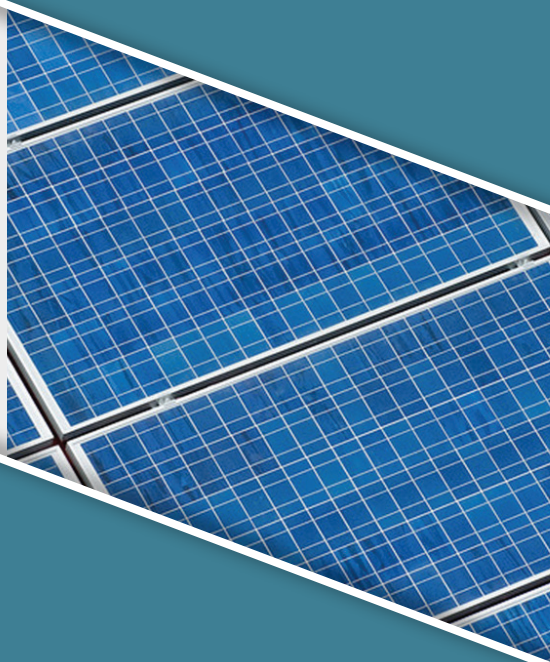


50 States of SOLAR

Q2 2018 Quarterly Report
Executive Summary



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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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- [Q1 2018 Executive Summary](#)
- [Q4 2017 and 2017 Policy Review – Executive Summary](#)
- [Q3 2017 Executive Summary](#)
- [Q2 2017 Executive Summary](#)
- [Q1 2017 Executive Summary](#)

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 Q2 2018 POLICY ACTION

In the second quarter of 2018, 42 states plus DC took a total of 148 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 Q2 2018. Of the 148 actions catalogued, the most common were related to residential fixed charge and minimum bill increases (46), followed by DG compensation rules (39), and community solar (25).

Table 1. Q2 2018 Summary of Policy Actions

Policy Type	# of Actions	% by Type	# of States
Residential fixed charge or minimum bill increase	46	31%	25
DG compensation rules	39	26%	23 + DC
Community solar	25	17%	17
DG valuation or net metering study	20	14%	16 + DC
Residential demand or solar charge	11	7%	5 + DC
Third-party ownership of solar	4	3%	2 + DC
Utility-led rooftop PV programs	3	2%	3
Total	148	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 Q2 2018

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

Connecticut Becomes the Latest State to Move Away From Net Metering

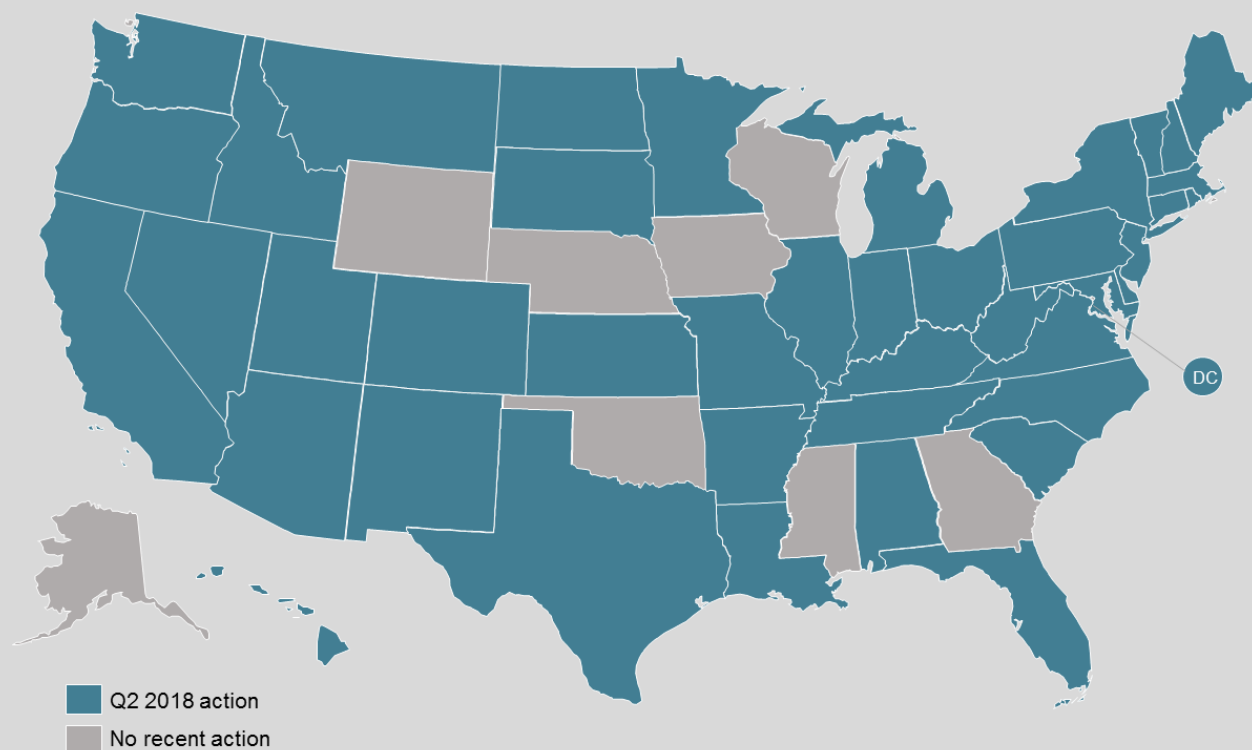
Connecticut's Governor signed S.B. 9 into law in May 2018, which closes net metering to new customers at the end of the state's residential solar investment program. Customers beginning to net meter before this time will be grandfathered until the end of 2039, while new customers will be able to select between two options – net billing and buy-all, sell-all – the details of which are yet to be determined.

