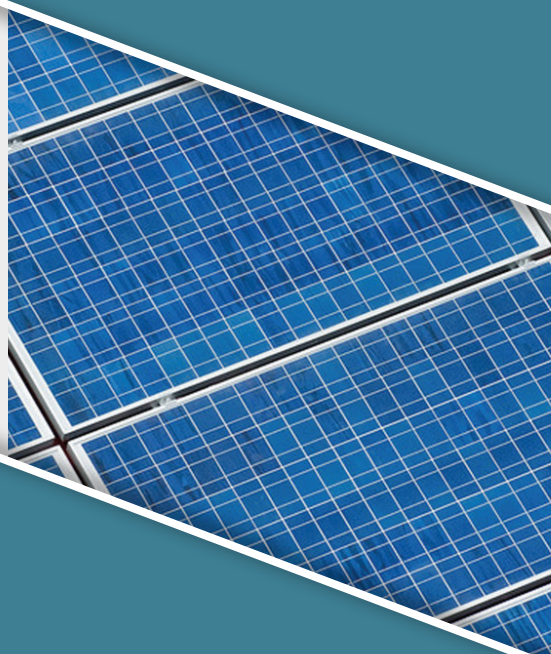


# 50 States of SOLAR

**Q3 2021 Quarterly Report**  
Executive Summary



**NC CLEAN ENERGY**  
TECHNOLOGY CENTER

October 2021

## AUTHORS

Autumn Proudlove  
Brian Lips  
Meghann Papsdorf  
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](mailto:afproudl@ncsu.edu))

## PREFERRED CITATION

North Carolina Clean Energy Technology Center, *The 50 States of Solar: Q3 2021 Quarterly Report*, October 2021.

## COVER DESIGN CREDIT

Cover design is by [Capital City Creative](#).

## COVER PHOTO CREDIT

Photo by Wayne National Forest. “Wayne National Forest Solar Panel Construction.” July 15, 2009. CC-BY 2.0. Retrieved from <https://www.flickr.com/photos/waynenf/3725051641>

Photo by North Carolina Clean Energy Technology Center. “Training Class – PV Installation.” April 25, 2014.

## DISCLAIMER

While the authors strive to provide the best information possible, neither the NC Clean Energy Technology Center nor NC State University make any representations or warranties, either express or implied, concerning the accuracy, completeness, reliability or suitability of the information. The NC Clean Energy Technology Center and NC State University disclaim all

liability of any kind arising out of use or misuse of the information contained or referenced within this report. Readers are invited to contact the authors with proposed corrections or additions.

## 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](http://www.dsireusa.org).

# EXECUTIVE SUMMARY

## OVERVIEW OF Q3 2021 POLICY ACTION

In the third quarter of 2021, 40 states plus DC took a total of 174 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 2021. Of the 174 actions cataloged, the most common were related to DG compensation rules (55), followed by community solar (44), and residential fixed charge and minimum bill increases (34).

**Table 1. Q3 2021 Summary of Policy Actions**

Policy Type	# of Actions	% by Type	# of States
DG compensation rules	55	32%	27
Community solar	44	25%	21 + DC
Residential fixed charge or minimum bill increase	34	20%	23
DG valuation or net metering study	15	9%	11 + DC
Residential demand or solar charge	14	8%	8
Third-party ownership of solar	10	6%	3
Utility-led rooftop PV programs	2	1%	2
<b>Total</b>	<b>174</b>	<b>100%</b>	<b>40 States + DC</b>

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 2021

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

### Illinois Lawmakers Enact Expansive Clean Energy Legislation

In September 2021, Illinois legislators enacted an expansive clean energy bill including several provisions related to community solar and net metering. The bill increases the budget for the Illinois Solar for All program and opens a new block of capacity for the Adjustable Block Program's community solar sub-program. The bill also increases the system size limit for community solar facilities and sets a specific date for the state's net metering transition.

