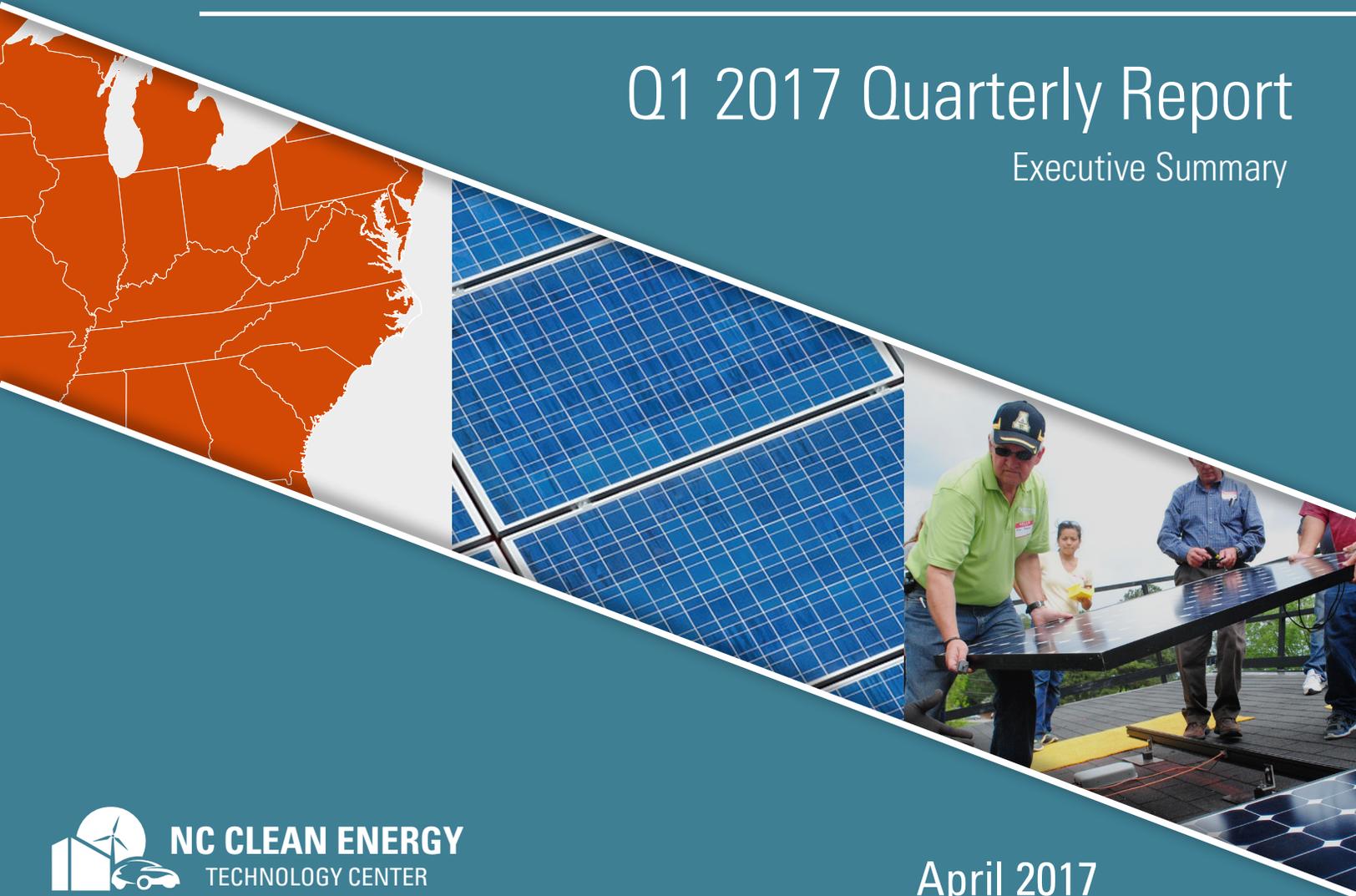


50 States of SOLAR

Q1 2017 Quarterly Report
Executive Summary



NC CLEAN ENERGY
TECHNOLOGY CENTER

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AUTHORS

Autumn Proudlove
Brian Lips
David Sarkisian
Achyut Shrestha

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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PREVIOUS EDITIONS

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:

- [Q4 2016 and 2016 Policy Review – Executive Summary](#)
- [Q3 2016 Executive Summary](#)
- [Q2 2016 Executive Summary](#)
- [Q1 2016](#)
- [Q4 2015 and 2015 Policy Review](#)
- [Q3 2015](#)
- [Q2 2015](#)
- [Q1 2015](#)
- [Q4 2014](#)

ABOUT THE REPORT

PURPOSE

The purpose of this report is to provide state lawmakers and regulators, electric utilities, the solar industry, and other energy stakeholders with timely, accurate, and unbiased 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, regulatory, 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 provides regular quarterly updates of solar policy developments, keeping stakeholders informed and up to date on a timely basis.

