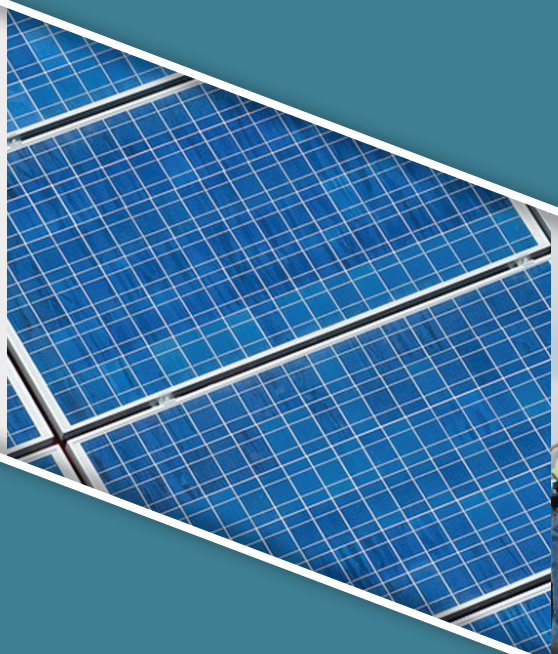
50 States of SOLAR

Q3 2019 Quarterly Report

Executive Summary



NC CLEAN ENERGY TECHNOLOGY CENTER

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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.

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PREVIOUS EDITIONS AND OTHER 50 STATES REPORTS

Full editions of and annual subscriptions to the 50 States of Solar may be purchased here.

The 50 States of Solar is a quarterly publication. Previous executive summaries and older full editions of *The 50 States of Solar* are available here.

The NC Clean Energy Technology Center also publishes the *50 States of Grid Modernization* and the *50 States of Electric Vehicles* on a quarterly basis. Executive summaries of these reports may be found here. Please contact us for older issues of the 50 States of Solar.

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 2019 POLICY ACTION

In the third quarter of 2019, 42 states plus DC took a total of 150 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 2019. Of the 150 actions cataloged, the most common were related to DG compensation rules (53), followed by residential fixed charge and minimum bill increases (40), and community solar (27).

Table 1. Q3 2019 Summary of Policy Actions

Policy Type	# of Actions	% by Type	# of States
DG compensation rules	53	35%	27 + DC
Residential fixed charge or minimum bill increase	40	27%	25 + DC
Community solar	27	18%	18 + DC
DG valuation or net metering study	17	11%	15 + DC
Residential demand or solar charge	6	4%	5
Third-party ownership of solar	5	3%	4
Utility-led rooftop PV programs	2	1%	2
Total	**150**	**100%**	**42 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 2019

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

Louisiana Public Service Commission Approves Net Metering Reforms

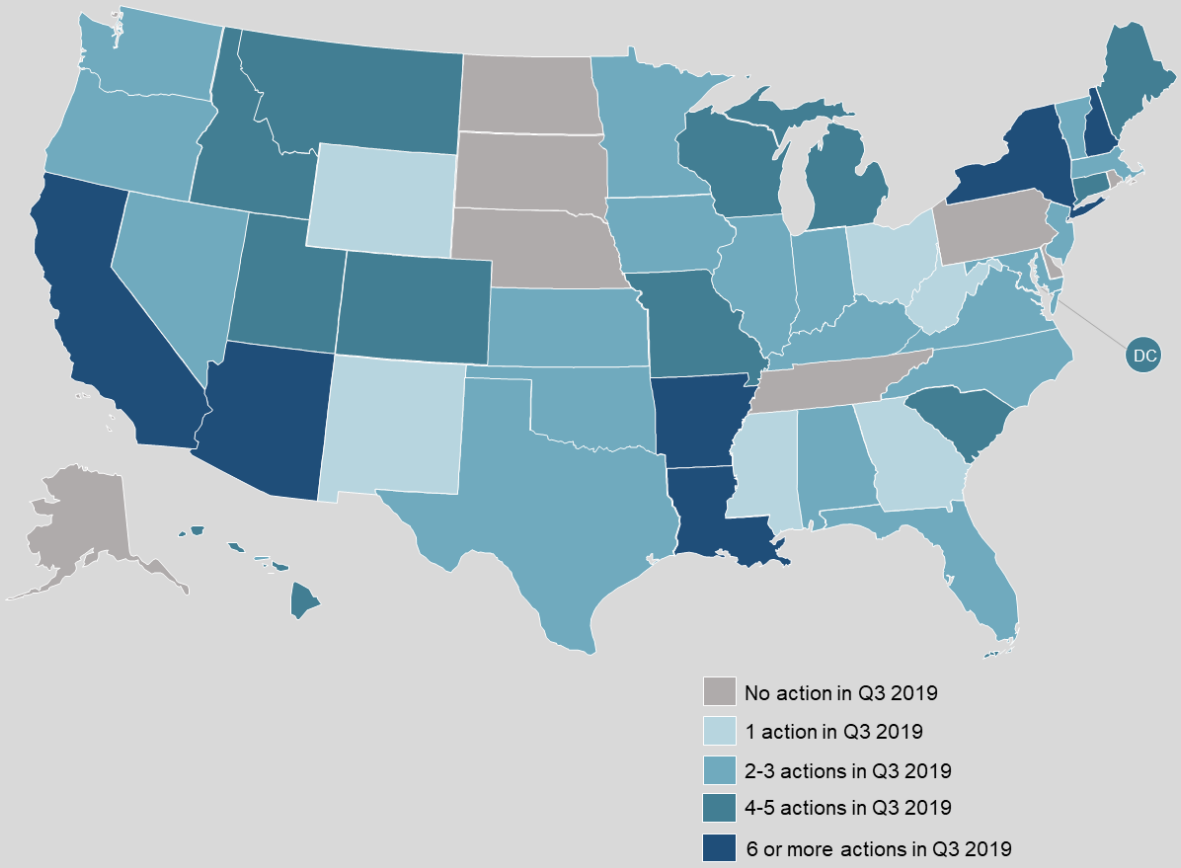
The Louisiana Public Service Commission approved a net metering successor tariff in September 2019, which will provide avoided cost compensation for all energy exported to the grid, beginning in January 2020. Existing net metering customers will be grandfathered for 15 years, and the new rules also authorize the development of community DG facilities, which will be credited at the avoided cost rate.

