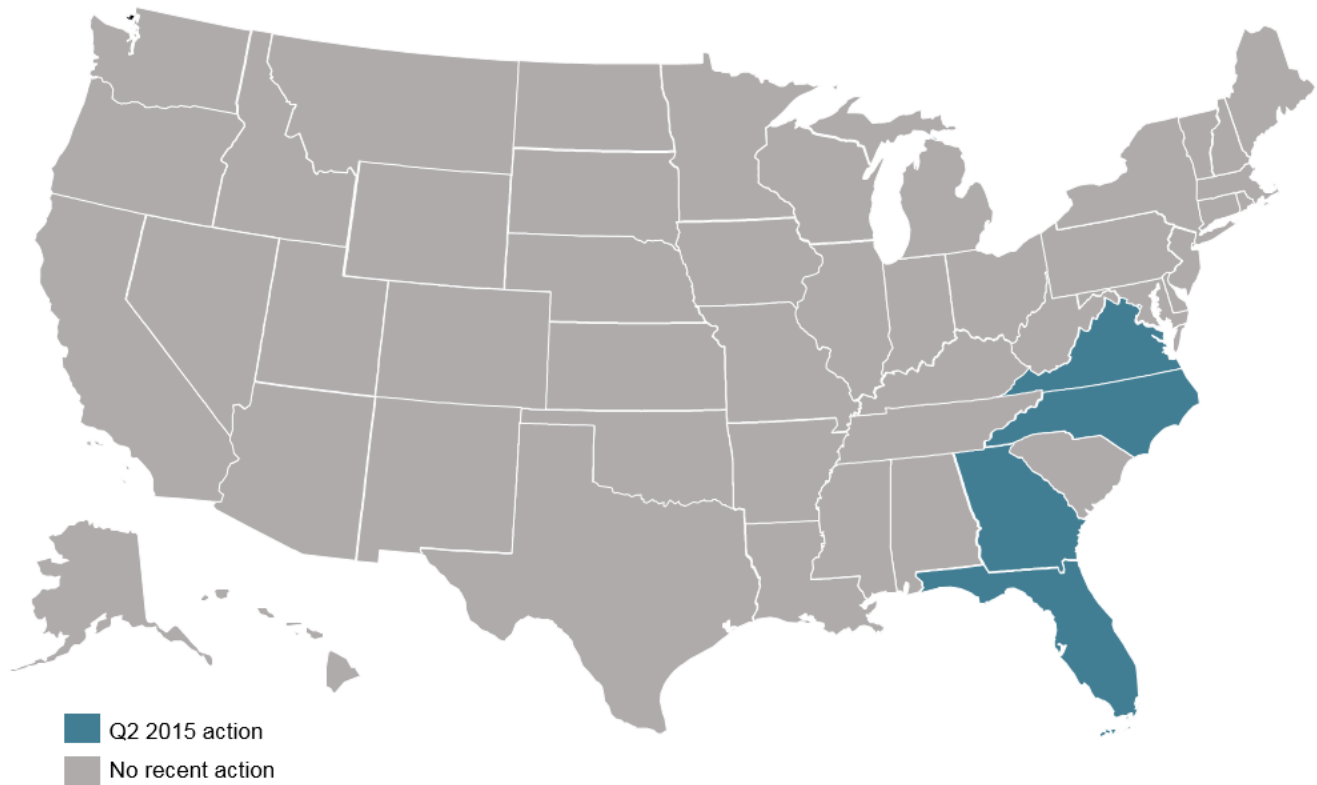
<p>New Mexico</p> 	<p>Public Service Company of New Mexico</p>	<p>\$0</p>	<p>\$6 per kW of installed PV</p>	<p>\$0</p>	<p>In December 2014, the Public Service Company of New Mexico (PNM) proposed implementing a solar distributed generation interconnection fee based on the capacity of the on-site solar energy system. The Public Regulation Commission unanimously voted to reject the change in May 2015, citing application incompleteness. PNM is expected to refile its rate case in Q3 2015.</p>	<p><a href="#">Docket No. 14-00332-UT</a></p>
---	---	------------	-----------------------------------	------------	--	---