New Jersey Legislature Adopts a Statewide Community Solar Policy

The Governor of New Jersey signed A.B. 3723 into law in May 2018, making the state the 19th to adopt a statewide community solar policy. The legislation creates a community solar pilot

program, which is to become a permanent program within three years of final rules being adopted. The Board of Public Utilities is to establish many of the program's criteria, including participant credit rates, an annual aggregate capacity limit, and ways to provide access to low and moderate income customers.

Figure 1. Q2 2018 Action on DG Compensation, Rate Design, & Solar Ownership Policies



Florida Public Service Commission Opens the Door to Residential Solar Leasing

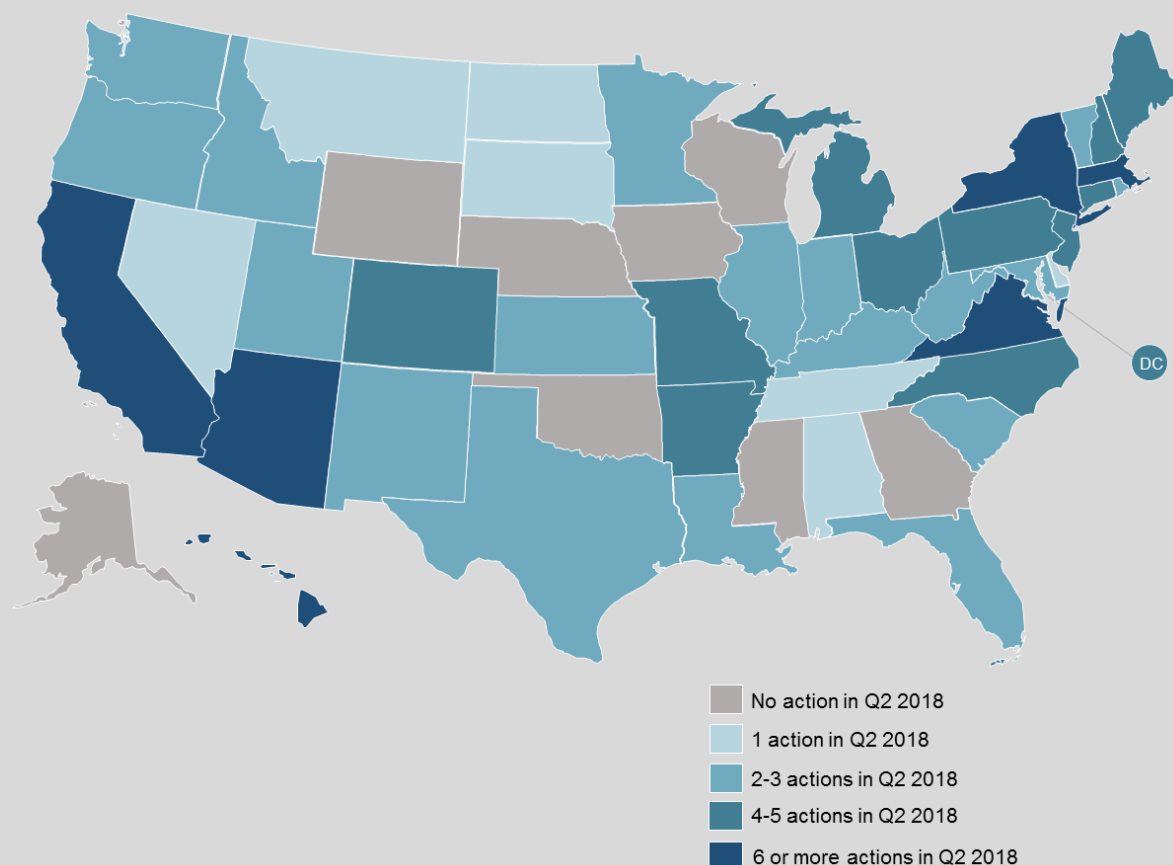
Responding to a petition for a declaratory ruling by Sunrun, the Florida Public Service Commission issued a declaratory statement in May 2018, ruling that Sunrun's residential solar equipment lease does not constitute a sale of electricity and does not subject the company to regulation as a public utility. Following this order, Vivint Solar filed a similar petition for a declaratory ruling on its residential solar equipment lease.

