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Felix Mormann, *Constitutional Challenges and Regulatory Opportunities for State Climate Policy Innovation*, 41 Harv. Envtl. L. Rev. 189 (2017).

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CONSTITUTIONAL CHALLENGES AND REGULATORY OPPORTUNITIES FOR STATE CLIMATE POLICY INNOVATION

Felix Mormann*

This Article explores constitutional limits and regulatory openings for innovative state policies to mitigate climate change by promoting climate-friendly, renewable energy. In the absence of a comprehensive federal policy approach to climate change and clean energy, more and more states are stepping in to fill the policy void. Already, nearly thirty states have adopted renewable portfolio standards that create markets for solar, wind, and other clean electricity. To help populate these markets, a few pioneering states have recently started using feed-in tariffs that offer eligible generators above-market rates for their clean, renewable power.

But renewable portfolio standards, feed-in tariffs, and other state climate policies have increasingly come under attack for alleged violations of the Constitution. How much latitude do states have when they experiment with innovative climate and clean energy policies? And which policy best protects states from the risk of lengthy and costly litigation over its constitutionality?

To answer these crucial questions, this Article takes stock of recent litigation challenging the constitutionality of state renewable portfolio standards and feed-in tariffs. Qualitative analysis reveals markedly different constitutional risk profiles for both policies with portfolio standards more prone to Commerce Clause challenges and feed-in tariffs more likely to face Supremacy Clause challenges. These vulnerabilities have prompted widespread scholarly skepticism over both policies' constitutional viability when implemented at the state level, often accompanied by calls for sweeping legislative or judicial reform. Pushing back against the prevailing scholarly skepticism, this Article draws on recent precedent to make the case for joint implementation of both policies as a way to reduce, rather than exacerbate, a state's overall exposure to the risk of constitutional attacks on its climate and clean energy policy.

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* Associate Professor, University of Miami School of Law; Faculty Fellow, Stanford Law School. For their insightful comments on earlier versions of this work, I would like to thank David Adelman, William Blatt, Jonathan Cannon, Ann Carlson, Caroline Corbin, Dan Farber, Jody Freeman, Michael Fromkin, Michael Gerrard, Fran Hill, Shi-Ling Hsu, Doug Kysar, Stanley Langbein, Richard Pierce, Jr., Stephen Schnably, Frank Valdes, and Rick Williamson. I would also like to thank participants in Columbia Law School's Sabin Colloquium on Innovative Environmental Law Scholarship, George Washington Law School's Shapiro Environmental Law Symposium, Northwestern Law School's Searle Conference on Federalism and Energy, the University of Minnesota's Conference on Multi-dimensional Action to Address Climate Change, and faculty workshops at Florida International University School of Law and Texas A&M School of Law. For her excellent research assistance, I am grateful to Brittany Gunter. For their thoughtful comments and suggestions, I would like to thank my editors, John Bullock and Joshua Lee.

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INTRODUCTION

In the absence of a comprehensive federal policy approach to climate change and clean energy, states are increasingly stepping in to fill the policy void.¹ Already, twenty-nine states, the District of Columbia, and three U.S. territories have adopted renewable portfolio standards² that create markets for low-carbon, renewable energy by requiring electric utilities to meet a portion of

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1. For an overview of state climate policy action, see Kirsten H. Engel & Barak Y. Orbach, *Micro-Motives and State and Local Climate Change Initiatives*, 2 HARV. L. & POL'Y REV. 119, 123 (2008); Daniel A. Farber, *Climate Change, Federalism, and the Constitution*, 50 ARIZ. L. REV. 879, 883 (2008); Richard B. Stewart, *States and Cities as Actors in Global Climate Regulation: Unitary vs. Plural Architectures*, 50 ARIZ. L. REV. 681, 683 (2008); see also Felix Mormann, *Clean Energy Federalism*, 67 FLA. L. REV. 1621 (2015) (exploring the ideal institutional level of implementation for select climate and clean energy policies).
 2. Renewable portfolio standards, also known as a renewable targets or quota obligations, set quotas that require electric utility companies to source a certain share of the electricity they sell to end-users from renewable sources of energy. See *infra* notes 42–47 and accompanying text.

their sales with solar, wind, and other renewables.³ Meanwhile, a few pioneering states have recently begun to experiment with feed-in tariff⁴ policies that pay renewable power generators above-market rates designed to cover the higher generation costs of emerging renewable energy technologies.⁵

