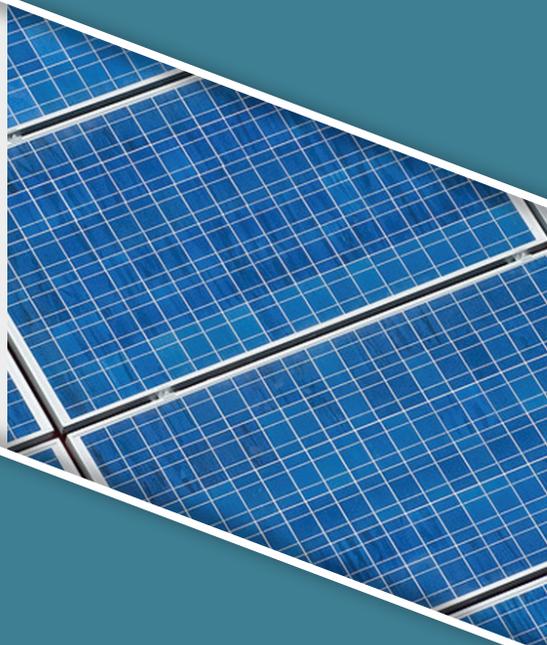


50 States of SOLAR

Q3 2018 Quarterly Report
Executive Summary



AUTHORS

Autumn Proudlove
Brian Lips
David Sarkisian

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 of 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.

CONTACT

Autumn Proudlove (afproudl@ncsu.edu)

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- [Q2 2018 Executive Summary](#)
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- [Q3 2017 Executive Summary](#)
- [Q2 2017 Executive Summary](#)

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ABOUT THE REPORT

PURPOSE

The purpose of this report is to provide state lawmakers and regulators, electric utilities, the solar industry, and other stakeholders with timely, accurate, and unbiased updates on state actions to study, adopt, implement, amend, or discontinue policies associated with distributed solar photovoltaics (PV). This report catalogues proposed and enacted legislative, regulatory policy, and rate design changes affecting the value proposition of distributed solar PV during the most recent quarter, with an emphasis on the residential sector.

The 50 States of Solar series provides regular quarterly updates of solar policy developments, keeping stakeholders informed and up to date.

APPROACH

The authors identified relevant policy changes through state utility commission docket searches, legislative bill searches, popular press, and direct communication with stakeholders and regulators in the industry.

Questions Addressed

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

- How are state legislatures, regulatory authorities, and electric 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 report series focuses on cataloging and describing important proposed and adopted policy changes affecting solar customer-generators of investor-owned utilities (IOUs) and large publicly-owned or nonprofit utilities (i.e., those serving at least 100,000 customers). Specifically, actions tracked in these reports include:

- Significant changes to state or utility **net metering** laws and rules, including program caps, system size limits, meter aggregation rules, and compensation rates for net excess generation
- Changes to statewide **community solar** or **virtual net metering** laws and rules, and individual utility-sponsored community solar programs arising from statewide legislation
- Legislative or regulatory-led efforts to study the **value of solar, net metering**, or **distributed solar generation policy**, e.g., through a regulatory docket or a cost-benefit analysis
- Utility-initiated rate requests for **charges applicable only to 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 power purchase agreements (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 case, or rulemaking proceeding. 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. Introduced legislation pertaining to a regulatory proceeding covered in this report is also included irrespective of whether it has passed at least one chamber.

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 utility cost recovery and rate design changes, such as decoupling or time-of-use tariffs. General changes in state implementation of the Public Utility Regulatory Policies Act of 1978 and subsequent amendments, including changes to the terms of standard contracts for Qualifying Facilities or avoided cost rate calculations, are also excluded unless they are related specifically to the policies described above. The report also does not cover changes to a number of other policies that affect distributed solar, including solar access laws, interconnection rules, and renewable portfolio standards. Details and updates on these and other federal, state, and local government policies and incentives are available in the NC Clean Energy Technology Center’s Database of State Incentives for Renewables and Efficiency, at www.dsireusa.org.

EXECUTIVE SUMMARY

OVERVIEW OF Q3 2018 POLICY ACTION

In the third quarter of 2018, 45 states plus DC took a total of 157 actions related to distributed solar policy and rate design (Figure 1). Table 1 provides a summary of state actions related to DG compensation, rate design, and solar ownership during Q3 2018. Of the 157 actions catalogued, the most common were related to DG compensation rules (44), followed by residential fixed charge and minimum bill increases (42) and community solar (28).

Table 1. Q3 2018 Summary of Policy Actions

Policy Type	# of Actions	% by Type	# of States
DG compensation rules	44	28%	27 + DC
Residential fixed charge or minimum bill increase	42	27%	26
Community solar	28	18%	16 + DC
DG valuation or net metering study	21	13%	16
Residential demand or solar charge	16	10%	7 + DC
Third-party ownership of solar	3	2%	2 + DC
Utility-led rooftop PV programs	3	2%	3
Total	157	100%	45 States + DC

Note: The "# of States/ Districts" total is not the sum of the rows, as some states have multiple actions. Percentages are rounded and may not add up to 100%.