Regulators Approve Idaho Power Request to Separate DG Customers into Unique Class

In May 2018, the Idaho Public Utilities Commission approved Idaho Power's request to separate residential and small general service customers with on-site generation into unique

customer classes. The Commission also approved the opening of a new proceeding to study issues related to on-site generation, including rate design, compensation, and the cost and benefits of net metering.

Figure 2. Q2 2018 Action on Solar Policy & Rate Design, By Number of Actions



Colorado, Connecticut, and New York Regulators Approve Residential Fixed Charge Reductions

Commissions in three states approved reductions in residential fixed charges during Q2 2018. In New York, Central Hudson Gas & Electric's fixed charge reduction was the result of a settlement agreement, while the Colorado Commission rejected Black Hills Energy's cost allocation method, citing public policy concerns related to low-income customers and energy conservation. Connecticut regulators also approved a reduction in Eversource's fixed charge, although the utility had not requested an increase.

THE BIG PICTURE: INSIGHTS FROM Q2 2018

States Working to Increase Low-Income Customer Participation in Community Solar Programs

As more states consider and begin implementing community solar policies and programs, the issue of low-income customer participation in these programs is emerging as a key area of focus for policymakers and regulators. Bills enacted in both Connecticut and New Jersey during Q2 2018 address this issue. Connecticut's legislation includes a program carve-out for low-income customers and authorizes the creation of incentives and financing mechanisms to encourage low-income customer participation. New Jersey's legislation directs the Board of Public Utilities to develop ways to allow low-income customer access to the program. Several other states, including California, Colorado, Illinois, Massachusetts, New Hampshire, and New York, are also considering this issue and taking a variety of approaches.

State Legislatures Considering Bills Effectively Undoing or Amending Regulatory Decisions

Over recent months, state legislatures have considered bills that would effectively reverse decisions made by state regulators. Last year, Nevada legislators restored net metering in the state, following an earlier decision by the Public Utilities Commission that had ended retail rate net metering. In 2018, the Maine state legislature nearly enacted a bill that would have prohibited gross production metering, preventing implementation of the Commission's net metering successor approved in 2017. A bill currently under consideration in Massachusetts would disallow the demand charge portion of Eversource's recently approved minimum monthly reliability contribution. In New York, proposed legislation would revise the state's value of distributed energy resources methodology and allow net metering to continue until the end of 2021. Bills under consideration in Michigan would restore net metering and significantly change the process and methodology for the development of a new export credit rate.

Residential Fixed Charge Reductions: Are There More to Come?

While a majority of utility requests for increases in residential fixed charges have not been approved in full, during Q2 2018 regulators in three states approved reductions in utilities' residential fixed charges. The New York Public Service Commission approved a settlement agreement including a fixed charge decrease in Central Hudson Gas & Electric's recent rate case, while the Colorado Public Utilities Commission ordered a decrease in Black Hills Energy's fixed charge, citing concerns about the impact on low-income customers and energy conservation. Connecticut's Public Utilities Regulatory Authority also ordered a decrease in Eversource's residential fixed charge, although the utility did not request an increase in the charge in its latest rate case. While these instances of residential fixed charge reductions may not yet be indicative of a broader nationwide trend, it is an area to continue to watch.

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, 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.

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- 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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Customer Type	Annual Subscription	Single Report – Current Quarter
Business or Individual	\$1,600	\$500
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