The Obama Administration's recently finalized Clean Power Plan⁶ further increases U.S. dependence on state-level policy action to mitigate global climate change and promote clean energy.⁷ Born out of frustration with partisan deadlock in Congress, the Clean Power Plan draws on the Clean Air Act's model of cooperative federalism⁸ to task state policymakers and regulators with achieving nationwide reductions in carbon emissions that drive global warming and cli-

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3. See *Renewable Portfolio Standard Policies*, N.C. CLEAN ENERGY TECH. CTR. (2015), <https://perma.cc/B73L-ZKTT>. Eight more states and one U.S. territory have adopted nonbinding goals for the deployment of renewables. See *id.* For a discussion of the history and political background of state renewable portfolio standards, see Barry Rabe, *Race to the Top: The Expanding Role of U.S. State Renewable Portfolio Standards*, 7 SUSTAINABLE DEV. L. & POL'Y 10 (2007). For more information on the design and implementation characteristics of renewable portfolio standards, see *infra* Part I.
 4. Feed-in tariffs are two-pronged policies that guarantee renewable power generators access to their local power grid and require local electric utilities to purchase the power output of these generators at above-market rates. See *infra* notes 51–57 and accompanying text. The policy's misleading name (it does not impose any tariff on electricity imports or other related activities) is thought to be a tribute to an overly literal translation of its implementation in Germany as per the 1991 Stromeinspeisungsgesetz (Electricity Feed-in Law). See Paul Gipe, *Frequently Asked Questions About Feed-in Tariffs, Advanced Renewable Tariffs, and Renewable Energy Payments*, WIND-WORKS.ORG (Oct. 30, 2016), <https://perma.cc/S3HA-DECB>.
 5. Early adopters of feed-in tariffs at the state level include California, Hawaii, Maine, Oregon, Rhode Island, Vermont, and Washington. See *infra* notes 59–65. Other state legislatures, such as Illinois, Indiana, Kentucky, Michigan, Minnesota, New York, and Wisconsin, have recently debated proposals for feed-in tariffs. See H.B. 5855 (IL 2008); H.B. 1374 (IN 2014); H.B. 408 (KY 2010); H.B. 5218 (MI 2007); H.B. 4137 (MI 2009); H.F. 3537 (MN 2008); S.B. 4862 (NY 2011); A.B. 649 (WI 2010). For more information on the design and implementation characteristics of feed-in tariffs, see *infra* Part I.
 6. See Final Rule: Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units [hereinafter “Clean Power Plan”], 80 Fed. Reg. 64,662 (Oct. 23, 2015). See also Final Rule: Standards for Performance for Greenhouse Gas Emissions for New Power Stationary Sources: Electric Generating Units, 80 Fed. Reg. 64,510 (Oct. 23, 2015) (to be codified at 40 C.F.R. pt. 60).
 7. See, e.g., Clean Power Plan, *supra* note 6 at 64,664 (“States will play a key role in ensuring the emissions reductions are achieved at a reasonable cost.”). See also *id.* at 64,665 (“[T]he final guidelines are designed to build on and reinforce progress by states . . .”).
 8. See *id.* (“CAA section 111(d) relies on the well-established state-EPA partnership to accomplish the required CO₂ emission reductions.”). See also William W. Buzbee, *Asymmetrical Regulation: Risk, Preemption, and the Floor/Ceiling Distinction*, 82 N.Y.U. L. REV. 1547, 1564 (2007) (discussing cooperative federalism and regulatory floors in the context of environmental law); Emily Hammond & David L. Markell, *Administrative Proxies for Judicial Review: Building Legitimacy from the Inside-Out*, 37 HARV. ENVTL. L. REV. 313, 330–331 (2013) (offering an overview of cooperative federalism structure and sources).

mate change.⁹ One of the Plan's three building blocks expressly calls for replacing carbon-intensive fossil fuel-fired power plants with new, zero-emitting solar, wind, and other renewable energy generating capacity.¹⁰ However critics and scholars may feel about the Clean Power Plan's methodology¹¹ and legality,¹² it has already added further momentum to the proliferation of state policy action to promote clean energy and mitigate climate change.¹³

The December 2015 Paris climate agreement provides additional support for the trend toward state policy responses to the challenges posed by global climate change.¹⁴ At the heart of the agreement lies the call for "Nationally