### New York Launches Inclusive Community Solar Adder Program

The New York State Energy Research and Development Authority (NYSERDA) launched the Inclusive Community Solar Adder program in July 2021, which will provide \$52.5 million in

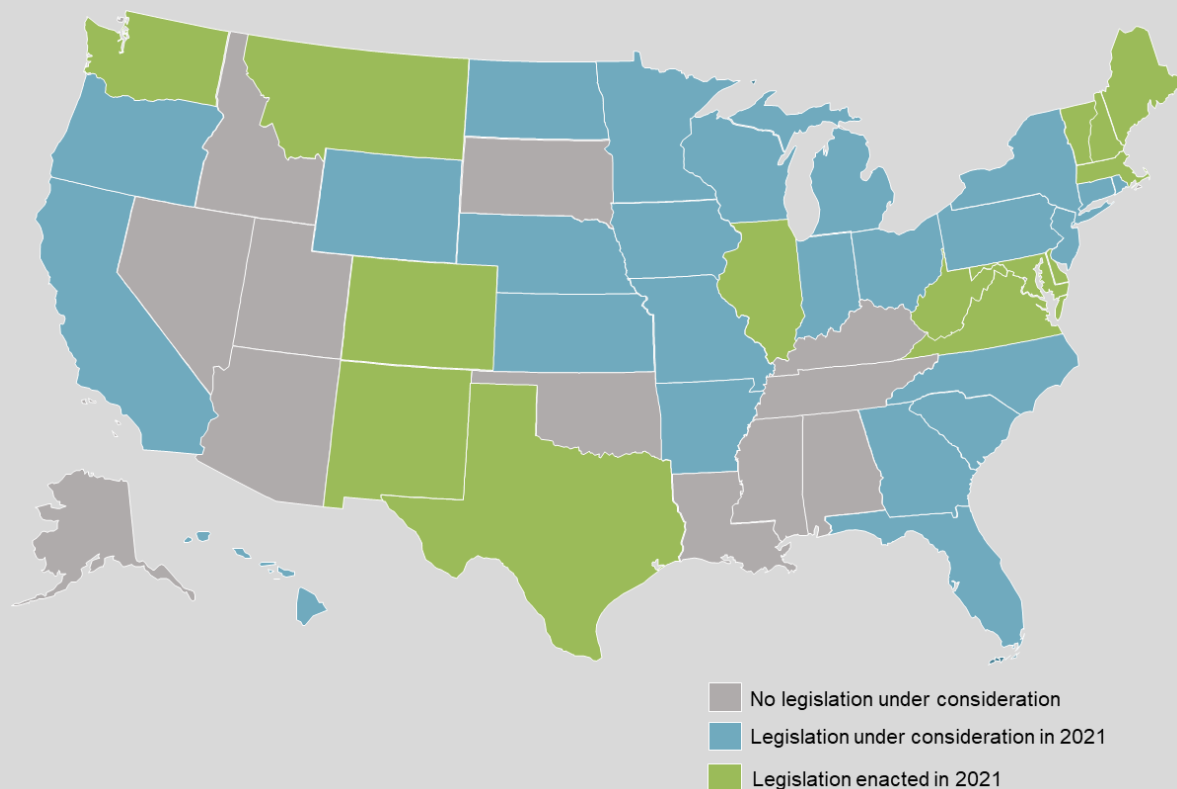




## Delaware Legislators Approve Community Solar Program Modifications

The Delaware General Assembly enacted legislation in September 2021 modifying several aspects of the state's community solar rules. The bill increases the community solar system size limit to 4 MW and eliminates requirements that all subscribers be located on the same distribution feeder and identified prior to project construction. The bill also requires that 15% of each community solar facility's capacity serve low-income customers.

**Figure 2.** DG Compensation, Rate Design, and Solar Ownership Legislation Under Consideration in 2021 (as of 10/12/2021)



## SMUD Board of Directors Approves Net Metering Successor

The Sacramento Municipal Utility District (SMUD) Board of Directors voted to approve a net metering successor tariff for the utility in September 2021. The tariff credits instantaneous grid exports at 7.4 cents per kWh, with this rate set to be reevaluated every four years and not revised by more than 30%. The Board also approved a one-time interconnection fee, an optional residential critical peak pricing rate, and a virtual net metering program for multi-family affordable housing.



