

NET METERING OF ROOFTOP SOLAR: A JURISDICTIONAL CHALLENGE ON THE HORIZON

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The total electricity generated by rooftop solar has increased tenfold over the past decade, and the number of American homes with rooftop solar increases by the day.¹ Today, more than four million homes in the United States have rooftop solar panels.² To put this amount into perspective, combined these small-scale solar energy systems generate enough electricity to power more than all the homes in the state of Pennsylvania.³

Despite the rapid rise of solar, in 2022, total solar generation, including small-scale rooftop solar and large-scale utility solar, only made up 3.4% of the American electricity grid, while fossil fuels made up the majority.⁴ Meanwhile, across borders, the scientific community urges nations to collectively reduce fossil fuel use and keep global warming to no more than two degrees Celsius above pre-industrial levels.⁵ The Paris Agreement aspires to prevent catastrophic climate change by achieving global net-zero greenhouse gas emissions by 2050.⁶ In response to the urgency of the climate crisis and the commitments of the Paris Agreement, the United States set its own goal of achieving net-zero greenhouse gas emissions by 2050.⁷

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1. See, e.g., Press Release, Environment America Research and Policy Center, *New Report: Rooftop Solar Delivers 10 Times More Power Than a Decade Ago* (Feb. 13, 2024), <https://environmentamerica.org/center/media-center/new-report-rooftop-solar-delivers-10-times-more-power-than-a-decade-ago/>.
2. See, e.g., JOHANNA NEUMANN ET AL., FRONTIER GROUP & ENVIRONMENT AMERICA RESEARCH AND POLICY CENTER, *ROOFTOP SOLAR ON THE RISE: SMALL SOLAR PROJECTS ARE DELIVERING 10 TIMES AS MUCH POWER AS A DECADE AGO* (2024), <https://publicinterestnetwork.org/wp-content/uploads/2024/02/Rooftop-Solar-on-the-Rise-2024.pdf>.
3. See, e.g., *id.*
4. See, e.g., U.S. Energy Information Administration (EIA), *Frequently Asked Questions (FAQs): What Is U.S. Electricity Generation by Energy Source?*, <https://www.eia.gov/tools/faqs/faq.php?id=427&t=3> (last updated Feb. 29, 2024).
5. See, e.g., United Nations Climate Action, *For a Livable Climate: Net-Zero Commitments Must Be Backed by Credible Action*, <https://www.un.org/en/climatechange/net-zero-coalition> (last visited May 23, 2024).
6. *Id.*
7. See U.S. DEPARTMENT OF STATE & U.S. EXECUTIVE OFFICE OF THE PRESIDENT, *THE LONG-TERM STRATEGY OF THE UNITED STATES: PATHWAYS TO NET-ZERO GREENHOUSE GAS EMISSIONS BY 2050*, at 1 (2021), <https://www.whitehouse.gov/wp-content/uploads/2021/10/US-Long-Term-Strategy.pdf>.

Recognizing that decarbonizing electricity is necessary to meet its ambitious 2050 net-zero goal, the United States set a complementary goal of achieving 100% clean electricity by 2035.⁸ Decarbonizing electricity is crucial to achieving net-zero emissions because the electricity sector contributes roughly one-quarter of all U.S. greenhouse gas emissions, and the United States has already demonstrated the ability to reduce carbon emissions within this sector by increasing renewable electricity generation.⁹ U.S. projections to reach clean electricity by 2035 and net-zero emissions by 2050 rely heavily on a substantial increase in renewables, particularly solar.¹⁰ Given that reaching net zero requires developing carbon-free electricity, which in turn requires increasing renewable solar energy, the United States has a domestic and international obligation to facilitate the continued growth of solar energy.

In addition to the practical need to increase solar generation to meet renewable energy and climate change mitigation goals, promoting solar is widely supported by the American people. Despite partisan gridlock surrounding many aspects relating to climate change and energy policy, large majorities across the political aisle support expanding solar energy.¹¹ A survey by Pew Research Center found that almost nine out of 10 adults in the United States favor expanding solar, and that solar is viewed more favorably than any other energy source.¹² Corresponding with this large support for solar, the U.S. Congress has supported increasing and incentivizing solar for decades, most recently in 2022 by expanding rooftop solar tax credits in the Inflation Reduction Act (IRA).¹³

This Comment argues that the U.S. federal government should facilitate the continued growth of rooftop solar by addressing a looming legal issue associated with rooftop solar's rise—jurisdiction over net metering. Net metering is a utility billing mechanism that allows rooftop solar panel

8. *Id.* at 5.
9. *Id.* at 26.
10. *Id.*
11. See, e.g., Brian Kennedy, *Americans Strongly Favor Expanding Solar Power to Help Address Costs and Environmental Concerns*, PEW RSCH. CTR. (Oct. 5, 2016), <https://www.pewresearch.org/short-reads/2016/10/05/americans-strongly-favor-expanding-solar-power-to-help-address-costs-and-environmental-concerns/>.
12. *Id.*
13. See, e.g., Solar Energy Industries Association, *Solar Investment Tax Credit (ITC)*, <https://www.seia.org/initiatives/solar-investment-tax-credit-itc> (last visited May 23, 2024).

owners to be compensated for the electricity that they generate to the grid but do not use themselves. While states have jurisdiction over net metering within their borders, some argue that the Federal Energy Regulatory Commission (FERC), the independent agency within the U.S. Department of Energy (DOE) that regulates interstate electricity transmission, energy transactions, and energy infrastructure, should assert jurisdiction over the practice.

Notwithstanding various market, technological, and policy tools that could be used to facilitate the continued growth of rooftop solar, one low-hanging legal tool available to the executive that would promote stability and confidence in the rooftop solar market is to clarify jurisdiction over net metering. This Comment asserts that FERC should disclaim jurisdiction over net metering to provide legal and regulatory certainty to rooftop solar stakeholders and end lingering jurisdictional uncertainty once and for all.

Part I provides background information on rooftop solar, including (A) rooftop solar's role in decarbonization; (B) rooftop solar's rapid growth; (C) federal tax credits for rooftop solar; and (D) an explanation of net metering. Part II explains that jurisdictional clarity is needed because the Federal Power Act (FPA) does not explicitly address jurisdiction over net metering and a 2020 petition for a declaratory order requested that FERC assert jurisdiction over the practice. Part II further asserts that FERC is presently well-positioned to disclaim jurisdiction based on the current makeup of commissioners, including recent confirmations. Part III argues that state jurisdiction is proper as a matter of law and policy because (A) statutory interpretation of the FPA and the Public Utility Regulatory Policies Act of 1978 (PURPA) suggests Congress' intent for state jurisdiction; (B) precedent demonstrates FERC's intent to disclaim jurisdiction; and (C) public policy is best served by state-specific net metering policies tailored to state-specific needs, circumstances, and solar markets. Part IV provides a brief conclusion.

I. Background

This part provides background information that frames the issue of jurisdiction over net metering, including (A) an overview of how rooftop solar panels work and their role in decarbonizing electricity; (B) an explanation of the rapid rise of rooftop solar; (C) an overview of federal tax credits for rooftop solar; and (D) an explanation of net metering as a compensation and incentive mechanism for rooftop solar.

A. The Role of Photovoltaic Rooftop Solar in Decarbonization

Increasing rooftop solar is one component of the multifaceted approach to transitioning to renewable energy and meeting the United States' ambitious climate goals. Rooftop solar converts sunlight into carbon-free electricity using semiconducting materials in a process called photo-

voltaics (PV).¹⁴ A single PV device, known as a PV cell, typically produces one or two watts of power, and the PV cells are connected to form panels.¹⁵ The PV cells in panels absorb photons from sunlight, which create an electric field from which electricity flows.¹⁶ Small-scale rooftop solar PV has a capacity of less than one megawatt.¹⁷ Although each rooftop solar system is very small individually, when added together, collectively, small-scale rooftop solar PV has a substantial generation capacity.¹⁸

In the aggregate, rooftop solar PV can reduce greenhouse gas emissions because for each unit of electricity that is converted through solar panels and then consumed, the consumer is using renewable energy that in some cases would have otherwise relied on fossil fuels to generate. The quantity of greenhouse gas emissions that are offset by rooftop solar varies based on the location of rooftop solar because the process for creating electricity similarly varies. For example, in West Virginia, where coal-fired electric power plants account for 91% of the net generation,¹⁹ rooftop solar offsets a greater amount of greenhouse gas emissions because it is more likely to replace electricity generated from high-carbon-emitting coal-fired electric power plants. By contrast, in states with a greater percentage of renewable energy supplying the electricity grid, the greenhouse gas emissions offset by rooftop solar is correspondingly less. While the amount of renewable energy supplying the electricity grid varies by location, nationally, only 20% of electricity is generated through renewable energy.²⁰ To meet its goal of achieving carbon-free electricity by 2035, the United States needs to greatly increase the amount of renewable energy, and rooftop solar can serve as one ingredient to this transition.