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9. The Clean Power Plan establishes CO₂ performance rates for affected fossil fuel-fired power plants, translates these rates into state-specific CO₂ emission goals, and requires states to submit and implement plans to achieve their respective carbon goals. Performance rates and, hence, state-specific carbon goals, are determined based on the newly introduced "Best System of Emissions Reduction" comprised of three building blocks. See Clean Power Plan, *supra* note 6 at 64,666–67.
 10. While the Clean Power Plan lacks a comprehensive definition of renewable energy, the final rule provides that states adopting a rate-based approach may issue emission rate credits ("ERCs") to "renewable electric generating technologies using . . . [w]ind, solar, geothermal, hydro, wave, tidal." *Id.* at 64,950. The other two building blocks call for improving the heat rate and, hence, efficiency of affected coal-fired steam plants and for replacing electricity generation from higher-emitting steam generating plants with power generated from lower-emitting existing natural gas power plants. See *id.* at 64,667.
 11. For a sample of the burgeoning scholarly literature discussing the Clean Power Plan, see, e.g., Tomas Carbonell, *EPA's Proposed Clean Power Plan: Protecting Climate and Public Health by Reducing Carbon Pollution from the U.S. Power Sector*, 33 YALE L. & POL'Y REV. 403 (2015); Emily Hammond & Richard J. Pierce, Jr., *The Clean Power Plan: Testing the Limits of Administrative Law and the Electric Grid*, 7 GEO. WASH. J. ENERGY & ENVTL. L. 1 (2016); Hannah J. Wiseman & Hari M. Osofsky, *Regional Energy Governance Under the Clean Power Plan*, 43 ECOLOGY L.Q. 143 (2016).
 12. Within twelve hours of the final rule's publication in the federal register, the Clean Power Plan became the most heavily litigated environmental regulation ever. See Emily Holden & Rod Kuckro, *The Fate of the Obama Administration's Signature Climate Change Rule Is in the Hands of the Courts*, E&E PUBLISHING, <https://perma.cc/843Z-RRJ6>. The Supreme Court recently stayed the Clean Power Plan's implementation until resolution of pending challenges. See *West Virginia v. EPA*, 136 S. Ct. 1000 (2016). As this Article is going to print, President Donald Trump has "vowed to kill the Clean Power Plan," but the large number of intervenors on behalf of EPA in defense of the Plan suggests that the agency's withdrawal from the suit would not be sufficient for the Clean Power Plan's opponents to win. See Chelsea Harvey, *Trump Has Vowed to Kill the Clean Power Plan. Here's How He Might—And Might Not—Succeed*, WASH. POST (Nov. 11, 2016), <https://perma.cc/PE49-KYRR>.
 13. Cf. Michael Wara, *A Bad Day for U.S. Energy and Climate Policy*, STAN. L. SCH. LEGAL AGGREGATE (Feb. 10, 2016), <https://perma.cc/8352-4EGH> (noting that the U.S. electricity industry has already begun the work of planning for compliance with the Clean Power Plan's requirements).
 14. See Framework Convention on Climate Change, *Adoption of the Paris Agreement*, U.N. DOC. FCC/CP/2015/L.9 (Dec. 12, 2015), <https://perma.cc/DS9K-M28X>. The Paris agreement entered into force on November 4, 2016, less than a year after its adoption, following ratification by 55 countries accounting for at least 55% of global greenhouse gas emissions, in-

Defined Contributions” by the parties to mitigate climate change. Recent scholarship acknowledges that, in the absence of Congressional action, the Clean Power Plan and the state policy action prescribed thereunder form a crucial part of the U.S. plan to meet its international commitments under the Paris agreement.¹⁵

Ironically, the Clean Power Plan and the Paris climate agreement order state policymakers and regulators to the frontlines of the war on carbon at a time when state-level renewable portfolio standards (“RPSs”), feed-in tariffs (“FITs”), and other innovative state climate and clean energy policies¹⁶ have come under attack for alleged violations of the Constitution. Since 2010, several states, including California,¹⁷ Colorado,¹⁸ Delaware,¹⁹ Massachusetts,²⁰ Minnesota,²¹ and Missouri²² have had to defend their renewable portfolio standards against constitutional attacks, primarily based on Commerce Clause challenges. Despite their relative novelty, state feed-in tariffs, too, have already become subject to legal attacks as illustrated by the prolonged litigation over the feed-in tariff programs of California²³ and Vermont.²⁴

cluding the United States. See *Paris Accord – Status of Ratification*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE, <https://perma.cc/5VEF-A8W9>.