TOP FIVE SOLAR POLICY DEVELOPMENTS OF Q3 2018

Five of the quarter's top policy developments are highlighted below.

Kansas Corporation Commission Approves Demand Charge for Westar Residential Distributed Generation Customers

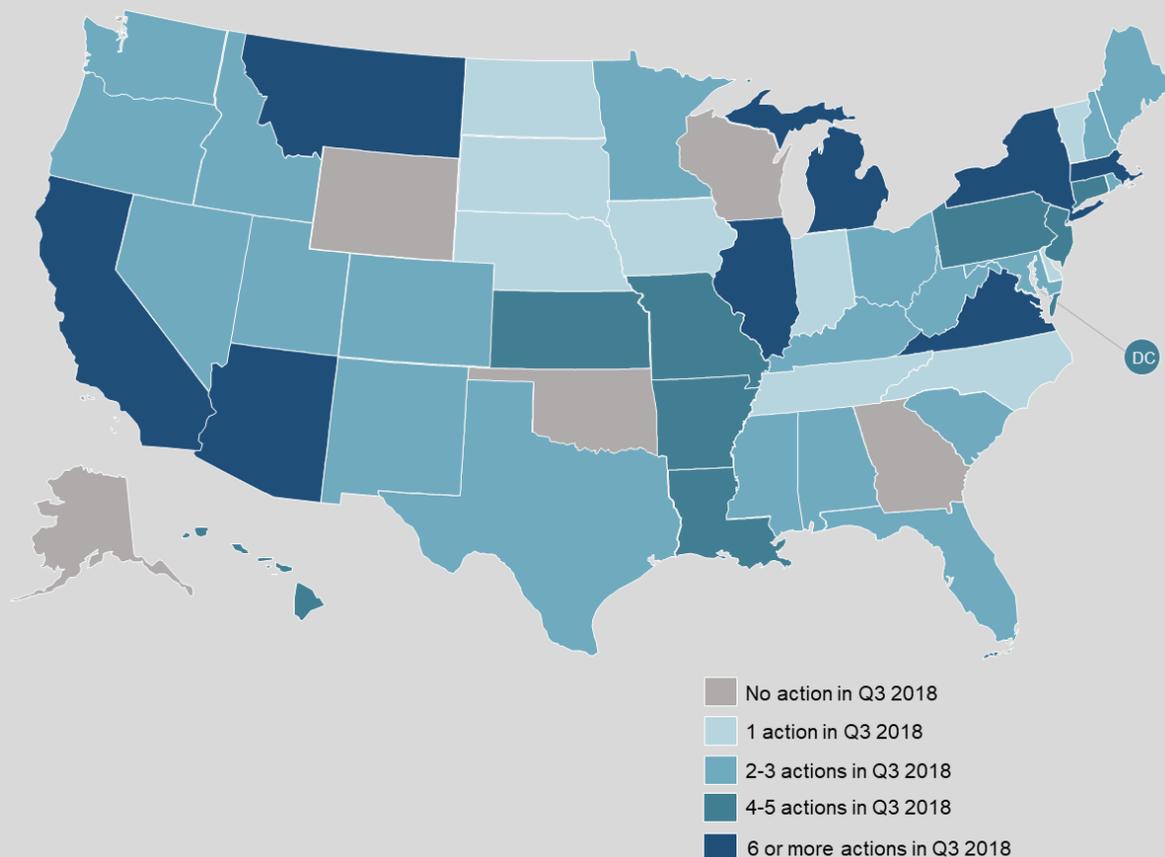
Kansas regulators approved Westar Energy's proposed mandatory residential demand charge for distributed generation customers in late September 2018. The decision follows a 2017 Commission order finding that additional fees for customer-generators are appropriate. The approved charge is applicable to demand during system peak hours and varies seasonally.

Michigan Utilities File Net Metering Successor Implementation Proposals

Two Michigan utilities – DTE Energy and Upper Peninsula Power Company (UPPCO) – proposed new distributed generation customer tariffs as part of general rate cases filed during

commercial customers with distributed generation. Xcel had proposed an increase in the charge as part of a general rate case, but the Hearing Officer found that the charge was not supported. The Commission plans to open a rulemaking to address standby charge issues.

Figure 2. Q3 2018 Action on Solar Policy & Rate Design, By Number of Actions



Arizona Regulators Deny Tucson Electric Power and UNS Distributed Generation Rate Design Proposal, Approve Net Billing Credit Rates

In a September 2018 decision, the Arizona Corporation Commission approved initial distributed generation export credit rates for Tucson Electric Power (9.64 cents/kWh) and UNS Electric (11.5 cents/kWh), while denying the utilities' proposed demand charge and system capacity-based charge. Regulators found that the cost of service study approach was flawed and directed the utilities to file a new study.