## THIRD-PARTY AND UTILITY OWNERSHIP



State third-party solar ownership laws—or the lack thereof—can be a financing barrier for distributed solar in some states. Florida, Kentucky, Oklahoma, and North Carolina currently disallow third-party solar PPAs, and the legality is unclear in 20 other states.<sup>22</sup>

In Q2 2015, Georgia, Florida, and North Carolina took action towards allowing third-party ownership. Georgia’s third-party financing bill for solar was signed into law in June 2015, and went into effect on July 1, 2015. The law’s implementation was also paired with an announcement from Georgia Power that the company’s unregulated affiliate will begin selling solar PV to customers. The Georgia Power program represents the latest proposal from a utility to either develop and own distributed solar assets or directly sell PV to customers. It was the only major action of its type in Q2 2015.



**Figure 8.** Action on Third-Party and Utility Solar Ownership (Q2 2015)



**Table 7. Third-Party and Utility Solar Ownership Action (Q2 2015)**

State	Description	Eligible Sector(s)	Source
Florida 	A ballot initiative that would legalize third-party sales for all Florida customers was launched in January 2015. In Q2 2015, briefs were filed in the Florida Supreme Court, which must approve the specific ballot language. Four Florida investor-owned utilities and the state Attorney General oppose the ballot initiative. A total of 683,149 verified signatures are also required by February 1, 2016, for it to appear on the November 2016 ballot.	Residential, Commercial, Industrial (All)	<a href="#">“Florida Utilities, AG Want State Supreme Court to Block Solar Ballot Initiative”</a> <sup>23</sup>
Georgia 	H.B. 57, signed into law in May 2015, went into effect on July 1st. The law allows residential and commercial customers to work with third parties to install, operate, lease, and finance solar systems for on-site generation. The bill explicitly addresses residential systems less than 10 kW and commercial systems less than 100 kW while stipulating that large systems are allowed but will be required to undergo additional compliance rules.	Residential, Commercial (All)	<a href="#">H.B. 57</a>
	Georgia Power’s unregulated business arm, Georgia Power Energy Services, began selling and installing solar systems on July 1st pursuant to H.B. 57 taking effect.	Georgia Power customers	<a href="#">“Georgia Power to Offer Solar Sales, Installation Services July 1”</a> <sup>24</sup>





<p>North Carolina</p> 	<p>H.B. 245 would allow individuals and entities to contract with third parties to supply electricity if the generation sources are located on their property and if the total electricity supplied does not exceed 125% of annual demand. The bill also authorizes the owners of generation assets to enter into net metering arrangements with the utility. The bill remained in the House Public Utilities Committee for the duration of Q2 2015.</p>	<p>Residential, Commercial, Public Entities (All)</p>	<p><a href="#">H.B. 245</a></p>
	<p>In June 2015, non-profit organization NC WARN submitted a request for a declaratory ruling to the North Carolina Utilities Commission regarding the organization’s proposed power purchase agreement with a church located in the state. North Carolina statute generally defines an entity selling electricity as a “public utility.”</p>	<p>Non-Profit Entities</p>	<p><a href="#">Docket No. SP-100 Sub 31</a></p> <p><a href="#">NC General Statutes § 62-3(23)</a></p>
<p>Virginia</p> 	<p>In April 2015, Appalachian Power Company (APCo) proposed the “Experimental Rider R.G.P.” under its Renewable Generation Program. The rider would only be available to some large, non-residential customers. Instead of net metering the systems, APCo would buy all system output from the third-party and credit the customer a Renewable Output Credit. (Note: S.B. 1023 of 2013 directed Virginia’s State Corporation Commission to implement a third-party power purchase agreement pilot program with an aggregate cap of 50 MW.)</p>	<p>Non-Residential Entities (aggregated load between 250 kW - 2,000 kW)</p>	<p><a href="#">Docket No. PUE-2015-00040</a></p>

## MINIMUM BILLS

Table 8 identifies actions in California and Hawaii to adjust minimum bills. A minimum bill is a base amount which must be paid by all rate payers on an annual or monthly basis, to ensure at least that minimum amount of utility cost recovery for providing electric service. Proposals in both California and Hawaii would increase minimum bill charges for all customers, regardless of participation in net metering.