Connecticut DEEP files Proposed Shared Solar Program Rules

The Connecticut Department of Energy and Environmental Protection filed proposed program requirements for the state's shared clean energy facility program in early July 2019. Under the

proposed rules, utilities would conduct an annual solicitation of up to 25 MW for six years for shared clean energy facilities. Projects would be required to be 4 MW or under and have at least 10 subscribers, with subscribers either making a one-time payment or monthly payments.

Figure 1. Q3 2019 Action on DG Compensation, Rate Design, & Solar Ownership Policies, by Number of Actions



Xcel Energy Proposes Changes to Value of Solar Methodology in Minnesota

Xcel Energy filed a petition in August 2019 to modify its value of solar methodology. The utility is seeking to change the way avoided distribution capacity costs are calculated. Under the current methodology, which serves as the basis for community solar credits, the value of solar is scheduled to increase from its 2019 rate of 11.09 cents per kWh to 24.84 cents per kWh in 2020.

Hawaii Public Utilities Commission Opens New Proceeding on DERs

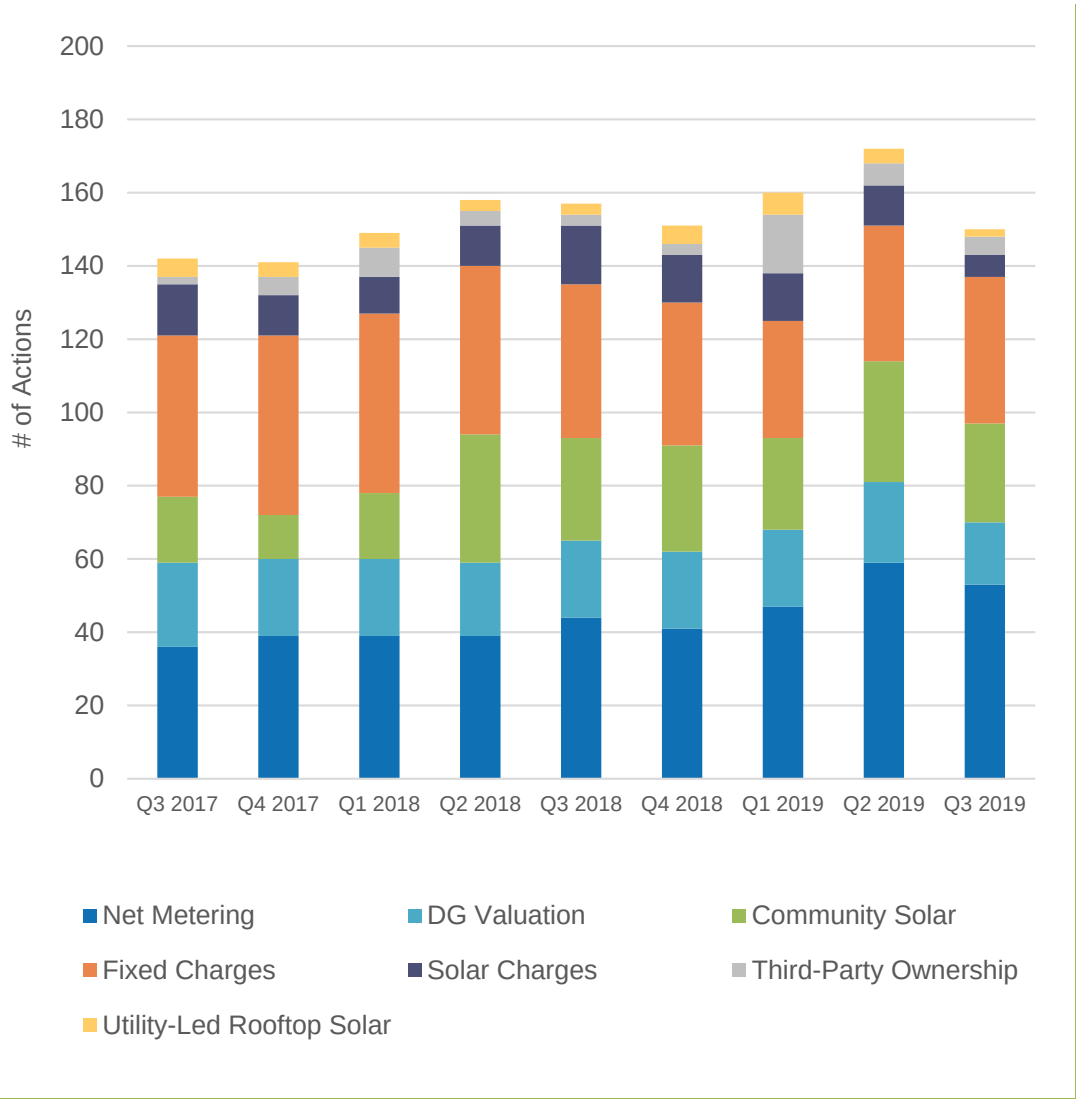
The Hawaii Public Utilities Commission opened a new proceeding in September 2019 to investigate the technical, economic, and policy issues associated with DERs for the HECO