## THE BIG PICTURE: INSIGHTS FROM Q3 2021

### States Expanding Existing Community Solar Programs

While only one new state – New Mexico – has authorized community solar so far in 2021, several states have taken steps to expand existing community solar programs. Legislation enacted in Illinois expands the capacity allocated for the state’s community solar program and increases the eligible system size limit for community solar facilities from 2 MW to 5 MW. Delaware lawmakers also increased the community solar facility size limit to 4 MW, and New Hampshire legislation authorizes group net metering for systems up to 5 MW with municipal hosts. Colorado regulators are also considering an increase in the community solar system size limit from 5 MW to 10 MW. Maryland regulators voted to increase the state’s community solar program capacity, while legislation considered in North Carolina and Rhode Island would have also expanded the states’ community solar programs, although these bills were either not ultimately enacted or had the community solar provisions removed prior to enactment.

### State Lawmakers Pursuing Expansive Clean Energy Bills

State lawmakers in a number of states have been considering and passing expansive energy bills during 2021, which include changes to solar policies like net metering, community solar, and third-party ownership. In Illinois, state legislators recently enacted a wide-ranging clean energy bill with significant provisions related to the state’s community solar programs and the distributed generation rebates that are set to replace traditional net metering. Earlier in the year, Massachusetts lawmakers enacted a bill establishing emissions reduction targets for the state, while also making numerous changes to other state energy laws, including net metering caps. In North Carolina, the State House passed a major energy bill including new community solar provisions, guidelines for a net metering successor tariff, and an increase in the cap on solar leasing. However, the final version of the bill signed into law in October no longer includes these sections.

### States Offering Distributed Generation Customers Multiple Compensation Options

As discussions around net metering modifications and alternatives continue across the country, some states are offering distributed generation customers the choice of different compensation tariff options. In Connecticut, regulators approved a monthly netting tariff, as well as a buy-all, sell-all tariff, which will compensate gross production at a fixed rate. In Michigan, one of the distributed energy resource rate design options presented in the state’s recent draft study is a path that offers customers a choice between a buy-all, sell-all rate and a net metering program with a grid access charge. Maine also offers a monthly netting program, as well as a fixed tariff rate option for commercial and industrial customers. In Arizona, distributed generation customers may choose between time-of-use rate plans offered by the utilities, including options with and without demand charges.

# 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

Visit <https://www.dsireinsight.com/subscriptions/> to purchase the full 50 States of Solar Q3 2021 Report or learn more about our additional subscription offerings.

Subscription Type	Annual Subscription	Single Report
<b>50 States of Solar Report</b>	\$1,500	\$500
<b>Single-Tech Subscription (Solar)</b> <i>(Includes 50 States of Solar report, plus comprehensive biweekly legislative &amp; regulatory solar tracking, policy data sheets, &amp; curated monthly policy updates)</i>	\$4,500	N/A
<b>All-Tech Subscription</b> <i>(Includes 50 States of Solar report, 50 States of Grid Modernization report, &amp; 50 States of Electric Vehicles report; plus comprehensive biweekly legislative &amp; regulatory tracking; policy data sheets, &amp; curated monthly policy updates)</i>	\$10,500	N/A

Customers purchasing an annual subscription, receive complimentary access to all past editions of the report. Previous editions of the 50 States of Solar are offered at a discounted rate upon request. Contact us to learn more.

## NON-PROFIT / GOVERNMENT DISCOUNT

A 20% discount is now available for non-profits and government entities. Please [contact us](#) for more information.

## COMPLIMENTARY COPIES FOR POLICYMAKERS

We offer complimentary copies of the 50 States of Solar to **policymakers and regulators only** (limited to federal and state legislators and staffers, utility commissioners, utility commission staff, state consumer advocate office staff, and state energy office staff). [Contact us](#) to receive a complimentary copy of the most recent report.

## CUSTOMIZED SOLUTIONS

The NC Clean Energy Technology Center also offers customized policy research and analysis services. Contact us to learn more.