**Table 8.** Third-Party Solar Ownership Updates (Q2 2015)

State	Utility	Current Monthly Minimum Bill	Proposed Monthly Minimum Bill	Approved Monthly Minimum Bill	Description	Source
California 	Pacific Gas and Electric (PG&E), San Diego Gas and Electric (SDG&E), Southern California Edison (SCE)	\$4.50 (PG&E) \$5.17 * (SDG&E) \$1.79 * (SCE)	\$10	<i>Pending</i>	In April 2015, Administrative Law Judges McKinney and Halligan issued a proposed decision on investor-owned utility rate design. The decision would allow PG&E, SDG&E, and SCE to submit new tariffs that include a \$10 minimum bill for 2015-2018. The Alternate Proposed Decision of Commissioner Florio, filed May 2015, concurred on this provision (but not others).	<a href="#">Docket No. 1206013</a>

<p>Hawaii</p> 	<p>Maui Electric Company Inc. (MECO), Hawaiian Electric Company Inc. (HECO), Hawaii Electric Light Company Inc. (HELCO)</p>	<p>\$18 (MECO) \$17 (HECO) \$20.50 (HELCO)</p>	<p>\$25</p>	<p><i>Pending</i></p>	<p>In June 2015, Hawaiian Electric Company submitted a new long-term distributed energy resource market plan. The company's previous Distributed Generation Integration Plan, containing proposed fixed charge increases and solar charges, was deemed to be insufficient by the Public Utilities Commission in an order issued in March.</p>	<p><a href="#">“Hawaiian Electric Companies Propose New Options to Support Continued Growth of Rooftop Solar”<sup>25</sup></a></p> <p><a href="#">Docket No. 2014-0192</a></p>
---	---	--	-------------	-----------------------	---	--

\* Denotes that the utility uses a daily minimum charge for residential customers instead of a monthly minimum charge. All daily charges are converted into monthly charges for this table using the following formula:  $[(365 \text{ days/year}) * (\$[\text{minimum charge}]/\text{day})] / (12 \text{ months/year}) = \$[\text{minimum charge}]/\text{month}$

## Q3 2015 SOLAR POLICY OUTLOOK

Some of the states with the largest solar markets in the nation have begun to envision new ways of compensating distributed solar customers. Both California and Maine's investigation of a tariff structure to succeed net metering are important processes to track, as they could provide examples for other states to consider. Similarly, New York's ongoing Reforming the Energy Vision process, as well as the development of community net metering rules in New York, will be key regulatory developments to watch in Q3 2015. In other states with strong solar markets, notably Massachusetts, Nevada, and New Jersey, utilities have begun to reach their aggregate net metering capacity limits or "trigger" levels, which means that state policymakers or public utilities commissions must decide on a future course of action.

Q3 2015 could also be an important quarter for the Southeast, an area where the solar market's growth has historically been limited. Georgia's approval of third-party ownership may soon be replicated by neighboring states, as efforts are underway to allow this ownership structure in Florida, North Carolina, and Virginia. The proposed rule to allow for net metering in Mississippi—one of the few states where net metering had not yet been approved—is another key development to watch.

Utilities will also continue to respond to growing solar markets in their territories. Currently, there are a number of utility requests to shift revenues from variable charges to fixed charges (as in the case for the 17 residential fixed charge increases still under consideration by state regulators), to adopt fixed or minimum charges for solar or distributed generation customers (perhaps most significantly in the case of APS's proposal in Arizona to increase its fixed charge for solar customers from \$0.70 per kW to \$3 per kW), and to offer options for utility or utility-affiliate ownership or sales of distributed solar.