Additionally, rooftop solar can contribute to electrifying and decarbonizing the transportation sector. Decarbonizing the transportation sector reduces net emissions because when vehicles are powered by carbon-free electricity, they do not utilize carbon-emitting gasoline. Rooftop solar increases the value of electric vehicles for consumers because rooftop solar decreases the cost of electricity for charging vehicles.²¹ Given this benefit, households with rooftop solar are more likely to obtain electric vehicles.²²

14. See, e.g., U.S. Department of Energy (DOE) Office of Energy Efficiency and Renewable Energy, *Homeowner's Guide to Going Solar*, <https://www.energy.gov/eere/solar/homeowners-guide-going-solar> (last visited May 23, 2024).

15. See, e.g., DOE Office of Energy Efficiency and Renewable Energy, *Solar Photovoltaic Technology Basics*, <https://www.energy.gov/eere/solar/solar-photovoltaic-technology-basics> (last visited May 23, 2024).

16. *Id.*

17. See April Lee & Carolyn Moses, *EIA Electricity Data Now Include Estimated Small-Scale Solar PV Capacity and Generation*, EIA (Dec. 2, 2015), <https://www.eia.gov/todayinenergy/detail.php?id=23972>.

18. *Id.*

19. See EIA, *West Virginia State Profile and Energy Estimates*, <https://www.eia.gov/state/?sid=WV> (last visited May 23, 2024).

20. See, e.g., DOE Office of Energy Efficiency and Renewable Energy, *Renewable Energy*, <https://www.energy.gov/eere/renewable-energy> (last visited May 23, 2024).

21. *Id.* at 10.

22. OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY, DOE, *SOLAR FUTURES STUDY 104* (2021), <https://www.energy.gov/sites/default/files/2021-09/Solar%20Futures%20Study.pdf>.

Increasing rooftop solar is by no means the exclusive or even primary way to decarbonize electricity and achieve net-zero emissions; it is one component of a multifaceted transition to renewables. While increasing utility-scale solar and utility-scale wind has an enormous role to play in the transition to renewable energy, rooftop solar should not be discounted, as it decreases reliance on forms of carbon-emitting electricity and may accelerate the electrification and decarbonization of the transportation sector.

B. *The Rapid Rise of Rooftop Solar*

Solar is a small but rapidly growing aspect of the American electricity grid. According to the U.S. Energy Information Administration (EIA), in 2022, PV solar generated just 3.4% of electricity in the United States.²³ Compared to natural gas and coal, which respectively generated 39.9% and 17.9% of electricity that year, solar energy's total generation may appear unimpressive.²⁴ While solar is not presently a massive percentage of the U.S. energy grid, over the past decade, solar, including rooftop solar, has grown at a phenomenally rapid rate unparalleled by other forms of generation.²⁵

Over the past decade, solar has experienced an average annual growth rate of 33% and in 2021, solar represented 46% of all new electric capacity added.²⁶ In terms of gigawatt (GW) growth, solar capacity has grown from just 0.34 GW in 2008 to approximately 97.2 GW today.²⁷ Small-scale distributed solar PV systems, including rooftop solar, have grown significantly over the past decade as well.²⁸ DOE and the Solar Energy Industries Association project that by 2030, more than one in seven homes in the United States will have rooftop solar PV.²⁹

This rapid increase in rooftop solar is primarily the result of technological developments in PV and decreases in cost.³⁰ Over the past decade, the average cost of solar PV panels has declined by nearly 70%.³¹ To put this decrease in cost into perspective, in 2010, residential solar cost an average of \$7.53 per watt; in 2021 rooftop solar cost only \$2.65 per watt.³² Unsurprisingly, this sharp decline in cost for rooftop solar has corresponded with its rapid adoption.

The relationship between the cost of rooftop solar and its growth is essential because cost is frequently cited as a crucial factor in consumers' choice to obtain rooftop solar. Fifty-two percent of homeowners who have installed solar panels reported that reducing their energy bill was their top reason for installing them.³³ Conversely, among homeowners who have not adopted rooftop solar, the most frequently cited reason for not obtaining solar panels is that rooftop solar panels are too expensive.³⁴

While residential solar has grown dramatically over the past decade, its growth rate appears to be slowing.³⁵ A report by the Solar Energy Industries Association and Wood Mackenzie predicts a precipitous installation volume drop in mid-2024 following the completion of a backlog on installations sales from 2023, and estimates that the residential solar market will decline by 12% in 2024.³⁶ As of June 2024, residential solar installations have declined by 25% year-over-year.³⁷ This growth reduction is likely primarily driven by increased interest rates, which are the highest ever faced in the industry's history, along with other market changes and state legislative changes in net metering policy, including California's transition to net billing.³⁸ With ongoing and further expected declines in rooftop solar's growth rate, the need for increased predictability in the industry, including jurisdictional clarity, is more important than ever.

C. *Popular Support for Solar and Federal Tax Incentives for Rooftop Solar*

In addition to the need to increase solar generation as part of a national strategy to mitigate climate change and conform with the Paris Agreement, promoting solar is widely supported by the American people. Despite partisan gridlock surrounding many aspects relating to climate change and energy policy, large majorities across the political aisle support expanding solar energy.³⁹ A survey by Pew Research Center found that almost nine in 10 adults in the United States favor expanding solar and that solar is viewed more favorably than any other energy source.⁴⁰

Forty-seven percent of homeowners in the United States have either already installed rooftop solar panels or have

23. See EIA, *supra* note 4.

24. *Id.*

25. *Id.*

26. See Solar Energy Industries Association, *Solar Industry Research Data*, <https://www.seia.org/solar-industry-research-data> (last visited May 23, 2024).

27. See DOE Office of Energy Efficiency and Renewable Energy, *Quarterly Solar Industry Update*, <https://www.energy.gov/eere/solar/quarterly-solar-industry-update> (last visited May 23, 2024).

28. Lee & Moses, *supra* note 17.

29. See SOLAR ENERGY INDUSTRIES ASSOCIATION, SOLAR DATA CHEAT SHEET (2024), <https://www.seia.org/sites/default/files/2024-03/2023%20YIR-%20Solar%20Cheat%20Sheet.pdf>.

30. See John V. Barraco, *Distributed Energy and Net Metering: Adopting Rules to Promote a Bright Future*, 29 J. LAND USE & ENV'T L. 365, 368 (2014).

31. See, e.g., Solar Energy Industries Association, *Lowering Soft Costs—A Major Opportunity for Growth* (2019), <https://www.seia.org/sites/default/files/2019-05/Solar-Soft-Costs-Factsheet.pdf>.

32. See Carolyn Fortuna, *Just the Facts: The Cost of Solar Has Fallen More Quickly Than Experts Predicted*, CLEANTECHNICA (June 8, 2022), [https://](https://cleantechnica.com/2022/06/08/just-the-facts-the-cost-of-solar-has-fallen-more-quickly-than-experts-predicted/)

cleantechnica.com/2022/06/08/just-the-facts-the-cost-of-solar-has-fallen-more-quickly-than-experts-predicted/.

33. See Michelle Lewis, *Here's How Americans Feel About Rooftop Solar and How It Affects Their House Values*, ELECTREK (May 12, 2022), <https://electrek.co/2022/05/12/heres-how-americans-feel-about-rooftop-solar-and-how-it-affects-their-house-values>.

34. *Id.*

35. Alana Semuels, *The Rooftop Solar Industry Could Be on the Verge of Collapse*, TIME (Jan. 25, 2024), <https://time.com/6565415/rooftop-solar-industry-collapse/>.

36. SOLAR ENERGY INDUSTRIES ASSOCIATION & WOOD MACKENZIE, SOLAR MARKET INSIGHT REPORT Q4 2023, <https://www.seia.org/research-resources/solar-market-insight-report-q4-2023>.