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 (1) state regulatory bodies and legislatures and (2) 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 focuses on cataloguing 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 this issue include:

- Significant changes to state or utility **net metering** laws and rules, including aggregate caps, system size limits, aggregate net metering rules, and compensation rates for net excess generation
- Changes to statewide **community solar** 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 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 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 specifically related 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 policies and incentives are available at www.dsireusa.org.

EXECUTIVE SUMMARY

Q1 2017 SOLAR POLICY ACTION

In the first quarter of 2017, 40 states plus DC took a total of 134 actions related to distributed solar policy and rate design (Figure 1). Table 1 provides a summary of state actions related to net metering, rate design, and solar ownership during Q1 2017. Of the 134 actions catalogued, the most common were related to residential fixed charge and minimum bill increases (46), followed by net metering (31), and solar valuation or net metering studies (16).

Table 1. Q1 2017 Summary of Policy Actions

Policy Type	# of Actions	% by Type	# of States
Residential fixed charge or minimum bill increase	46	34%	23 + DC
Net metering	31	23%	21
Solar valuation or net metering study	16	11%	14 + DC
Community solar	14	10%	12
Residential demand or solar charge	13	10%	8
Third-party ownership of solar	10	7%	7
Utility-led rooftop PV programs	4	3%	4
Total	134	100%	40 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 Q1 2017

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

New York Issues Landmark Value of Distributed Energy Resources Order

New York took a major step toward a net metering successor, finalizing a new Value of Distributed Energy Resources (VDER) tariff that will initially apply to new community solar and certain other large solar projects, with the goal of expanding the VDER compensation structure to all DER projects. The new rates will be comprised of the locational marginal price, a capacity value, an environmental benefits value, and a market transition credit.

Maine Adopts a Net Metering Successor Tariff

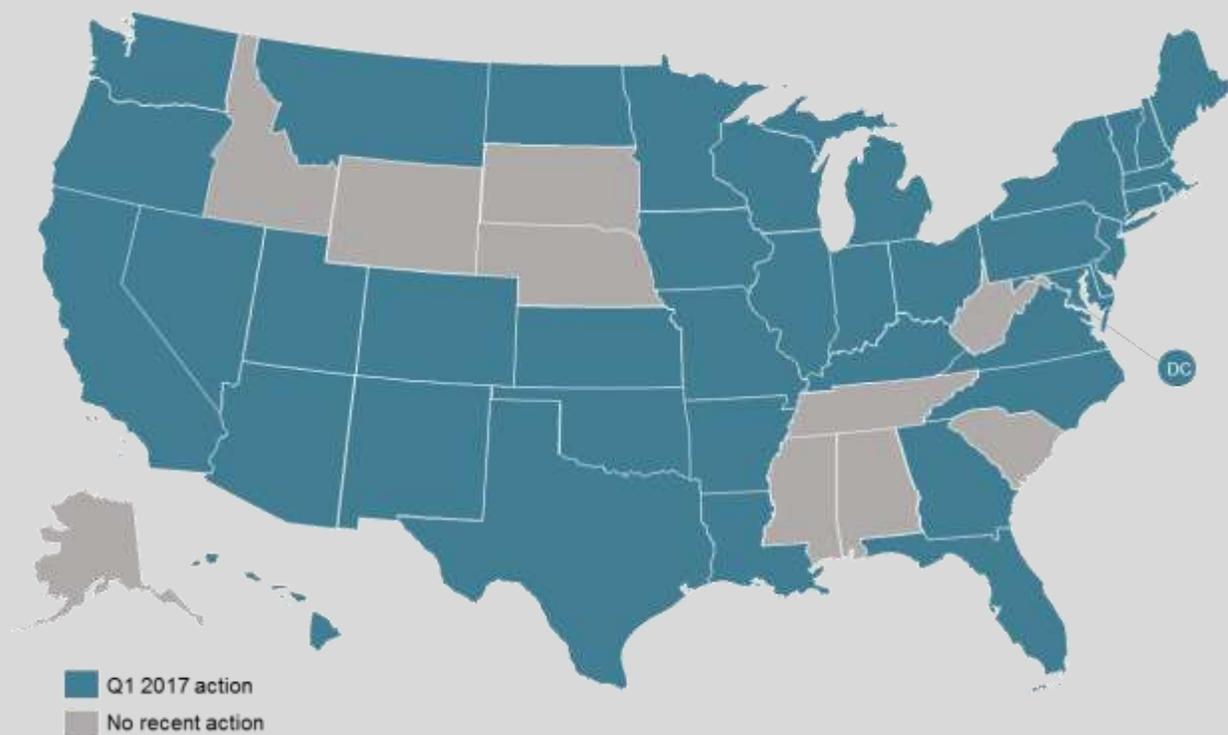
In Q1 2017, Maine became the fourth state to transition away from retail rate net metering, following Hawaii, Nevada, and Arizona. The Public Utilities Commission adopted a buy-all sell-