## ENDNOTES

---

- <sup>1</sup> Kam, Shayle, MJ Shaio, Cory Honeyman, Nicole Litvak, Jade Jones, Leandra Cooper, Tom Kimbis, Justin Baca, Shawn Rumery, and Aaron Holm. *U.S. Solar Market Insight: Year In Review* [executive summary]. GTM Research and SEIA, 2015. <http://www.greentechmedia.com/research/ussmi>
- <sup>2</sup> Kam, Shayle, MJ Shaio, Cory Honeyman, Nicole Litvak, Jade Jones, Leandra Cooper, Tom Kimbis, Justin Baca, Shawn Rumery, and Aaron Holm. *U.S. Solar Market Insight: Year In Review* [executive summary]. GTM Research and SEIA, 2015. <http://www.greentechmedia.com/research/ussmi>
- <sup>3</sup> Trabish, Herman K. “What the Solar Market Looks Like Now, and Where It’s Headed.” *Utility Dive*, March 26, 2015. <http://www.utilitydive.com/news/what-the-solar-market-looks-like-now-and-where-its-headed/379048/>
- <sup>4</sup> Kaminsky, Jason and Justin Baca. “U.S. Solar Electricity Production 50% Higher Than Previously Thought.” *Greentech Media*, June 30, 2015. <http://www.greentechmedia.com/articles/read/us-solar-electricity-production-50-higher-than-previously-thought>
- <sup>5</sup> Litvak, Nicole. “U.S. Residential Solar Financing 2015-2020” [brochure]. *GTM Research*. July 29, 2015. <http://www.greentechmedia.com/research/report/us-residential-solar-financing-2015-2020>
- <sup>6</sup> Trabish, Herman K. “Why Utilities across the Nation Are Embracing Community Solar.” *Utility Dive*, January 22, 2015. <http://www.utilitydive.com/news/why-utilities-across-the-nation-are-embracing-community-solar/354164/>
- <sup>7</sup> Campbell, Becky, Daisy Chung, and Reane Venegas. *Expanding Solar Access through Utility-led Community Solar: Participation and Design Trends from Leading U.S. Programs*. Solar Electric Power Association, September 2014. <http://www.solarelectricpower.org/media/214996/community-solar-report-ver5.pdf>
- <sup>8</sup> 26 U.S.C. § 25D.
- <sup>9</sup> Kind, Peter. (2013, January). *Disruptive Challenges: Financial Implications and Strategic Responses to a Changing Retail Electric Business*. Edison Electric Institute, January 2013. <http://www.eei.org/ourissues/finance/documents/disruptivechallenges.pdf>
- <sup>10</sup> Hidalgo, Jason. “Nevada Lawmakers’ Frustration Over Net Metering Debate Boils Over.” *Utility Dive*, May 21, 2015. <http://www.rgj.com/story/money/business/2015/05/20/nevada-lawmakers-debate-solar-cap-net-metering-puc/27691257/>
- <sup>11</sup> Barnes, Chelsea. *Aggregate Net Metering: Opportunities for Local Governments*. U.S. Department of Energy SunShot Initiative Solar Outreach Partnership, July 2013. <http://communitypowernetwork.com/sites/default/files/Aggregate-Net-Metering-2013.pdf>
- <sup>12</sup> Uhlenhuth, Karen. “Iowa Utilities: No Net Metering for Third-Party Solar Projects.” *Midwest Energy News*, June 19, 2015. <http://www.midwestenergynews.com/2015/06/19/iowa-utilities-no-net-metering-for-third-party-solar-projects/>