37. Solar Energy Industries Association, *U.S. Solar Market Insight*, <https://www.seia.org/us-solar-market-insight> (last updated June 6, 2024).

38. *See id.*

39. *See, e.g.*, Kennedy, *supra* note 11.

40. *Id.*

seriously considered installing them within the past year.⁴¹ While Democratic and Democratic-leaning homeowners are more likely to have installed rooftop solar panels or seriously considered installing them, Republican and Republican-leaning households broadly support solar, and 36% of Republican/Republican-leaning households have installed or have seriously considered installing rooftop solar panels.

Following this broad and bipartisan support for rooftop solar, since 2005, Congress has promoted the growth of rooftop solar by implementing federal tax credits designed to increase the amount of rooftop solar. Given that the cost of acquiring solar panels is often the largest barrier to consumers' solar adoption, federal tax credits promote rooftop solar's growth by lowering the out-of-pocket cost paid by consumers to implement a rooftop solar system, thus lowering this barrier to adoption. The solar investment tax credit (ITC) is one of the primary federal policy incentives to support the growth of rooftop solar, and the 2022 IRA further expanded it.⁴²

The Energy Policy Act of 2005 (EPAAct 2005) created the first solar ITC, which provided a one-time tax credit to individuals who installed an eligible solar energy system in 2006 or 2007.⁴³ The Emergency Economic Stabilization Act of 2008 extended the ITC for eight more years and expanded its use by eliminating a monetary cap for residential solar electric installations and allowing additional utilities and companies to qualify for the credit.⁴⁴ The ITC was further extended in 2015 by the Omnibus Appropriations Act and maintained in 2017 by the Tax Cuts and Jobs Act.⁴⁵

In August 2022, Congress passed the IRA, which greatly promoted the solar industry by creating advanced manufacturing production tax credits for specific clean energy components, including PV cells and solar modules,⁴⁶ and expanded the \$45 production tax credit to apply to solar facilities.⁴⁷ The IRA promoted rooftop solar through §25D, which expanded the residential solar tax credit for homeowners.⁴⁸ Specifically, §25D provides an additional tax credit for homeowners with rooftop solar and increases the available tax credits for installing rooftop solar to 30% of rooftop solar panel costs for systems implemented before

2034.⁴⁹ Before the IRA, the residential solar tax credit was at a lower rate and was being phased out entirely.⁵⁰

While the quantitative impact of the IRA on residential solar is not yet known, §25D is likely to contribute to the growth of rooftop solar by lowering the cost of rooftop solar panel installations, thus making rooftop solar more affordable and attractive to consumers. Early data show that increased tax credits increase consumer incentive to install rooftop solar, and a Pew Research Center survey from after the IRA's passing shows that roughly two-thirds of homeowners who have installed or considered installing solar panels report that receiving a solar ITC is a reason for their interest in rooftop solar.⁵¹

By subsidizing the cost of new rooftop solar installations via a federal solar ITC for nearly 20 years, the federal government has reduced its tax revenue by lowering the amount of money taxpayers who obtain tax-eligible rooftop solar pay in taxes. The solar ITC demonstrates Congress' long-standing commitment to increasing rooftop solar and Congress affirmed this interest by increasing the ITC's size and duration in the IRA.

D. Net Metering

Net metering is a utility billing mechanism that allows utility customers with their own distributed energy resources (DERs), generally solar panels,⁵² to receive credit from their utility provider in exchange for the electricity that they generate to the grid. In the words of DOE, "[t]he meter spins forward as you draw electricity, and it spins backward as the excess is fed into the grid."⁵³ In simple terms, net metering allows electricity customers with their own generation capabilities to be compensated for the energy they generate but do not use.⁵⁴

Net metering has greatly contributed to the expansion of rooftop solar by incentivizing utility customers to obtain rooftop solar systems with the enticing carrot of decreased utility bills.⁵⁵ Utility customers with net metering can pay less in utility bills because under net metering, utilities credit customers who generate their own electricity by offsetting the self-generating customer's utility bills by the amount of electricity the customer supplies into the grid.⁵⁶ While states differ in the way net metering customers are

41. See, e.g., Rebecca Leppert & Brian Kennedy, *Home Solar Panel Adoption Continues to Rise in the U.S.*, PEW RSCH. CTR. (Oct. 14, 2022), <https://www.pewresearch.org/short-reads/2022/10/14/home-solar-panel-adoption-continues-to-rise-in-the-u-s/>.

42. See generally Solar Energy Industries Association, *supra* note 13.

43. See *id.*; DOE Office of Energy Efficiency and Renewable Energy, *Homeowner's Guide to the Federal Tax Credit for Solar Photovoltaics*, <https://www.energy.gov/eere/solar/homeowners-guide-federal-tax-credit-solar-photovoltaics> (last visited May 23, 2024).

44. Solar Energy Industries Association, *supra* note 13.

45. *Id.*

46. See I.R.C. §25D; see also David Burton et al., *The IRA's Expanded Tax Credits for Homeowners and Energy Efficiency Investors*, NORTON ROSE FULBRIGHT (Sept. 21, 2022), <https://www.projectfinance.law/tax-equity-news/2022/september/the-ira-s-expanded-tax-credits-for-homeowners-and-energy-efficiency-investors/>; Katie Kienbaum, *How the Inflation Reduction Act Makes It Easier to Go Solar—and Where It Falls Short*, INST. FOR LOC. SELF-RELIANCE (Sept. 5, 2022), <https://ilsr.org/how-the-inflation-reduction-act-makes-it-easier-to-go-solar-and-where-it-falls-short/>.

47. I.R.C. §25D; Burton et al., *supra* note 46; Kienbaum, *supra* note 46.

48. *Id.*

49. *Id.*

50. *Id.*

51. See, e.g., Leppert & Kennedy, *supra* note 41.

52. Because rooftop solar accounts for the vast majority of generation capacity in net metering programs, this section addresses net metering in the context of rooftop solar specifically, although it should be noted that net metering can function in other forms of generation, notably wind.

53. DOE, *Grid-Connected Renewable Energy Systems*, <https://www.energy.gov/energysaver/grid-connected-renewable-energy-systems> (last visited May 23, 2024).

54. See, e.g., ASHLEY J. LAWSON, CONGRESSIONAL RESEARCH SERVICE, R46010, NET METERING: IN BRIEF (2019), <https://crsreports.congress.gov/product/pdf/R/R46010>.

55. See, e.g., LAWSON, *supra* note 54, at 2.

56. See Harvey L. Reiter & William Greene, *The Case for Reforming Net Metering Compensation: Why Regulators and Courts Should Reject the Public Policy and Antitrust Arguments for Preserving the Status Quo*, 37 ENERGY L.J. 373, 376 (2016).

compensated, often net metering customers are compensated at retail residential rates.⁵⁷

Under retail rate compensation, for each unit of electricity that a distributed generator adds to the grid, the owner of the grid is credited for the same rate that they would have been charged had they purchased that same unit of electricity from a utility. The retail rate is calculated to include the whole cost of providing electricity to consumers, including not only the cost of generation, but also the cost of transmission and distribution.⁵⁸ As DOE explains:

Net metering provides the greatest benefit to you as a consumer. . . . If you've produced more than you've used, the power provider generally pays you for the extra electricity at its avoided cost. The real benefit of net metering is that the power provider essentially pays you retail price for the electricity you feed back into the grid.⁵⁹

Some stakeholders support retail rate compensation for the high payments it provides for net metering customers and the high incentive it provides for rooftop solar while other stakeholders criticize retail rate compensation as overpaying net metering customers for the electricity they generate.⁶⁰

Since the technology to run the meter backward was first put into practice, state governments have had the authority to develop their own net metering policies and maintained jurisdiction over the practice.⁶¹ In EAct 2005, Congress took legislative action to promote net metering by requiring that states “consider” net metering, which it defined as a “service to an electric consumer under which electric energy generated by that electric consumer from an eligible on-site generating facility and delivered to the local distribution facilities may be used to offset electric energy provided by the electric utility to the electric consumer during the applicable billing period.”⁶² Since EAct 2005 required that states consider net metering, state net metering policies, net metering participants, and rooftop solar have grown dramatically.⁶³ The EIA estimates that from 2013 to 2018 alone, net metering participation quadrupled; however, the participation rate varies dramatically between states.⁶⁴

When the meter first ran backward, the amount of distributed generation was of too small of a quantity to disrupt the grid or alter electricity rates, and net metering was an administratively simple compensation method for a very small distributed energy system when residential electric meters were read manually.⁶⁵ However, as rooftop

solar has grown rapidly, net metering's influence has raised many economic, policy, and legal questions, including whether the federal government or individual states should have jurisdiction over it.