all policy, which gradually reduces the transmission and distribution credit paid to customer-generators. The rules grandfather existing customers for 15 years.

Indiana Bill to Eliminate Net Metering Moves Forward

An active Indiana bill – S.B. 309 – would eliminate retail rate net metering in favor of a buy-all, sell-all policy. The bill passed the State Senate during Q1 2017 and the State House in early Q2. If enacted, customer-generators signing up after the state’s 1% aggregate cap on net metering is reached would be compensated at 1.25 times the average wholesale rate. All customer-generators would transition to the new compensation scheme in July 2027.

Figure 1. Q1 2017 Action on Net Metering, Rate Design, & Solar Ownership Policies



Settlement Agreement Filed in Arizona Public Service Rate Case

A settlement agreement with 30 signatories was filed in Arizona Public Service’s high-profile rate case during Q1 2017. The agreement includes several rate options for residential customers, including a time-of-use option without a demand charge. The agreement also sets the new credit rate for exported energy at \$0.129 per kWh for the first year. The settlement is currently pending approval.

Texas and Massachusetts Utilities Propose Demand-Based Minimum Bills

In Q1 2017, both Oncor in Texas and Eversource in Massachusetts proposed demand-based minimum bills for residential DG customers. Structured as minimum bills, these demand charges would only be charged to the extent that a customer's total bill falls below the demand charge. Eversource's proposed minimum bill also includes a flat component.

THE BIG PICTURE: INSIGHTS FROM Q1 2017

Emergence of Proposed “Hybrid” Charges on Solar Customers

Two unique proposals for new solar customer charges emerged in Q1 2017. Oncor's proposed charge takes the form of a demand-based minimum bill, while Eversource's proposed charge is a hybrid of a fixed charge, demand charge, and minimum bill. The introduction of new fees that do not fit neatly within the traditional definitions of fixed charges, demand charges, and minimum bills is an area to watch.

Credit Rate Changes and Virtual Net Metering Dominate 2017 Net Metering Bills

At least 65 bills pertaining to net metering have been introduced in state legislatures this session, as of mid-April 2017. While proposed changes relate to everything from equipment requirements to aggregate caps, the majority of bills address net metering credit rates and virtual net metering. This is consistent with overall action observed during Q1 2017, where 15 states took action related to the development of a net metering successor tariff or adjusting credit rates for excess generation.

Requests to Increase Fixed Charges Struggle to Find Success

Utility requests to increase residential fixed charges continued to struggle in Q1 2017, with no utilities receiving their full requested increase. Two requests were withdrawn during the quarter, and twelve decisions were made, in which two utilities received no increase and ten received only a partial increase. Overall, utilities were on average granted 16% of their requested increases during Q1 2017. Excluding withdrawn requests, utilities received 19% of their original requests on average.

Community Solar Continues to Make Measured Policy Strides

States continue to take slow, yet steady steps toward enabling community solar, with Virginia becoming the 17th state to adopt a statewide community solar policy this past quarter, following Illinois in Q4 2016, and Rhode Island in Q2 2016. At least five states without existing community solar policies saw legislation introduced this session to enable community solar.

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.

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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Customer Type	Annual Subscription	Single Report – Current Quarter
Business or Individual	\$1,600	\$500
Non-Profit, Government, or Education	\$1,300	\$400

Previous editions of the 50 States of Solar are offered at a discounted rate. Visit the link above for details. Customers purchasing an annual subscription, receive complimentary access to all past editions of the report.

COMPLIMENTARY COPIES FOR POLICYMAKERS

Policymakers and regulators (limited to federal and state legislators and staffers, utility commissioners, utility commission staff, state consumer advocate office staff, and

state energy office staff) and **students** (for academic purpose only): [Contact us](#) to receive a complimentary copy of the most recent report.

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The NC Clean Energy Technology Center also offers customized policy research and analysis services. Visit <http://www.dsireusa.org/services/> to learn more.