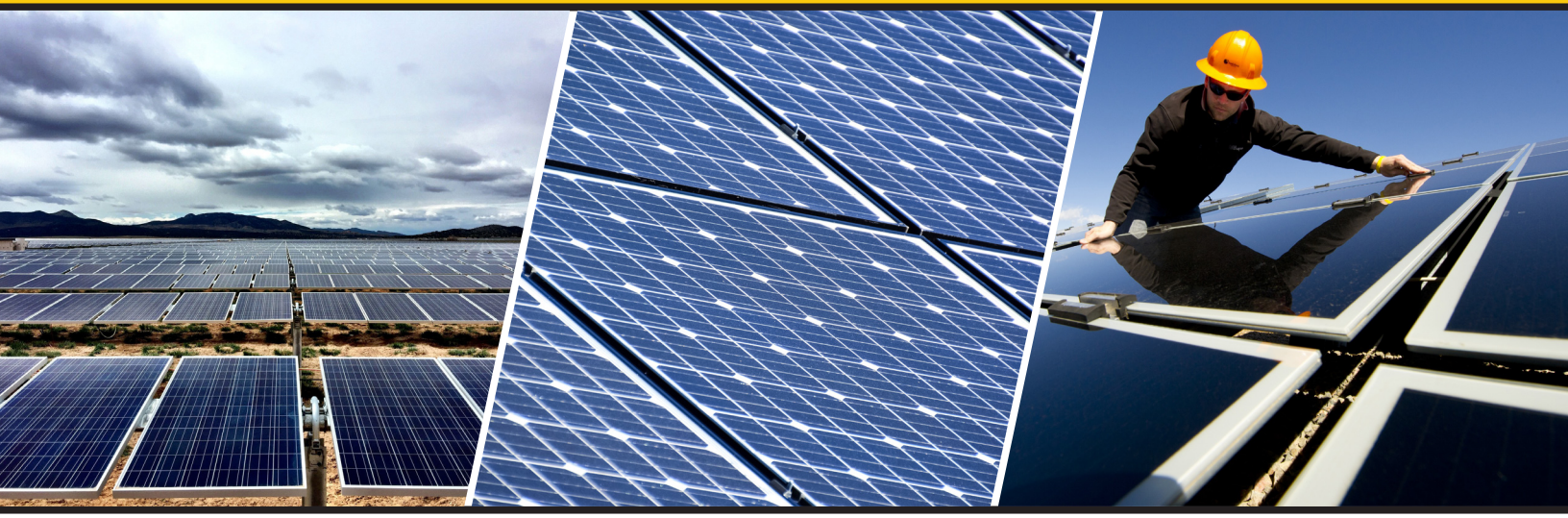
50 STATES OF SOLAR

Q1 2023 Quarterly Report

Executive Summary



NC CLEAN ENERGY TECHNOLOGY CENTER | DSIRE insight

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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 Q1 2023 POLICY ACTION

In the first quarter of 2023, 41 states plus DC took a total of 173 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 2023. Of the 173 actions cataloged, the most common were related to DG compensation rules (59), followed by community solar (45), and residential fixed charge and minimum bill increases (34).

Table 1. Q1 2023 Summary of Policy Actions

Policy Type	# of Actions	% by Type	# of States
DG compensation rules	59	34%	26
Community solar	45	26%	19 + DC
Residential fixed charge or minimum bill increase	34	20%	22
Third-party ownership of solar	11	6%	6
Residential demand or solar charge	10	6%	7
DG valuation or net metering study	10	6%	8
Utility-led rooftop PV programs	4	2%	4
Total	**173**	**100%**	**41 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 2023