THE BIG PICTURE: INSIGHTS FROM Q3 2018

Resurgence in Proposals for Distributed Generation Customer Fees

Activity related to additional fees, such as demand charges, for distributed generation (DG) customers slowed during 2017 and early 2018, but is now quickly picking back up. In Q3 2018, three utilities – DTE Energy (MI), Upper Peninsula Power Company (MI), and NorthWestern Energy (MT) – proposed additional fees for DG customers, while regulators in Kansas approved Westar Energy’s proposed demand charge for residential DG customers. In West Virginia, proposed revisions to the state’s net metering rules potentially open the door to additional fees by allowing charges for the “incremental cost of interconnection” of customer-generators. In Massachusetts, a demand charge approved earlier in 2018 was overturned by legislation enacted in Q3 2018; however, the legislation only establishes new requirements for the design of demand charges, and does not disallow them.

Grid Planning and DER Compensation Efforts Converging on Locational Value

Distribution system planning and solar compensation discussions are growing closer together, as states look to grid planning processes to provide greater information on the locational value that distributed energy resources (DERs) provide. The Public Utilities Commission of Nevada approved distributed resource planning rules in Q3 2018, requiring an evaluation of the locational benefits and costs of DERs. Proposed distribution system planning rules in Missouri and Washington both consider the locational value of DERs, with Washington’s draft rules explicitly calling for tariffs and rate designs that compensate customers for the value of their DERs. The New Hampshire Public Utilities Commission is planning to conduct a distribution locational value study to inform net metering successor discussions, and Illinois’ NextGrid draft working group report addresses the use of integrated distribution planning to identify the locational value of DERs.

States and Utilities Considering Meter Cost Allocation

Several states and utilities are considering whether the customer or the utility should bear the cost of installing additional meters, such as a bidirectional meter for net metering or a separate production meter. Proposed net metering rule revisions in West Virginia would change the financial responsibility for a bidirectional meter from the utility to the customer. Meanwhile, a settlement in Duquesne Light Company’s general rate case in Pennsylvania requires the installation of production meters for new net metering customers, to be paid for by the utility. An Arizona decision approves a monthly meter fee for DG customers of Tucson Electric Power and UNS Electric, and in Maine, regulators recently determined that customers are not responsible for the cost of the production meter necessary to comply with the state’s new DG compensation rules.

FULL REPORT DETAILS & PRICING

FULL REPORT DETAILS

Content Included in the Full Quarterly Report:

- Detailed policy tables describing each pending and recently decided state and utility action regarding:
 - Net Metering
 - Distributed Solar or DG Valuation
 - Community Solar
 - Residential Fixed Charge and Minimum Bill Increases
 - Residential Solar Charges (Demand Charges, Standby Charges, & Grid Access Charges)
 - Third-Party Ownership
 - Utility-Led Rooftop Solar
- Links to original legislation, dockets, and commission orders for each policy action
- Excel spreadsheet file of all actions taken during the quarter
- Summary maps of action for each policy category above, including a separate Powerpoint file of all summary maps
- Qualitative analysis and descriptive summaries of solar policy action and trends
- Outlook of action for the next quarter

WHO SHOULD PURCHASE THIS REPORT

The 50 States of Solar allows those involved in the solar and electric utility industry to easily stay on top of legislative and regulatory changes. The report provides a comprehensive quarterly review of actions, an undertaking that would take any one business or organization weeks of time and thousands of dollars in staff time. At a cost of \$500 per issue (or \$1,600 annually), the 50 States of Solar offers an invaluable time and financial savings. With direct links to original sources for all actions, customers may stay on top of legislative and regulatory developments between quarterly reports.

Solar Installation and Manufacturing Companies

- Identify new market opportunities, as well as changing and risky markets
- Stay on top of state policy developments relevant to your business

- Give your own team a head start in tracking legislative and regulatory proceedings

Investor-Owned and Public Power Utilities

- Learn about the approaches being taken by other utilities facing similar challenges
- Stay on top of relevant state policy developments
- Utilize an objective source of information in legislative and regulatory proceedings

Investors and Financial Analysts

- Identify new investment opportunities and emerging areas of growth, as well as risky investments
- Access rate data that is often buried in regulatory filings

Advocacy Organizations

- Learn about the diverse solar policy and rate proposals in other states
- Learn about the outcomes of other state’s policy and rate decisions
- Utilize an objective source of information in legislative and regulatory proceedings

Researchers and Consultants

- Access valuable data requiring an immense amount of time to collect first-hand
- Identify research needs to inform solar policy and rate design proceedings
- Cite an objective source in your own research and analysis

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