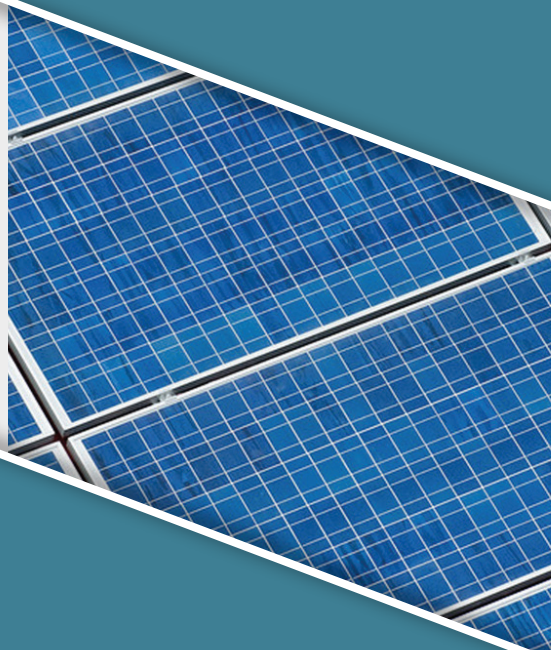


50 States of SOLAR

Q1 2021 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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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 Q1 2021 POLICY ACTION

In the first quarter of 2021, 42 states plus DC took a total of 155 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 Q1 2021. Of the 155 actions cataloged, the most common were related to DG compensation rules (51), followed by community solar (33), and residential fixed charge and minimum bill increases (23).

Table 1. Q1 2021 Summary of Policy Actions

Policy Type	# of Actions	% by Type	# of States
DG compensation rules	51	33%	27
Community solar	33	21%	19
Residential fixed charge or minimum bill increase	23	15%	15 + DC
Residential demand or solar charge	17	11%	8
DG valuation or net metering study	14	9%	12 + DC
Third-party ownership of solar	14	9%	9
Utility-led rooftop PV programs	3	2%	3
Total	155	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 Q1 2021

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

Connecticut Regulators Approve Net Metering Successor Tariff Designs

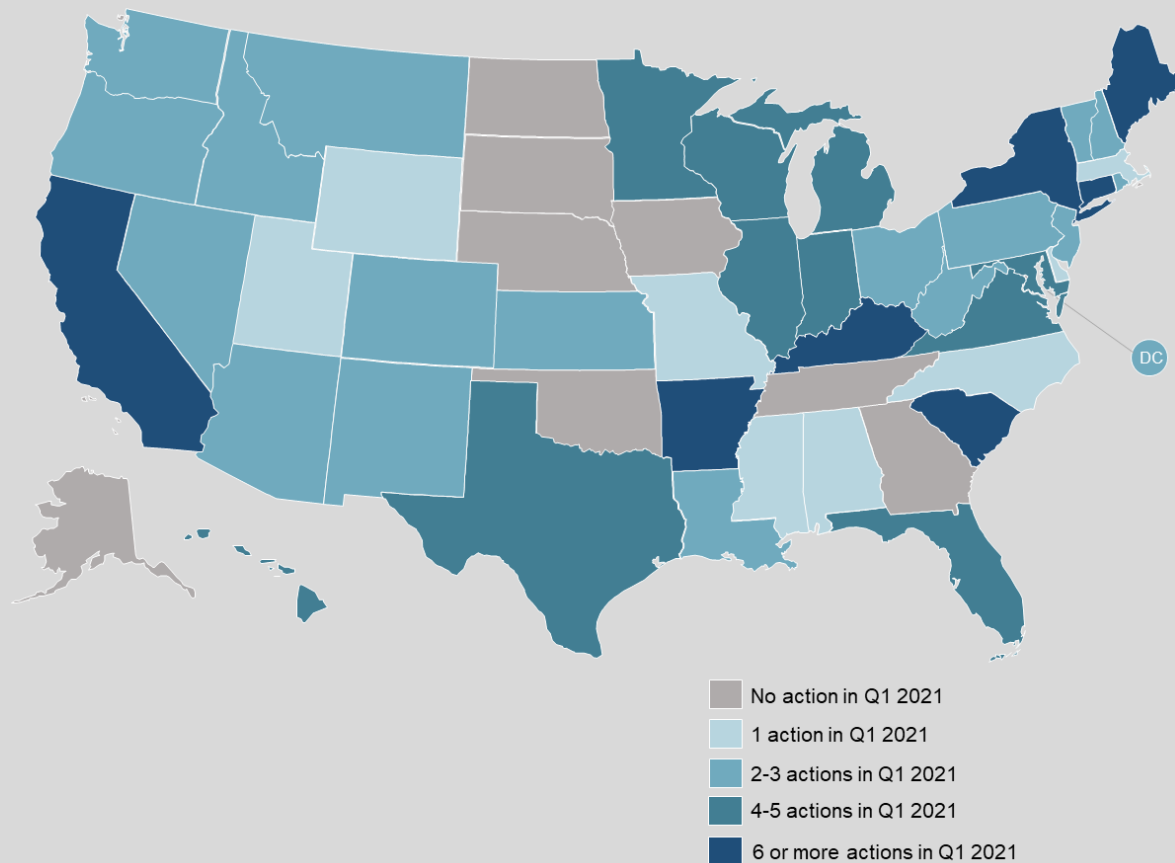
The Connecticut Public Utilities Regulatory Authority issued a decision in February 2021, approving two net metering successor tariff options: (1) a buy-all, sell-all tariff with a fixed compensation rate and (2) a netting tariff using a monthly netting interval and an export credit rate set at the applicable retail rate. Both tariffs will include a 20-year term, and utilities are to file proposals for non-bypassable charge designs by January 2022.