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

Arkansas Lawmakers Enact Net Metering Reform Legislation

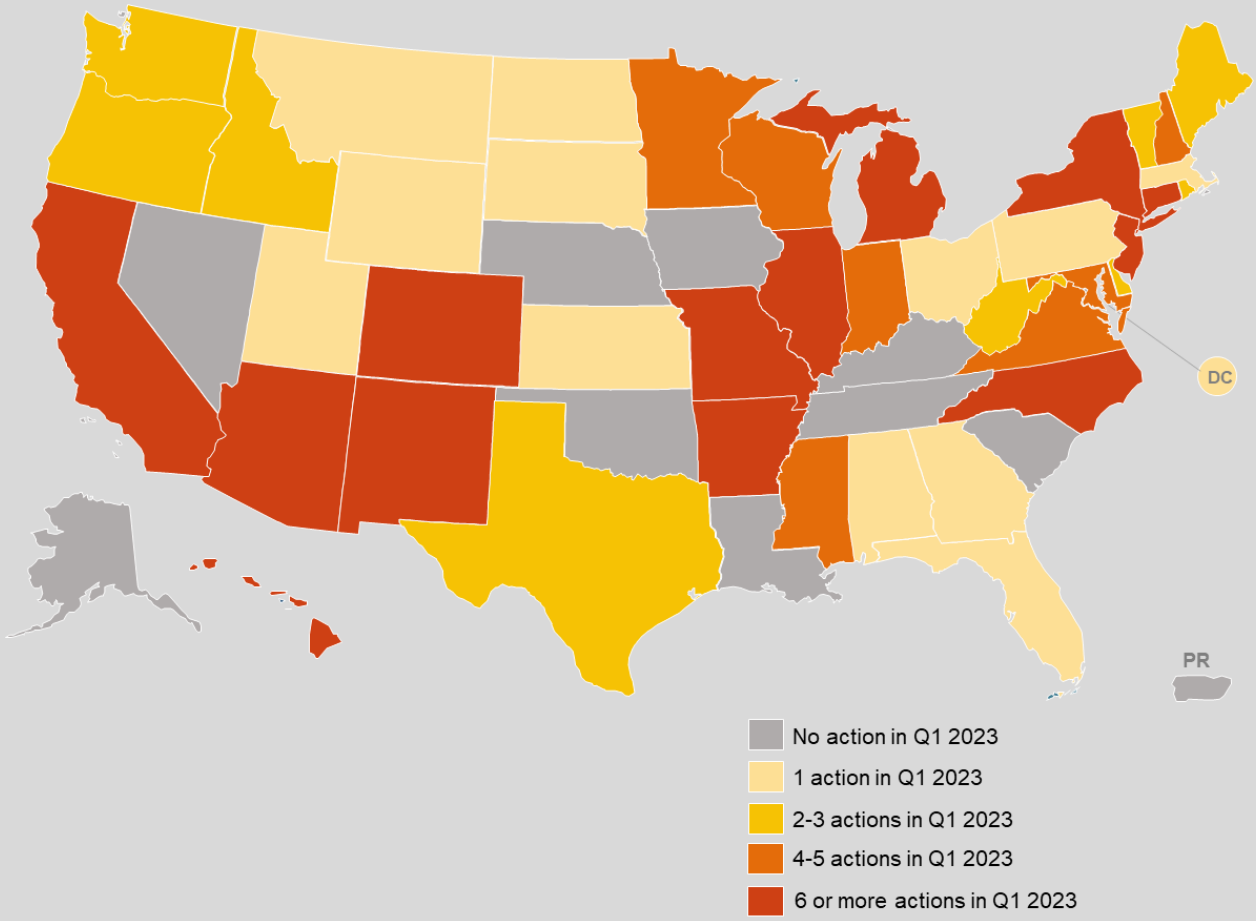
Arkansas lawmakers enacted legislation in March 2023 making significant changes to the state's net metering policy. The changes will move the state to a net billing compensation structure, with electricity exported to the grid credited at the avoided cost rate. The legislation also authorizes monthly grid charges and adjusts system capacity limits, while grandfathering existing net metering customers under current rules until June 2040.

North Carolina Regulators Approve Net Metering Successor Tariff

North Carolina regulators approved Duke Energy's proposed Solar Choice Metering tariff, which will credit residential solar owners at time-varying retail rates and apply a non-

bypassable charge, grid access charge, and minimum bill. The Commission also approved a Bridge Rate, which includes the minimum bill and non-bypassable charges, but not the mandatory time-varying rates and grid access charge. The Commission denied a proposed upfront rebate, instead requiring the development of a new residential storage incentive.

Figure 1. Q1 2023 Action on DG Compensation, Rate Design, & Solar Ownership Policies, by Number of Actions



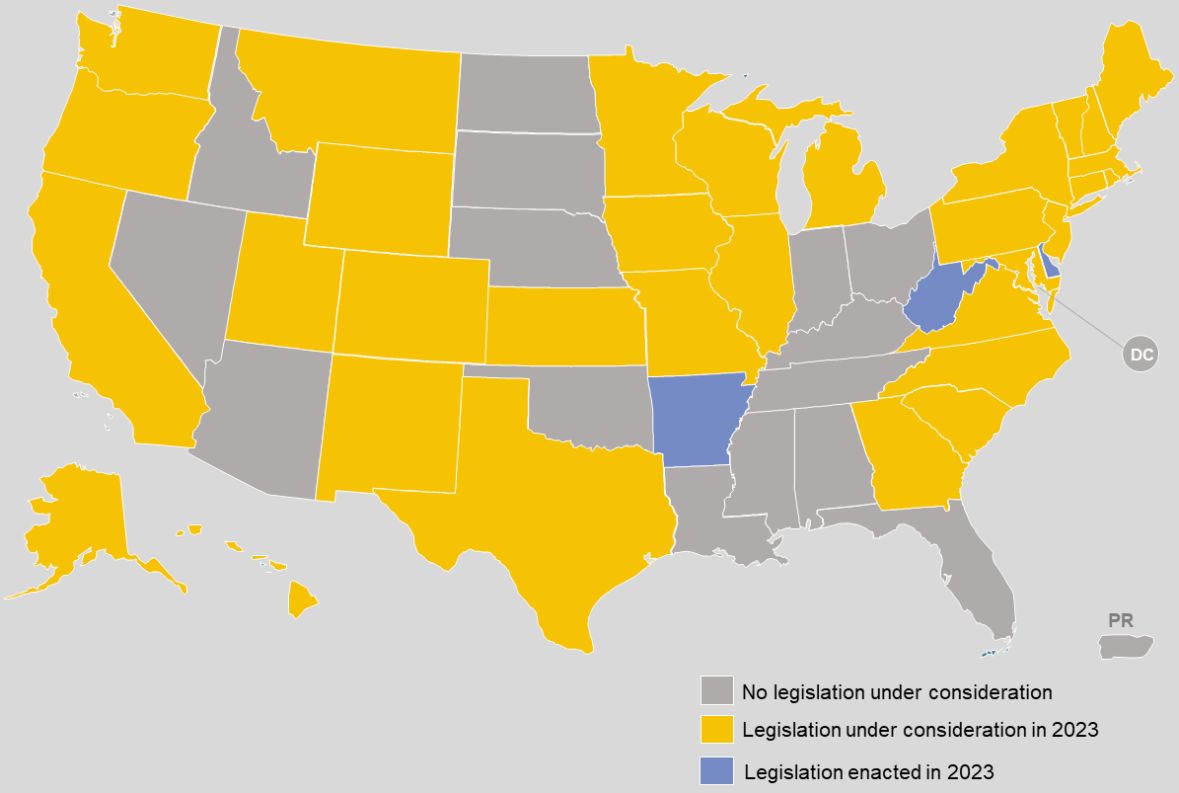
Arizona Corporation Commission Adopts Community Solar Policy Framework