Despite an ongoing jurisdictional debate, states have jurisdiction over net metering. As a result, the net metering landscape varies significantly between states.⁶⁶ Some states have no net metering policy at all, while others have state-governed net metering, utility-governed net metering, net billing, or solar buyback programs.⁶⁷ These varied state policies and regulations result in different rates of compensation or utility credit programs for surplus energy generated by rooftop solar panels.⁶⁸

II. FERC Should Provide Jurisdictional Clarity Over Net Metering

This part explains why FERC should settle the issue of jurisdiction over net metering by disclaiming jurisdiction over the practice, thus providing regulatory certainty for the future of rooftop solar. Section (A) explains that jurisdiction over net metering remains unsettled because the FPA does not explicitly address jurisdiction over net metering and FERC has not issued a rulemaking on the matter. Section (B) discusses a 2020 petition for a declaratory order requesting that FERC assert jurisdiction that highlights the ongoing need for jurisdictional clarity. Section (C) asserts that due to recent changes in the makeup of the Commission, FERC is currently well-positioned to end any lingering jurisdictional uncertainty.

A. The FPA Does Not Address Net Metering and FERC Has Not Issued a Clarifying Rulemaking

Jurisdiction over net metering remains unsettled because stakeholders disagree as to whether net metering constitutes “a sale for resale” under the FPA. The FPA was enacted in 1935, decades before net metering existed and at a time when power flowed in a singular direction from utilities to customers.⁶⁹ Given that the FPA was enacted before net metering existed, it is not surprising that the FPA does not address whether federal or state governments should have jurisdiction over it.

While the FPA does not address net metering, the FPA grants FERC *exclusive* jurisdiction over “the sale of electric energy at wholesale in interstate commerce.”⁷⁰ The FPA defines “the sale of electric energy at wholesale” as “a sale of electric energy to any person for resale.”⁷¹ FERC's exclusive jurisdiction over the sale of electricity at wholesale under

57. See *id.*; see also LAWSON, *supra* note 54, at 2.

58. See Steven Ferrey, *Virtual “Nets” and Law: Power Navigates the Supremacy Clause*, 24 GEO. INT'L ENV'T L. REV. 267, 273 (2012).

59. See DOE, *supra* note 53.

60. See generally NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS, NARUC MANUAL ON DISTRIBUTED ENERGY RESOURCES RATE DESIGN AND COMPENSATION (2016).

61. See, e.g., LAWSON, *supra* note 54, at 2.

62. 16 U.S.C. §2621(d)(11); see also LAWSON, *supra* note 54, at 4.

63. E.g., LAWSON, *supra* note 54.

64. *Id.*

65. NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS, *supra* note 60, at 127.

66. See, e.g., Mary-Elisabeth Combs, *Does Your State Have Solar Net Metering?*, CNET (Feb. 5, 2024), <https://www.cnet.com/home/energy-and-utilities/new-to-solar-net-metering-heres-what-you-need-to-know-for-your-state/>.

67. See, e.g., *id.*

68. See, e.g., *id.*

69. See generally Jim Rossi, *Federalism and the Net Metering Alternative*, 29 ELEC. J. 13 (2016).

70. 16 U.S.C. §824(b)(1).

71. *Id.* §824(d).

the FPA preempts all state regulation of wholesale power transactions and prices.⁷²

In short, FERC has exclusive jurisdiction when electricity is sold to any person for resale; however, whether net metering constitutes a sale for resale under the FPA remains debated by stakeholders. In addition to the FPA's dearth of guidance over net metering, FERC has never issued a rulemaking clarifying jurisdiction.⁷³ Because the FPA does not address net metering's jurisdiction and FERC has never issued a clarifying rulemaking on the matter, the question of jurisdiction remains unsettled.

B. *The 2020 New England Ratepayers Association Petition Demonstrates the Need for Jurisdictional Clarity*

A 2020 petition for a declaratory order requesting that FERC assert jurisdiction over net metering, FERC's subsequent order dismissing the petition, and two commissioners' concurrences to the order demonstrate that jurisdiction over net metering remains unsettled.⁷⁴ In 2020, the New England Ratepayers Association (NERA) filed a petition for a declaratory order requesting that FERC

(1) declare that there is exclusive federal jurisdiction over wholesale energy sales from generation sources located on the customer side of the retail meter and (2) order that the rates for such sales be priced in accordance with the Federal Power Act (FPA) or Public Utility Regulatory Policies Act of 1978 (PURPA).⁷⁵

NERA argued that when distributed generation exceeds the customer's demand or when energy from distributed generation is designed to bypass the customer's load, the distributed energy is delivered to the local utility for resale to the utility's retail customers and is thus a wholesale transaction in interstate commerce under the FPA and therefore subject to FERC's exclusive jurisdiction.⁷⁶ In other words, NERA argued that anytime a customer with rooftop solar generates more electricity than they use and the electricity is transmitted to the grid, this constitutes "a sale of electric energy to any person for resale" because the electricity is sold from the customer with rooftop solar to the utility, which is then sold to another electricity user on the grid.⁷⁷ Because the FPA grants FERC exclusive jurisdiction over "the sale of electric energy at wholesale," NERA argued that this amounts to a grant of jurisdiction

over net metering to FERC.⁷⁸ NERA further asserted that the sale of distributed generation should be priced at either the utility's avoided cost of energy if the sale is made under PURPA or at a just and reasonable wholesale rate if the sale is made under the FPA.⁷⁹

FERC dismissed NERA's petition on procedural grounds that the petition lacked an actual controversy and declined to address the issues NERA raised. FERC explained that because declaratory orders are discretionary, and NERA's petition was not "related to the implementation of specific net metering programs or the participation in such programs by specific parties," the petition "[did] not identify a specific controversy or harm."⁸⁰

Although FERC declined to address jurisdiction over net metering in response to NERA's petition, FERC's order of dismissal implied that it may revisit the jurisdictional issue in the future. The order of dismissal states that when "specific net metering programs or the participation in such programs by specific parties" are brought to FERC's attention in the future, the Commission may consider the issue of jurisdiction.⁸¹ Additionally, former Commissioners Bernard McNamee and James Danly wrote separate concurrences alluding to the inevitability that FERC will address jurisdiction over net metering.

In his concurrence, Commissioner Danly expressed certainty that "the Commission will eventually have to address" the "rate treatment for excess generation but, more importantly, the boundary between federal and state jurisdiction to address such rate treatment."⁸² In Commissioner McNamee's concurrence, he clarified that the order of dismissal did not decide the merits of the issues raised by NERA's petition and did not decide FERC's jurisdiction over energy sales made through net metering.⁸³ Commissioner McNamee also suggested that "it is best to decide important legal and jurisdictional questions, like the ones raised in the Petition, when applying the law to a specific set of facts . . . or through a rulemaking proceeding."⁸⁴

Given the likelihood that this issue will be raised again, FERC should proactively address the issue of jurisdiction over net metering via a rulemaking proceeding. While FERC possessed the legal authority to dismiss the NERA petition on procedural grounds, Commissioners McNamee and Danly were correct to stress the ongoing need for FERC to address jurisdiction over net metering. Commissioner Danly was correct that "the Commission will eventually have to address" jurisdiction over net metering, and Commissioner McNamee was correct to suggest that this important legal question may be best addressed via a rulemaking proceeding.⁸⁵ Without jurisdictional clarity,

72. See Ferrey, *supra* note 58, at 314.

73. See Patrick Witterschein, *Federal vs. State Jurisdiction Over Net Metering Rates*, 33 COLO. ENV'T L.J. 447, 461 (2022).

74. Order Dismissing Petition for Regulatory Order, 172 FERC ¶ 61042, at 1 (July 16, 2020).

75. *Id.*; Petition for Declaratory Order of NERA Filed With FERC, No. EL20-42 (Apr. 14, 2020) [hereinafter NERA Petition for Declaratory Order].