- 
- <sup>13</sup> Uhlenhuth, Karen. "Complaint Alleges Iowa Utility Is Violating Solar Ruling." *Midwest Energy News*, June 30, 2015. <http://www.midwestenergynews.com/2015/06/30/complaint-alleges-that-iowa-utility-is-violating-laws-and-the-intent-of-state-supreme-court-ruling/>
- <sup>14</sup> Coughlin, Jason, Jennifer Grove, Linda Irvine, Janet F. Jacobs, Sarah Johnson Phillips, Leslie Moynihan, and Joseph Wiedman. *A Guide to Community Solar: Utility, Private, and Non-Profit Project Development*. National Renewable Energy Laboratory, November 2010, p. 2.
- <sup>15</sup> Honeyman, Cory. "Community Solar: Minnesota PUC Approves 5MW System Size Cap for Solar Gardens." *Greentech Media*, June 26, 2015. <https://www.greentechmedia.com/articles/read/Minnesotas-Community-Solar-PUC-Approves-5-MW-System-Size-Cap-for-Solar-Ga>
- <sup>16</sup> Florida Public Service Commission. "Solar Energy in Florida - Request for Comments." Accessed July 1, 2015. <http://www.floridapsc.com/utilities/electricgas/solarenergy/default.aspx>
- <sup>17</sup> Hawaiian Electric Companies. "Hawaiian Electric Companies Propose New Options to Support Continued Growth of Rooftop Solar." June 29, 2015. [http://www.hawaiianelectric.com/heco/\\_hidden\\_Hidden/CorpComm/Hawaiian-Electric-Companies-propose-new-options-to-support-continued-growth-of-rooftop-solar?cpsextcurrchannel=1](http://www.hawaiianelectric.com/heco/_hidden_Hidden/CorpComm/Hawaiian-Electric-Companies-propose-new-options-to-support-continued-growth-of-rooftop-solar?cpsextcurrchannel=1)
- <sup>18</sup> Trabish, Herman K. "HECO Files with Regulators to Cut Solar Net Metering Rates in Half." *Utility Dive*. July 2, 2015. <http://www.utilitydive.com/news/heco-files-with-regulators-to-cut-solar-net-metering-rates-in-half/401643/>
- <sup>19</sup> Kowalski, Kathiann M. "Net Metering Going Under the Microscope in Ohio." *Midwest Energy News*, May 18, 2015. <http://midwestenergynews.com/2015/05/18/net-metering-going-under-the-microscope-in-ohio/>
- <sup>20</sup> Monies, Paul. "Utilities Eye Tariffs for Solar, Wind Users." *The Oklahoman*, June 16, 2015. <http://newsok.com/utilities-eye-tariffs-for-solar-wind-users/article/5428042/?page=1>
- <sup>21</sup> St. John, Jeff. "Texas Mulls New Grid Markets For Aggregated Distributed Energy Resources." *Greentech Media*, June 5, 2015. <http://www.greentechmedia.com/articles/read/texas-looks-to-distributed-energy-resources-as-market-players>
- <sup>22</sup> NC Clean Energy Technology Center. "3rd party solar PV power purchase agreement (PPA)." Database of State Incentives for Renewables and Efficiency, March 2015. [http://ncsolarcenterprod.s3.amazonaws.com/wp-content/uploads/2015/01/3rd-Party-PPA\\_0302015.pdf](http://ncsolarcenterprod.s3.amazonaws.com/wp-content/uploads/2015/01/3rd-Party-PPA_0302015.pdf)
- <sup>23</sup> Walton, Robert. "Florida Utilities, AG Want State Supreme Court to Block Solar Ballot Initiative." *Utility Dive*, June 12, 2015. <http://www.utilitydive.com/news/florida-utilities-ag-want-state-supreme-court-to-block-solar-ballot-initia/400657/>
- <sup>24</sup> "Georgia Power to Offer Solar Sales, Installation Services July 1." *MarketWatch*, June 30, 2015. [http://www.marketwatch.com/story/georgia-power-to-offer-solar-sales-installation-services-july-1-2015-06-30?reflink=MW\\_news\\_stmp](http://www.marketwatch.com/story/georgia-power-to-offer-solar-sales-installation-services-july-1-2015-06-30?reflink=MW_news_stmp)

---

<sup>25</sup> Hawaiian Electric Companies. “Hawaiian Electric Companies Propose New Options to Support Continued Growth of Rooftop Solar.” June 29, 2015.  
[http://www.hawaiianelectric.com/heco/\\_hidden\\_hidden/CorpComm/Hawaiian-Electric-Companies-propose-new-options-to-support-continued-growth-of-rooftop-solar?cpsextcurrchannel=1](http://www.hawaiianelectric.com/heco/_hidden_hidden/CorpComm/Hawaiian-Electric-Companies-propose-new-options-to-support-continued-growth-of-rooftop-solar?cpsextcurrchannel=1)