15. See Wiseman & Osofsky, *supra* note 11, at 1. In contrast to his continued opposition to the Clean Power Plan, President Donald Trump has an “open mind” regarding U.S. involvement in the Paris agreement and its commitment to combat global climate change. See Oliver Milman, *Paris Climate Deal: Donald Trump Says He Now Has an ‘Open Mind’ About Accord*, THE GUARDIAN (Nov. 22, 2016), <https://perma.cc/3SCH-YRAK>.
16. See, e.g., *Rocky Mountain Farmers Union v. Corey*, 730 F.3d 1070, 1101 (9th Cir. 2013) (rejecting dormant Commerce Clause challenges against California’s Low Carbon Fuel Standard), *cert. denied*, 134 S. Ct. 2875 (2014).
17. See *Order Denying Applications for Rehearing of Decision 11-12-052*, Cal. Pub. Utils. Comm’n (Nov. 1, 2013), <https://perma.cc/L3LS-DPJX>.
18. See *Energy & Env’t Legal Inst. v. Epel*, 43 F. Supp. 3d 1171 (D. Colo. 2014) (denying claims that Colorado’s RPS violates the dormant Commerce Clause), *aff’d*, 793 F.3d 1169 (10th Cir. 2015), *cert. denied*, 136 S. Ct. 595 (2015).
19. See *Nichols v. Markell*, No. 12-777-CJB, 2014 WL 1509780 (D. Del. Apr. 17, 2014) (challenging Delaware’s RPS program on Commerce Clause grounds for limiting qualifying fuel cells to those from in-state manufacturers).
20. See *All. to Protect Nantucket Sound, Inc. v. Dep’t of Pub. Utils.*, 959 N.E.2d. 413, 422 (Mass. 2011) (describing the constitutional challenges that eventually led to the elimination of certain in-state preferences in the Massachusetts RPS).
21. See *North Dakota v. Heydinger*, 15 F. Supp. 3d 891, 916, 919 (D. Minn. 2014) (holding Minnesota’s New Energy Act in violation of the dormant Commerce Clause insofar as it sought to control the conduct of out-of state entities), *aff’d*, *North Dakota v. Heydinger*, 825 F.3d 912, 923 (8th Cir. 2016).
22. See *State, ex rel. Mo. Energy Dev. Ass’n v. Pub. Serv. Comm’n of Mo.*, 386 S.W.3d 165, 175 (Mo. Ct. App. 2012).
23. See *Cal. Pub. Utils. Comm’n*, 132 FERC ¶ 61,047 (July 15, 2010) (order on petitions for declaratory order); *Cal. Pub. Utils. Comm’n*, 133 FERC ¶ 61,059 (Oct. 20, 2010) (order

How much latitude do states have when they seek to craft innovative climate and clean energy policies? And which policy best protects states from the risk of lengthy and costly litigation over its constitutionality? In its quest for answers to these crucial questions, this Article makes three distinct contributions to the literature on climate and clean energy law and policy. First, it offers a systematic account of recent litigation challenging the constitutionality of state renewable portfolio standards and feed-in tariffs that uses the heterogeneity among plaintiffs to illustrate the diverse political economy factors barring more decisive policy action. Second, the Article develops and compares the unique constitutional risk profiles and resulting vulnerabilities of state-level portfolio standards and feed-in tariffs. Third, the Article draws on recent precedent to develop an innovative policy strategy that allows state policymakers to simultaneously promote global environmental and local economic benefits while minimizing the vulnerability to constitutional attacks.

Notwithstanding their shared objectives, state renewable portfolio standards and feed-in tariffs exhibit markedly different vulnerabilities to constitutional challenges. As state policymakers seek to internalize the job creation, tax revenue, and other economic benefits associated with renewable energy deployment, they often incorporate in-state location requirements and preferences into their renewable portfolio standards. Such economic parochialism is neither new nor unique to the energy space²⁵ and may, ultimately, serve to promote global public goods.²⁶ In the context of clean energy deployment, however, it threatens the long-term viability of a cornerstone of U.S. efforts to mitigate anthropogenic climate change. With their discriminatory effect on interstate commerce, in-state location requirements and other geographic preferences render state renewable portfolio standards vulnerable to dormant Commerce Clause challenges.²⁷

granting clarification and dismissing rehearing), *reh'g denied*, 134 FERC ¶ 61,044 (Jan. 20, 2011).

24. See *Otter Creek Solar*, 143 FERC ¶ 61,282 (June 27, 2013), *reh'g denied*, 146 FERC ¶ 61,192 (Mar. 20, 2014).
25. Policymakers at all levels of government try to internalize the economic benefits of their economic development programs. See, e.g., *United Bldg. & Const. Trades Council v. Mayor & Council of City of Camden*, 465 U.S. 208 (1984) (municipal ordinance requiring that at least 40% of the employees of contractors and subcontractors working on city construction projects be Camden residents). See also Appellate Body Reports, *Canada—Certain Measures Affecting the Renewable Energy Generation Section, Canada—Measures Relating to the Feed-in Tariff Program*, ¶ 5.85, WTO Doc. WT/DS412/AB/R, WT/DS426/AB/R (adopted May 24, 2013) (finding that requirements to use locally manufactured components to qualify for support under Canada's feed-in tariff violate Article III:4 of the GATT 1994 standards).
26. See generally Timothy Meyer, *How Local Discrimination Can Promote Global Public Goods*, 95 B.U. L. REV. 1939 (2015) (arguing that discriminatory renewable energy programs can increase global welfare in the aggregate).
27. See *infra* Part II.