76. Order Dismissing Petition for Regulatory Order, *supra* note 74, at 1.

77. *Id.*; 16 U.S.C. §824(d).

78. Order Dismissing Petition for Regulatory Order, *supra* note 74, at 4 (citing 16 U.S.C. §824(b)(1)).

79. *Id.* at 5.

80. *Id.* at 17-18.

81. *Id.*

82. *Id.* (Danly, Comm'r, concurring at 1).

83. *Id.* (McNamee, Comm'r, concurring at 1).

84. *Id.*

85. *Id.* (Danly, Comm'r, concurring).

the issue is likely to be raised on a case-by-case basis when specific state net metering policies are challenged.⁸⁶

If FERC waits to address the jurisdictional dispute in response to a formal complaint regarding an individual net metering policy, FERC's adjudicative decision risks being interpreted as specific to the individual facts of the case and leaving the question of jurisdiction unsettled. Unlike an adjudication, a rulemaking would definitively end any jurisdictional debate and provide regulatory certainty to state public utility commissions, utility customers, renewable energy companies, and utility companies.⁸⁷ Therefore, FERC should settle the question of jurisdiction by proactively issuing a rulemaking to disclaim jurisdiction over net metering and reaffirm the status quo of state jurisdiction.

C. Current FERC Commissioners Are Well-Positioned to Disclaim Jurisdiction Over Net Metering

As the 2020 NERA petition demonstrated, jurisdiction over net metering remains unsettled and therefore requires clarification. While the NERA petition resulted in procedural dismissal rather than definitive jurisdictional clarity, the recent turnover of FERC commissioners in the four years following the NERA petition reopens the possibility that new commissioners might seek to end any lingering jurisdictional ambiguity once and for all.

FERC is a five-member commission with no more than three members from the same political party whose members serve staggered terms.⁸⁸ Commissioners are nominated by the president and must be confirmed by the U.S. Senate.⁸⁹ Despite the statutory authorization for five commissioners, in recent years, the Commission has often lacked a full panel. A quorum of three members is required to be present to transact business pursuant to the DOE Organization Act.⁹⁰

In the first half of 2024, the Commission only had three commissioners and risked losing its quorum upon the expiration of Commissioner Allison Clements' term on June 30, 2024.⁹¹ Without a quorum, FERC cannot make final decisions on crucial energy matters such as electric utility mergers, natural gas pipelines, liquid natural gas terminals, or hydroelectric projects.⁹² Additionally, without a quorum, FERC cannot issue new policies or rules, such as a rule clarifying metering jurisdiction.⁹³ Fortunately, on February 29, 2024, President Joseph Biden nominated

David Rosner, Lindsay See, and Judy Chang⁹⁴ to the Commission, and the Senate voted on June 13, 2024, to confirm all three nominees, thereby maintaining the quorum and bringing FERC to a full panel of commissioners for the first time in years.⁹⁵

Rosner and Chang may be strong commissioners to contribute to a rulemaking effort to clarify state jurisdiction over net metering. Rosner previously led efforts on FERC's rulemaking regarding energy storage resources, electric transmission, offshore wind integration, fuel security, and natural gas-electric coordination as an energy industry analyst at FERC's Office of Energy Policy and Innovation.⁹⁶ Additionally, Chang has touched on issues relating to federal/state jurisdictional challenges. In her former role at Brattle Group, she co-presented on FERC Order No. 841 regarding amending FERC's regulations to facilitate the participation of electric storage resources, and the presentation noted that resolving jurisdictional issues relating to storage is important to unlocking the full potential for storage's value proposition.⁹⁷

Rosner, See, and Chang join two current Commissioners, Willie Phillips and Mark Christie, who have both indicated support for state net metering jurisdiction. At the time of the 2020 NERA petition, Phillips was chairman of the Public Service Commission of the District of Columbia.⁹⁸ In this capacity, Phillips made clear that he understood net metering to be statutorily mandated to state jurisdiction as a matter of law. Phillips urged FERC to reject NERA's petition and explained that "[n]et metering is essentially a local matter that Congress intended to leave to the states."⁹⁹

Christie has also indicated support for state jurisdiction over net metering. When asked about FERC's dismissal of the NERA petition at his nomination hearings with the Senate Committee on Energy and Natural Resources, Christie explained that, "[f]rom my experience as a State regulator, I recognize the longstanding, important role that States play with respect to net metering programs. . . . I believe that net metering is and should remain under State jurisdiction over retail rates."¹⁰⁰ Since becoming a com-

86. See Witterschein, *supra* note 73, at 448.

87. See *id.* at 465.

88. 42 U.S. Code §7171(b)(1).

89. *Id.*

90. *Id.*

91. Ben N. Reiter et al., *Commissioner Clements' Pending Departure Casts Uncertainty Over FERC*, AKIN GUMP (Feb. 20, 2024), <https://www.akingump.com/en/insights/blogs/speaking-energy/commissioner-clements-pending-departure-casts-uncertainty-over-ferc>.

92. See, e.g., LAWSON, *supra* note 54.

93. *Id.*

94. Statement, White House, President Biden Announces Key Nominees (Feb. 29, 2024), <https://www.whitehouse.gov/briefing-room/statements-releases/2024/02/29/president-biden-announces-key-nominees-67/>.

95. Press Release, FERC, Senate Confirms Rosner, See and Chang to FERC (June 13, 2024), <https://www.ferc.gov/news-events/news/senate-confirms-rosner-see-and-chang-ferc>.

96. Statement, White House, *supra* note 94.

97. Judy Chang et al., Brattle Group, Getting to 50 GW? The Role of FERC Order 841, RTOs, States, and Utilities in Unlocking Storage's Potential, Presentation at Energy Storage Association Annual Conference (Apr. 18, 2018), https://www.brattle.com/wp-content/uploads/2021/05/13428_13366_getting_to_50_gw_study_2_22_1811.pdf.

98. Press Release, Public Service Commission District of Columbia, DCPSC Urges FERC to Reject a Petition Attempting to Remove Net Energy Metering Programs From State Utility Regulators (June 17, 2020), <https://dpcsc.org/CMSPages/GetFile.aspx?guid=b6a088c5-a348-4839-a0b8-365d31e07e8d>.

99. *Id.*

100. U.S. Senate Committee on Energy and Natural Resources, Hearing on the Nominations of Mark C. Christie and Allison Clements: Answers to Questions for the Record Submitted to the Honorable Mark C. Christie (Sept. 16, 2020), <https://www.energy.senate.gov/services/files/B99FCCA8-CF41-4362-924A-9E01EE9018CF>.

missioner, Christie has expressed a willingness to curtail FERC jurisdiction in the context of distributed generation. He dissented from Order No. 2222-A regarding participation in electricity markets by DERs, and wrote that “it is the states and other local authorities that are far better positioned than FERC to manage successfully the development and deployment of DERs.”¹⁰¹

Additionally, in a Notice of Intent Not to Act declining to initiate enforcement against a utility company following allegations the company violated PURPA with rates that discriminated against customers with rooftop solar, Christie concurred and emphasized state jurisdiction over customer-side generation and net metering.¹⁰² Christie’s concurrence explained that “[n]et metering has been an established feature of retail electric rates and state energy policy across the nation for decades.”¹⁰³ The concurrence highlighted that customer-side rooftop solar generation that is connected to a distribution grid does not amount to a purchase of electricity.¹⁰⁴ Christie explained, “[t]he Commission has long held that the utility does not engage in any purchase of electricity from a generator that is connected behind the customer’s meter so long as the customer is an overall net consumer of electricity during a billing period.”¹⁰⁵

With full turnover at FERC since the NERA petition was dismissed and a full panel of commissioners for the first time in years—including Phillips and Christie, who have explicitly expressed support for state jurisdiction over net metering, and new members Rosner, an expert on FERC rulemaking, and Chang, whose past work indicates an understanding that resolving jurisdictional issues is important to maximizing value in the electricity sector—the stage is set for FERC to clarify net metering jurisdiction and definitively end any remaining jurisdictional dispute. FERC should use this opportunity with a full panel of commissioners to disclaim jurisdiction and ensure that states continue to manage their respective net metering policies.

III. The Status Quo of State Jurisdiction Is Correct as a Matter of Law and Policy

Part III explains why net metering belongs to state jurisdiction as a matter of law and policy. This part demonstrates that (A) statutory interpretation of the FPA and PURPA suggests Congress’ intent for states to have jurisdiction over net metering; (B) precedent shows FERC’s intent to disclaim jurisdiction; and (C) state jurisdiction allows states to create state-specific net metering policies tailored to state-specific needs and circumstances.