New Mexico Lawmakers Enact Community Solar Legislation

New Mexico lawmakers passed community solar legislation during the quarter, which authorizes community solar projects up to 5 MW, with an initial annual program cap of 100 MW

until November 2024. Subscriber bill credits are to be derived from the utility’s total aggregate retail rate minus the cost of approved distribution cost components. The legislation requires that 30% of annual program capacity be reserved for low-income customers or service organizations.

Figure 1. Q1 2021 Action on DG Compensation, Rate Design, & Solar Ownership Policies, by Number of Actions



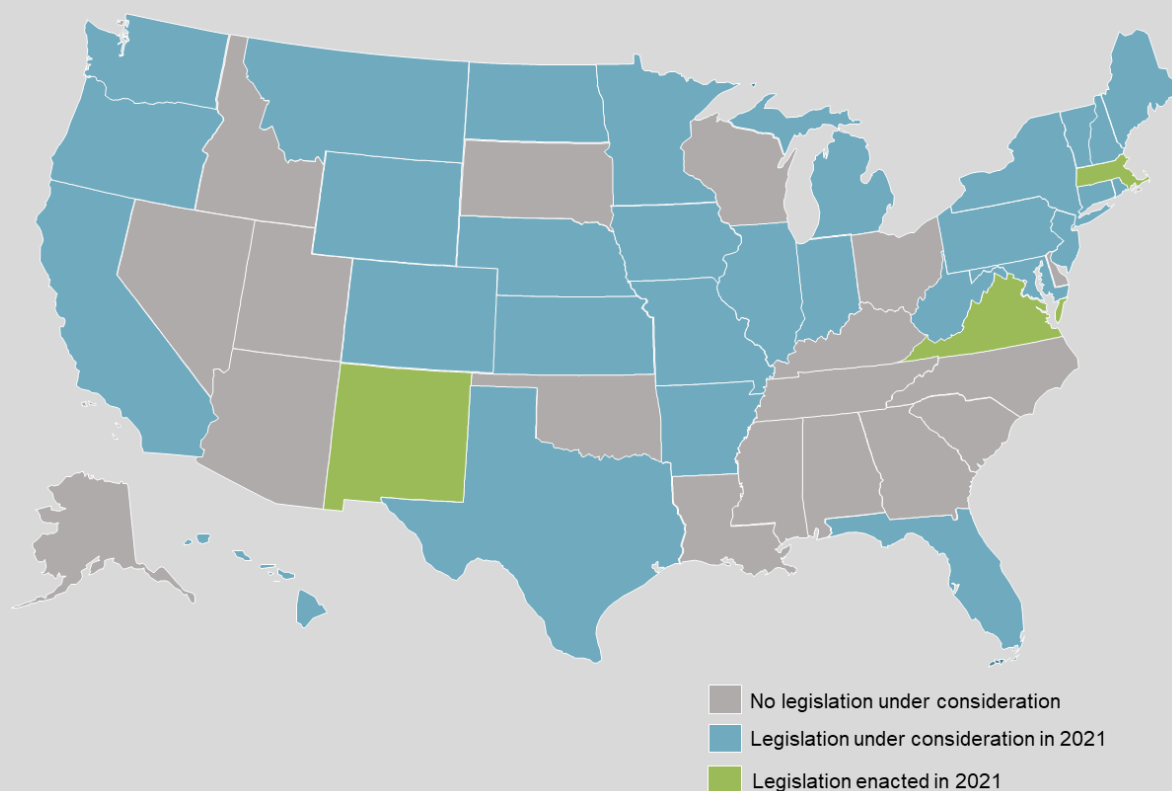
California Utilities and Stakeholders File Net Metering 3.0 Proposals