The Arizona Corporation Commission approved a community solar policy statement in March 2023, which would allow, but not require, regulated utilities to offer community solar and storage itself or through a third party partnership. Customer bill credits would be capped at avoided cost, and low- to moderate-income customers would need to receive 50% of the capacity for a project. The policy also finds an RFP model appropriate and would not include a must take requirement.

Indiana Court Upholds Net Metering Successor Tariff

The Indiana Supreme Court issued an opinion in January 2023, upholding the Indiana Utility Regulatory Commission's original approval of Southern Indiana Gas & Electric's net metering successor tariff including instantaneous netting of production and consumption. This follows the Court of Appeals' overturning of the Commission's decision. The state's investor-owned utilities' successor tariffs will compensate instantaneous grid exports at 1.25 times the wholesale rate.

Figure 2. DG Compensation, Rate Design, and Solar Ownership Legislation Under Consideration in 2023 (as of mid-April 2023)



Wisconsin Regulators Allow Third-Party Owned Solar Project to Advance

In February 2023, the Wisconsin Public Service Commission issued a decision on Vote Solar's petition for a declaratory ruling regarding the legality of third-party solar leases and power purchase agreements. The Commission's ruling applies only to a particular third-party distributed energy resource project in question, but states that the project is not subject to regulation as a public utility.

THE BIG PICTURE: INSIGHTS FROM Q1 2023

Basing Net Metering Successor Compensation on Time-Varying or Avoided Cost Rates

As more states adopt alternatives to traditional net metering rules, an emerging trend shows most states opting for compensation structures based on time-varying rates, avoided cost rates, or both. North and South Carolina are both taking the time-varying retail rate approach, while California regulators approved a move to time-varying avoided cost credit rates late last year. Other states, such as Arkansas, Arizona, Hawaii, Indiana, Louisiana, Michigan, and Utah have approved shifts to compensation at or based on avoided cost rates. While Arizona utilities credit distributed generators at a flat rate, these customers are required to take service on a time-of-use rate. In Hawaii, plans to move all customers to default time-of-use rates are being finalized, as well as revised distributed energy resource tariffs that will incorporate time-varying export credit rates.

Addressing Community Solar Project Siting in Program Design

A growing number of states are addressing siting issues in community solar program design, especially through either rules limiting eligible sites or providing incentives or bid preferences to encourage development in particular locations. A community solar straw proposal released in New Jersey limits eligible sites to rooftops, canopies over impervious surfaces, brownfields, and floating solar on manmade bodies of water. Legislation passed in Maryland allows multiple community solar projects exceeding 5 MW in aggregate to be built on the same or adjacent parcels if they are located on particular types of sites, such as rooftops, brownfields, and industrial areas. In Maine, the state's distributed generation stakeholder group released a final report recommending a successor program framework that would provide a bid preference for projects sited on disturbed lands.

Increasing Low- to Moderate-Income Customer Participation Requirements for Community Solar Programs

Multiple states took steps to increase low- to moderate-income (LMI) participation requirements for community solar programs during the quarter. Legislation passed in Maryland increases the current requirement for 30% of output to go toward LMI participants to 40%. In New Jersey, a straw proposal for the state's permanent community solar program would require all projects to deliver 51% of their energy to LMI subscribers. While Arizona does not currently have a community solar program, a policy statement approved by regulators in March 2023 would require 50% of a community solar facility's capacity to be dedicated to LMI customers, following the trend of establishing stronger LMI participation requirements. In North Carolina, proposed legislation would revise the state's community solar program to focus on economically distressed counties, as well as affordable housing units.

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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NON-PROFIT / GOVERNMENT DISCOUNT

A 20% discount is 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.

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