A. The FPA and PURPA Suggest Congressional Intent for States to Regulate Net Metering

Statutory interpretation of the FPA and PURPA suggests that Congress intended states to have jurisdiction over net metering. While the FPA provides for federal jurisdiction over wholesale energy sales in interstate commerce, §201(b) (1) of the FPA expressly qualifies that federal jurisdiction does not extend to “any other sale of electric energy.”¹⁰⁶ Similarly, §201(a) limits federal jurisdiction to “extend only to those matters which are not subject to regulation by the States.”¹⁰⁷ Additionally, the plain meaning of the text of the FPA suggests that the purpose of granting federal jurisdiction over wholesale energy sales in interstate commerce is to regulate “the business of transmitting and selling electric energy for ultimate distribution to the public.”¹⁰⁸ Net metering of rooftop solar PV often does not occur for a “business” purpose, but rather occurs for residential use.¹⁰⁹

Similarly, statutory interpretation of PURPA shows that net metering is intended to be under state jurisdiction. In EAct 2005, Congress amended PURPA by adding a federal requirement in §111(d) that each applicable state regulatory authority shall “consider” net metering.¹¹⁰ While the 2005 amendments to PURPA required that states consider net metering, the statute clarified that this did not constitute a requirement that states enact a net metering policy.¹¹¹ Rather, §111(d) requires that after consideration, states determine “whether or not it is appropriate to implement” net metering.¹¹² Section 111(d) highlights state regulatory autonomy by noting that “[n]othing in this subsection prohibits any State regulatory authority . . . from making any determination that it is not appropriate to implement any such standard, pursuant to its authority under otherwise applicable State law.”¹¹³

If Congress intended to implement net metering under federal jurisdiction, it would not have chosen to put mandatory language in §111(d) requiring “states” to “consider” it.¹¹⁴ In contrast to the text of §111(d), which mandated state consideration of net metering, EAct 2005 also included §215(b) in the FPA, which explicitly delegated jurisdiction over electric reliability standards to FERC. Section 215(b) states that “[t]he Commission shall have jurisdiction, within the United States, over the [Electric Reliability Organization] certified by the Commission under subsection (c), any regional entities, and all users, owners and operators of the bulk-power system.”¹¹⁵ By choosing to specify FERC’s jurisdiction over electric reliability stan-

101. Docket No. RM18-9-002, Order No. 2222-A, Commissioner Mark C. Christie Statement (Mar. 18, 2021).

102. Notice of Intent Not to Act, 186 FERC ¶ 61206, at 1 (Mar. 21, 2024) (Christie, Comm’r, concurring).

103. *Id.* at 2 n.1 (emphasis added).

104. *Id.*

105. *Id.*

106. See Rossi, *supra* note 69, at 14 (citing 16 U.S.C. §824(b)).

107. 16 U.S.C. §824(a).

108. *Id.*

109. *Id.*

110. *Id.* §2621(a); see also DOE, Public Utility Regulatory Policies Act of 1978 (PURPA) as Applicable to the Energy Policy Act of 2005 (EPACT 2005)—List of Covered Electric Utilities, https://www.energy.gov/sites/default/files/oeprod/DocumentsandMedia/PURPA_2006-91106.pdf.

111. 16 U.S.C. §2621(a).

112. *Id.*

113. *Id.*

114. *Id.*

115. 16 U.S.C. §824, FPA §215(b).

dards, the text of §111(d) further suggests that Congress intended states to have jurisdiction and regulatory authority over net metering.

In addition to the text of EPCA 2005's amendments, the location of the requirement that states consider net metering in §111(d) further suggests Congress' intent to leave net metering under state jurisdiction. Section 111(d) is included in a list of 17 other state regulatory matters, including day rates, seasonal rates, and integrated resources planning.¹¹⁶ When included with 17 other retail policies subject to state jurisdiction, it is even clearer that net metering is intended to be similarly overseen by state jurisdiction. If Congress intended FERC to have jurisdiction over net metering, it would not have limited FERC's jurisdiction in the FPA, required that states consider net metering in the 2005 PURPA amendments, and included this requirement in a list of state regulatory matters.

B. FERC's Past Orders and Decisions Demonstrate Its Intent to Disclaim Jurisdiction Over Net Metering

FERC's past orders and decisions, both before and after EPCA 2005, demonstrate FERC's intent to disclaim jurisdiction over net metering. Prior to EPCA 2005, in Order No. 2003-A, Standardization of Generator Interconnection Agreements and Procedures, FERC elaborated on its jurisdiction under the FPA and explained that "[n]et metering allows a retail electric customer to produce and sell power onto the Transmission System without being subject to the Commission's jurisdiction."¹¹⁷ In this order, FERC disclaimed jurisdiction over net metering and explained that as long as the net metering participant is a "net consumer of electricity," FERC's jurisdiction is not implemented.¹¹⁸ In other words, FERC explained that it does not have jurisdiction over net metering when a net metering participant consumes more electricity than it produces during a billing period; however, if a net metering participant produces more electricity than it consumes during a billing period, it is a net producer that is subject to FERC's jurisdiction.¹¹⁹

Two FERC decisions, *MidAmerican* and *SunEdison*, similarly demonstrate FERC's intent to disclaim jurisdiction. In *MidAmerican*, four years before EPCA 2005, a utility company challenged the net billing arrangements offered by the Iowa Utilities Board.¹²⁰ The utility company argued that "every flow of power constitutes a sale, and, in particular, that every flow of power from a homeowner or farmer to MidAmerican must be priced consistent with the requirements of either PURPA or the FPA."¹²¹ FERC rejected this argument and determined that "no sale occurs

when an individual homeowner or farmer (or similar entity such as a business) installs generation and accounts for its dealings with the utility through the practice of netting."¹²² FERC declined to interfere with the Iowa Utilities Board's decision to permit net metering and affirmed state authority to establish net metering programs.¹²³

After EPCA 2005 and the PURPA amendments, FERC revisited the jurisdictional question of net metering in *SunEdison*. Like Order No. 2003-A, in *SunEdison*, FERC reaffirmed its intent to disclaim jurisdiction over net metering so long as the net metering participant is a net consumer of electricity over a billing period.¹²⁴ In *SunEdison*, a solar company sought a declaratory order confirming that its retail sales of solar energy to customers "do not constitute the sale of electric energy at wholesale . . . for purposes of the Federal Power Act (FPA)."¹²⁵ In its petition, the solar company expressed concern that:

it might be argued that some of the electric energy generated by SunEdison's facility and then unused by the on-site end-use customer is, in a sense, sold by that customer to the local load-serving utility, and therefore at least a portion of the electric energy sold by SunEdison to the on-site end-use customer is actually a sale for resale.¹²⁶

FERC applied the same principles from *MidAmerican* and Order No. 2003-A, and determined that the sale of solar energy to on-site retail customers by owners of PV facilities is outside of FERC's jurisdiction under the FPA.¹²⁷ *SunEdison* distinguished a net metering participant that is a net consumer of electricity and under state jurisdiction from "the sale of electric energy at wholesale" that is under federal jurisdiction per the FPA.¹²⁸ FERC explained that "[o]nly if the end-use customer participating in the net metering program produces more energy than it needs over the applicable billing period, and thus is considered to have made a net sale of energy to a utility over the applicable billing period, has the Commission asserted jurisdiction."¹²⁹ FERC reasoned that because SunEdison's solar systems did not meet the customers' full electric demand, they were net consumers of electricity and thus no sale of electric energy at wholesale under the FPA occurred and FERC's jurisdiction was not implemented.¹³⁰

On the other hand, proponents of federal jurisdiction over net metering, including NERA's petition, argue that *MidAmerican* and *SunEdison* are undermined by two U.S. Court of Appeals for the District of Columbia (D.C.) Circuit cases, *Calpine Corp. v. Federal Energy Regulatory Commission* in 2012 and *Southern Califor-*

116. See Rossi, *supra* note 69, at 14; 16 U.S.C. §2621(d)(1)-(18).

117. Order No. 2003-A, Standardization of Generator Interconnection Agreements and Procedures, FERC Stats. & Regs. ¶ 30965, at 744, 69 Fed. Reg. 15932 (Mar. 26, 2004); see also Rossi, *supra* note 69, at 15.