In March 2021, Pacific Gas & Electric, San Diego Gas & Electric, and Southern California Edison filed their joint proposal for California’s Net Metering 3.0 tariff design. The utilities are proposing a net billing structure with time-varying credits based on an avoided cost rate. The proposal also includes a monthly grid benefits charge based on system capacity, as well as a fixed monthly charge. Many other stakeholders have also filed their proposed tariff designs for Net Metering 3.0.

Kansas Regulators Reject Evergy's Proposed Distributed Generation Fees

Kansas utility regulators issued a decision on Evergy's proposal to replace its distributed generation customer demand charge with a grid access charge based on system capacity or a minimum bill, rejecting both of these options. The Commission took issue with the method used to calculate the grid access charge and found that a minimum bill could negatively impact lower-income customers. The Commission noted that it is not opposed to the idea of a grid access charge in principle.

Figure 2. DG Compensation, Rate Design, and Solar Ownership Legislation Under Consideration in 2021 (as of 4/14/2021)



West Virginia Lawmakers Pass Legislation Authorizing Third-Party Solar PPAs

The West Virginia State House passed legislation in March 2021 authorizing the use of third-party power purchase agreements (PPAs) for solar systems that are designed to meet the electrical needs of the premises. The State Senate later passed the bill in April, and the legislation is awaiting action by the Governor. West Virginia is currently one of seven states where third-party PPAs are known to be disallowed.

THE BIG PICTURE: INSIGHTS FROM Q1 2021

Fees Based on Distributed Generation System Capacity Gaining Traction

Activity related to fees based on distributed generation (DG) system capacity (often termed “grid access charges”) continues to increase, with California’s major investor-owned utilities requesting approval for a new system capacity-based charge as part of its Net Metering 3.0 tariff proposal. In South Carolina, net metering successor tariff proposals put forward by Duke Energy and Dominion Energy both include monthly DG capacity-based fees as well. The Kansas Corporation Commission rejected Evergy’s proposed grid access charge based on DG capacity, which would replace the utility’s DG customer demand charge. However, the Commission noted that it is not opposed to grid access charges in principle, if based on a different methodology. New York regulators approved a Customer Benefit Charge based on DG capacity last year, and utilities filed their fee calculations during Q1 2021.

States Revisiting Net Metering Successor Tariffs

Several states that have adopted net metering successor tariffs have later revisited these decisions and made further changes to these tariff designs. Notably, the California Public Utilities Commission is in the midst of developing its Net Metering 3.0 tariff to succeed the Net Metering 2.0 rules adopted in 2016. Hawaii regulators are also evaluating changes to distributed energy resource tariffs, including program caps and rate design. In Michigan, regulators approved a successor tariff design in 2019, but are now considering changes to this design through a working group process. Mississippi, which never had a retail rate net metering policy, but adopted a net billing program in 2015, is now also considering modifications to this program. Past examples of states revisiting successor tariff decisions also include Maine and Nevada, where state legislators opted to restore retail rate net metering.

States Increasing Net Metering System Size Limits and Aggregate Caps

Several states have recently taken steps to expand the availability of net metering by increasing system size limits or aggregate capacity limits. In Maryland, lawmakers passed a bill doubling the net metering aggregate cap, and Massachusetts legislators enacted a bill exempting Class II and III net metering systems from the private (non-government) aggregate cap. Hawaii regulators also recently increased the program cap for the Customer Grid-Supply Plus tariff. The Montana State House has passed legislation increasing the non-residential system size limit from 50 kW to 350 kW, and Colorado Springs Utilities recently increased its net metering system size limit. Proposed legislation increasing net metering aggregate caps or system size limits was considered in at least 12 states during Q1 2021.

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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