companies. The proceeding will consider new DER programs, the future of existing DER programs, advanced rate designs, interconnection improvements to facilitate DER integration, and legacy equipment.

Massachusetts Regulators Reject National Grid's Minimum Monthly Reliability Contribution

The Massachusetts Department of Public Utilities (DPU) issued an order in National Grid's general rate case in late September 2019, rejecting the utility's proposed minimum monthly reliability contribution (MMRC) for net metering customers, which would have taken the form of an additional fixed monthly fee. The DPU instead encouraged the state's three investor-owned utilities to work toward developing a standardized MMRC structure.

Figure 2. Distributed Solar Policy and Rate Design Action, by Quarter



THE BIG PICTURE: INSIGHTS FROM Q3 2019

Utilities Proposing More Modest Residential Fixed Charge Increases

Utilities are, in general, proposing more modest residential fixed charge increases than they have in recent years. In Q3 2019, the median residential fixed charge increase requested (among only requests to increase such charges by at least 10%) was $3.00. In 2018, the median requested increase was $3.87, while the median request was $4.00 in 2017 and $4.07 in 2016. Many utilities are also filing general rate case applications that keep the residential fixed charge at its current level. At least 18 utilities currently have rate case applications pending with either a proposed fixed charge increase of less than 10%, no fixed charge increase, or a fixed charge decrease.

States Considering Credit Adders for Community Solar Projects Serving Low-Income Customers

While a broader trend continues of states considering how to encourage low-income participation in community solar programs, several states have recently been specifically considering credit adders for community solar projects serving low-income customers. Designing community solar programs that provide a financial benefit to subscribers has been a challenge in building low-income customer participation, so some states are considering credit adders as a method of ensuring the program provides a financial benefit. The Governor of New Hampshire signed a bill in July 2019 establishing an adder for low and moderate income community solar projects. Advocates proposed adders for residential and low-income subscribers for the second phase of Hawaii's community-based renewable energy program. The existing Solar Massachusetts Renewable Energy Target (SMART) program also provides a credit adder for community solar projects serving low-income customers.

Stakeholders Reaching Agreements on Net Metering Reform in Some States, But Not Others

While stakeholders in some states, such as South Carolina, are reaching major compromise agreements on net metering reform, stakeholders remain divided in other states. In Arkansas' net metering successor proceeding, the net metering working group was tasked with submitting a filing of agreed-upon rules, but the group reported that it was unable to reach consensus on any of the rules. In Louisiana, the Public Service Commission adopted a net metering successor tariff in September 2019, but this decision is not supported by many of the proceeding's stakeholders, with some already filing petitions for rehearing and reconsideration. A settlement conference had been held in Louisiana, but parties were unable to reach consensus.

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
- Summary maps of action for each policy category above
- Excel spreadsheet file of all actions taken during the quarter and separate Powerpoint file of all summary maps available upon request
- 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 $1,500 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

PRICING

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Subscription Type	Annual Subscription	Single Report
50 States of Solar Report	$1,500	$500
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All-Tech Subscription *(Includes 50 States of Solar report, 50 States of Grid Modernization report, & 50 States of Electric Vehicles report; plus biweekly legislative & regulatory tracking; policy data sheets, & quarterly webinars for solar, grid modernization/energy storage, & electric vehicles)*	$10,500	N/A

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