118. Order No. 2003-A, *supra* note 117, at 175.

119. *Id.*

120. *MidAmerican Energy Co.*, 94 FERC ¶ 61340 (2001).

121. *Id.* ¶ 62263.

122. *Id.*

123. *Id.* ¶ 62264.

124. *SunEdison LLC*, 129 FERC ¶ 61146 (2009).

125. *Id.* ¶ 61618.

126. *Id.* ¶ 61619.

127. *Id.*

128. 16 U.S.C. §824(d) (2006) (defining the "sale of electric energy at wholesale").

129. *SunEdison LLC*, 129 FERC ¶ 61620.

130. *Id.*; see also Witterschein, *supra* note 73, at 470.

nia Edison v. Federal Energy Regulatory Commission in 2018.¹³¹ These two cases considered the net billing periods and compensation rates for station power that electricity generation facilities consumed from the grid.¹³² In both cases, the D.C. Circuit found that FERC lacked jurisdiction to impose a monthly net billing period to determine whether a generator's purchases from a utility constitutes retail sale.¹³³ Because *Calpine* and *Southern California Edison* restricted FERC's jurisdiction over net billing, NERA argued that FERC should disregard *MidAmerican's* and *SunEdison's* reliance on a netting period when considering the proper jurisdiction.¹³⁴

NERA's argument to disregard *MidAmerican* and *SunEdison* is unconvincing. First, *Calpine* and *Southern California Edison* considered the jurisdiction to set netting intervals for retail charges, not the use of a billing period to determine when a sale occurs.¹³⁵ To the contrary, FERC's holdings in *Calpine* and *Southern California Edison* that FERC lacks jurisdiction to impose monthly net billing reinforces FERC's lack of jurisdiction over net metering. Second, *Calpine* and *Southern California Edison* were both in the fact-specific context of station power net billing rather than the separate context of utility customers with rooftop solar.¹³⁶

Third, Commissioner Danly's concurrence in the order of dismissal of the NERA petition implies that FERC orders have a greater relevance in the question of jurisdiction over net metering than judicial decisions. In his concurrence, Danly explained that unlike FERC, federal courts are "not steeped in the history of the Federal Power Act nor in matters of national energy policy."¹³⁷ In emphasizing FERC's comparative institutional competence over federal courts, Danly implied that *MidAmerican* and *SunEdison* have greater precedential value than *Calpine* and *Southern California Edison*. Therefore, the argument that *Calpine* and *Southern California Edison* invalidate *MidAmerican* and *SunEdison* does not pass scrutiny.

Order No. 2003-A, *MidAmerican*, and *SunEdison* demonstrate that while FERC has jurisdiction over the sale of electric energy at wholesale under the FPA, the sale of electric energy at wholesale *only* occurs when a net wholesale sale occurs over the billing period. Therefore, these orders and decisions show that FERC intends to disclaim jurisdiction over net metering unless a net wholesale sale occurs over a billing period.

C. Public Policy Is Best Served by State Jurisdiction Over Net Metering

Net metering is best left to individual state jurisdiction for reasons of public policy. The amount of electricity generated by solar power and the rate of rooftop solar penetration varies greatly between states. State jurisdiction over net metering enables states to create and modify net metering policies designed to address state-specific rooftop solar penetration rates, utility costs, and customer needs. Additionally, state jurisdiction enables states to research and experiment with different net metering policies, which may inform society's growing understanding of how to best incorporate distributed generation into the grid.

The amount of solar power generated, and the rate of rooftop solar penetration, is extremely varied between states, and accordingly the regulatory needs for net metering are best met by state-specific policies. For example, in 2021, California, the state with the most small-scale solar PV electricity generation, generated 19.828 billion kilowatts (kW) of electricity while North Dakota, the state with the least small-scale solar PV electricity generation, generated just 0.001 billion kW hours.¹³⁸ States with such drastically different quantities of solar generation and rooftop solar penetration rates face different concerns and accordingly benefit from different net metering policies that are tailored to their specific needs.

One primary concern in states like California with high rooftop solar penetration rates is that net metering has resulted in a subsidy for net metering customers and a cost-shift to non-net metering customers.¹³⁹ This subsidy and cost-shift can arise when many net-metered customers generate their own electricity and do not purchase electricity from a utility, but still rely on other grid-provided services.¹⁴⁰ When utility customers with net metering use but do not pay for grid services, this cost is shifted to non-net metering customers. With a smaller percentage of grid-users paying for grid services, over time net metering can lead to significantly higher electricity rates.¹⁴¹

As the California Public Utilities Commission (CPUC) explained, "[net metering] has helped California make significant progress toward meeting its climate goals, but now that California has nearly 25 gigawatts (GW) of solar on our grid, needs have shifted."¹⁴² This cost-shift is of even

131. *Southern Cal. Edison Co. v. Federal Energy Regul. Comm'n*, 603 F.3d 996 (D.C. Cir. 2010); *Calpine Corp. v. Federal Energy Regul. Comm'n*, 702 F.3d 41 (D.C. Cir. 2012).

132. *Southern Cal. Edison*, 603 F.3d 996; *Calpine Corp.*, 702 F.3d 41; see also Witterschein, *supra* note 73, at 462; Electricity Regulation Scholars, Comment on the Petition for Declaratory Order of NERA, Filed With FERC, No. EL20-42 (June 15, 2020).

133. *Southern Cal. Edison*, 603 F.3d 996; *Calpine Corp.*, 702 F.3d 41; see also Witterschein, *supra* note 73, at 462; Electricity Regulation Scholars, *supra* note 132.

134. NERA Petition for Declaratory Order, *supra* note 75.

135. Electricity Regulation Scholars, *supra* note 132, at 6-9.

136. *Id.*

137. Order Dismissing Petition for Regulatory Order, *supra* note 74 (Danly, Comm'r, concurring).

138. See EIA, *Solar Explained: Where Solar Energy Is Found and Used*, <https://www.eia.gov/energyexplained/solar/where-solar-is-found.php> (last visited May 23, 2024).

139. See ICF, REVIEW OF RECENT COST-BENEFIT STUDIES RELATED TO NET METERING AND DISTRIBUTED SOLAR 10 (2018) (prepared for DOE); see also LAWSON, *supra* note 54, at 2.

140. See Lisa V. Wood, *Why Net Energy Metering Results in a Subsidy: The Elephant in the Room*, BROOKINGS INST. (June 13, 2016), <https://www.brookings.edu/opinions/why-net-energy-metering-results-in-a-subsidy-the-elf-in-the-room/>. See also ICF, *supra* note 139; LAWSON, *supra* note 54.

141. See CALIFORNIA PUBLIC UTILITIES COMMISSION, FACT SHEET: MODERNIZING CALIFORNIA'S NET ENERGY METERING PROGRAM TO MEET OUR CLEAN ENERGY GOALS—PROPOSED DECISION FOR PROCEEDING R.20-08-020 (2021), <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/net-energy-metering-nem/nemrevisit/net-billing-tariff-fact-sheet.pdf>.

142. See *id.*

greater concern because ratepayers without rooftop solar are disproportionately low-income, and accordingly the cost-shift is inequitably shouldered by low-income people.¹⁴³ The CPUC reports that under California's former net metering program, NEM 2.0, which was in effect until April 2023, Californians spent more than \$3 billion per year supporting the state's net metering program, and estimates that low-income households without rooftop solar systems paid \$67 to \$128 more per year in electricity costs due to the net metering cost shift.¹⁴⁴

Galvanized by these concerns, the California Legislature passed Assembly Bill 327, which required the CPUC to reform the state's net metering program and conduct rate reform.¹⁴⁵ After years of debate and deliberation, the CPUC first revised California's net metering program in 2016, and in December 2022, the CPUC issued another decision reforming the state's net metering policy with the goals of updating the policy in accordance with the state's high rooftop solar penetration rate and ameliorating the concern for cost-shifting.¹⁴⁶ The new policy, known as NEM 3.0, seeks to improve grid reliability and control electricity costs, and will reduce net metering compensation rates for new solar customers by 75% to prevent cost-shifting.¹⁴⁷

While the CPUC concluded that net metering resulted in an inequitable cost-shift in California, by contrast, other public utility commissions in other states with lower rates of solar rooftop penetration have not identified this problem, at least in part because the extent of a cross-subsidy is thought to depend on net metering participation rates and policy decisions.¹⁴⁸ As the Congressional Research Service explained in a 2018 report on net metering, costs might increase for non-net metering customers “[i]f a sufficiently large number of customers participate in net metering.”¹⁴⁹ For example, Vermont is ranked 37th in the country for solar energy,¹⁵⁰ and the Vermont Public Service Department conducted an evaluation of net metering in 2014, which determined that the aggregate net cost for ratepayers in Vermont without rooftop solar was “close to zero, and there may be a net benefit.”¹⁵¹

Given that a potential cost-shift is generally of less concern in states with smaller rates of rooftop solar penetration, while states like California with high amounts of gener-

ated solar and high penetration rates of rooftop solar may seek to limit net metering to prevent an inequitable cross-subsidy, states with smaller amounts of generated solar and lower penetration rates may seek to increase net metering to grow renewable energy generation. For example, in 2021, Illinois, where 1.94% of the state's electricity comes from solar energy, enacted legislation to expand incentives for net metering and community solar projects.¹⁵² Similarly, in 2021, Kentucky, where 0.45% of the state's electricity comes from solar energy, rejected proposals by utilities to create metering successor tariffs in favor of continuing traditional monthly net metering.¹⁵³

Not only do individual states have individual net metering concerns and policy priorities, but states also have the capacity to research state-specific net metering and rate policies to best serve their own utility customers. In 2023 alone, 47 states and D.C. took policy action on distributed solar policy or rate design.¹⁵⁴ Additionally, for years, states have dedicated time and resources to developing policies that best meet their needs. For example, in 2021, Maine enacted a bill directing the Governor's Energy Office to hold a stakeholder group to consider future program changes; in 2022, Missouri enacted two bills establishing a task force on DERs and net metering issues; and in 2023, the Wisconsin Public Service Commission opened a new proceeding to undertake a cost-benefit analysis or value of solar study.¹⁵⁵

State jurisdiction permits democratic experimentation with new and creative policies to incentivize rooftop solar, to allow rooftop solar customers to lower their utility bill, and to ensure that customers with rooftop solar are not inequitably subsidized by other ratepayers without rooftop solar. For example, in 2019, the Virginia General Assembly overwhelmingly passed legislation deemed a “Landmark Net-Metering Compromise” for not-for-profit cooperatives (co-ops) providing electricity to customers in Virginia.¹⁵⁶ Under this compromise, net metering remains as an incentive to promote the growth of rooftop solar, but customers receive a fixed charge, a variable kW-hour charge, and a non-coincident peak demand charge, which permits co-ops to recoup fixed generation and operation costs.¹⁵⁷

This possibility for state-specific experimentation allows for the promotion of energy justice initiatives to increase equity in social and economic participation in renewable energy systems. A growing number of states have opted to allow or require unused net excess genera-

143. See Press Release, CPUC, CPUC Modernizes Solar Tariff to Support Reliability and Decarbonization (Dec. 15, 2022), <https://www.cpuc.ca.gov/news-and-updates/all-news/cpuc-modernizes-solar-tariff-to-support-reliability-and-decarbonization>; LAWSON, *supra* note 54, at 7.

144. See Press Release, CPUC, Modernizing California's Net Energy Metering Program to Meet Our Clean Energy Goals (Dec. 13, 2021), <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/net-energy-metering-nem/nemrevisit/net-billing-tariff-fact-sheet.pdf>.

145. CALIFORNIA PUBLIC UTILITIES COMMISSION, *supra* note 141.

146. Press Release, CPUC, *supra* note 143.

147. *Id.*; see Ryan Kennedy, *California Cuts Rooftop Solar Net Metering: An Industry Reacts*, PV MAG. (Dec. 20, 2022), <https://pv-magazine-usa.com/2022/12/20/california-cuts-rooftop-solar-net-metering-an-industry-reacts/>.

148. See, e.g., LAWSON, *supra* note 54, at 7.

149. *Id.*

150. Solar Energy Industries Association, *Vermont Solar*, <https://www.seia.org/state-solar-policy/vermont-solar> (last visited May 23, 2024).

151. ICF, *supra* note 139, at 10; VERMONT PUBLIC SERVICE DEPARTMENT, EVALUATION OF NET METERING IN VERMONT CONDUCTED PURSUANT TO ACT 99 OF 2014, at 28 (2014).

152. See generally NC CLEAN ENERGY TECHNOLOGY CENTER, 50 STATES OF SOLAR: Q4 2021 QUARTERLY REPORT & 2021 ANNUAL REPORT 7 (2022); Solar Energy Industries Association, *Illinois Solar*, <https://www.seia.org/state-solar-policy/illinois-solar> (last visited May 23, 2024).

153. See generally NC CLEAN ENERGY TECHNOLOGY CENTER, *supra* note 152, at 6; Solar Energy Industries Association, *Kentucky Solar*, <https://www.seia.org/state-solar-policy/kentucky-solar> (last visited May 23, 2024).

154. See generally NC CLEAN ENERGY TECHNOLOGY CENTER, 50 STATES OF SOLAR: Q4 2023 REPORT & 2023 ANNUAL REVIEW (2024).

155. See *id.*

156. See Cathy Cash, *Virginia's Landmark Net-Metering Compromise: Members Add Renewables; Co-ops Recoup Costs*, NAT'L RURAL ELEC. COOP. ASS'N (Feb. 26, 2019), <https://www.electric.coop/virginia-net-metering-renewable-energy>.

157. *Id.*

tion or generation credits to be applied to low-income households. For example, in 2023, the Maine State Legislature enacted legislation to require unused and expired net energy billing credits to be used to assist low-income households, and an energy company in Colorado revised its net metering tariff to allow customers to donate excess energy to low-income customers.¹⁵⁸

Electricity grids and rate-setting mechanisms are still adapting to the rise of solar and learning how to best incorporate solar power into the grid. This process is undoubtedly fraught with trial and error, and there is not yet a consensus as to how to best increase rooftop solar power without causing negative externalities, namely without raising utility rates for those without distributed solar. State experimentation with varied policies may provide valuable lessons on how to equitably incorporate rooftop solar power into the grid. As Justice Louis Brandeis wrote, “Denial of the right to experiment may be fraught with serious consequences to the nation. It is one of the happy incidents of the federal system that a single courageous state may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments.”¹⁵⁹

When states have jurisdiction over net metering, states serve as a laboratory and enact a variety of policies regarding distributed generation from which other states can learn. As rooftop solar continues to grow, states will have an even greater role to play in balancing the needs of various stakeholders to increase renewable energy while preventing an inequitable cost-shift.¹⁶⁰ State jurisdiction over net metering allows states to experiment with net metering policies designed to address state-specific rooftop solar penetration rates, utility costs, and utility customer needs. Therefore, for reasons of both law and policy, FERC should disclaim net metering to reaffirm the status quo of state jurisdiction.

IV. Conclusion

In conclusion, FERC should issue a rulemaking to disclaim jurisdiction over net metering and reaffirm the status quo of state jurisdiction. FERC clarification over net metering jurisdiction is necessary because the FPA does not address net metering and the 2020 NERA petition demonstrated the ongoing jurisdictional dispute. Now is an opportune time for FERC to disclaim jurisdiction because there has been a complete turnover of commissioners since FERC declined to address the issue in response to the 2020 NERA petition. With a full panel of commissioners, and with the majority having either expressly supported state jurisdiction over net metering or demonstrated an understanding of the importance of resolving jurisdictional issues to maximize value in electricity markets, the current landscape is favorable for addressing this matter.

The status quo of state jurisdiction is sound as a matter of law and policy. The FPA and PURPA suggest congressional intent for states to regulate net metering, and past FERC orders suggest FERC’s intent to disclaim jurisdiction. Further, state jurisdiction enables net metering policies to be tailored to meet local needs, which vary widely across the country. By issuing a rulemaking disclaiming jurisdiction over net metering, FERC would end the ongoing jurisdictional debate, provide regulatory certainty, and ensure that states can continue to experiment with creating policies to equitably incorporate distributed solar into the grid.

158. See generally NC CLEAN ENERGY TECHNOLOGY CENTER, *supra* note 152.

159. *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting).

160. Steven Ferrey, *Net Legal Power*, 53 SAN DIEGO L. REV. 221, 256 (2016).