State feed-in tariffs, on the other hand, are more vulnerable to Supremacy Clause challenges²⁸ because they require state regulators to set rates for power sales from renewable generators to electric utilities. The Federal Power Act (“FPA”) generally reserves ratemaking authority in these types of wholesale transactions for the Federal Energy Regulatory Commission (“FERC”). What little ratemaking authority states have over wholesale transactions under the Public Utility Regulatory Policies Act (“PURPA”) is subject to strict price caps based on the avoided-cost doctrine.²⁹ Under this doctrine, states may use their PURPA authority only to set rates up to the cost that the utility avoids by not generating the electricity itself or purchasing it from another source.³⁰ Traditionally, this avoided-cost cap has been determined based on the lowest-cost alternative power source—usually coal-fired or, more recently, natural gas-fired electricity—and, hence, would be too low to cover the higher generation costs of emerging renewable energy technologies. In light of these statutory limitations on state ratemaking authority, many scholars consider it impossible for states to adopt feed-in tariffs with rates high enough to effectively promote renewable energy without preemption under the Supremacy Clause.³¹ In a recent article, feed-in tariff expert Lincoln Davies succinctly sums up the prevailing scholarly skepticism: “Because the Constitution declares federal law supreme, both PURPA and the FPA effectively prevent states from adopting feed-in tariffs.”³²

The vulnerability of state renewable portfolio standards to dormant Commerce Clause challenges has prompted a growing number of scholars to argue

28. See *infra* Part III.

29. See 16 U.S.C. § 824a-3(b) (2012). See also Steven R. Miles, *Full-Avoided Cost Pricing Under the Public Utility Regulatory Policies Act: “Just and Reasonable” to Electric Consumers?*, 69 CORNELL L. REV. 1267, 1269 (1984).

30. See 16 U.S.C. § 824a-3(b).

31. See, e.g., David Bloom et al., *State Feed-in-Tariffs: Recent FERC Guidance for How to Make Them FiT under Federal Law*, 24 THE ELEC. J. 26, 27 (2011); Lincoln L. Davies, *U.S. Renewable Energy Policy in Context*, 15 ENVTL. L. & POL’Y 33, 57 (2015); Michael Dorsi, *Clean Energy Pricing and Federalism: Legal Obstacles and Options for Feed-in Tariffs*, 35 ENVIRONS ENVTL. L. & POL’Y J. 173, 185 (2012); Steven Ferrey, *Follow the Money! Article I and Article VI Constitutional Barriers to Renewable Energy in the U.S. Future*, 17 VA. J. L. & TECH. 89, 107, 115, 117 (2012); Katherine D. Kelly, *Don’t Hide Behind Statutory Roadblocks: How the United States Can Resolve Conflicts to Implementing the German Feed-In Tariff Model and Contribute to International Efforts to Control Climate Change*, 50 COLUM. J. TRANSNAT’L L. 726, 763 (2012); Jim Rossi, *Clean Energy and the Price Preemption Ceiling*, 3 SAN DIEGO J. CLIMATE & ENERGY L. 243, 255 (2012); Steven Weissman, *Effective Renewable Energy Policy: Leave It to the States?*, 3 SAN DIEGO J. CLIMATE & ENERGY L. 345, 360–61 (2012). For a more detailed discussion of the federal preemption chorus, see *infra* Part III.B.2.

32. Davies, *supra* note 31, at 57.

for judicial reform of today's Commerce Clause doctrine.³³ Others call on Congress to adopt legislation that expressly authorizes states to adopt discriminatory renewable portfolio standards.³⁴ In light of the looming threat of federal preemption, proponents of state feed-in tariffs, too, call for their explicit endorsement through Congressional action.³⁵ This Article argues that no such sweeping—and politically improbable—reform is necessary.

Contrary to sustained, strong scholarly skepticism, recent FERC precedent has created an opening for state policymakers to craft renewable energy policies that capture most of the associated economic benefits in-state while minimizing constitutional concerns. Remarkably, and somewhat counterintuitively, the way forward is for states to simultaneously implement both renewable portfolio standards and feed-in tariffs.

Common intuition suggests that combining both policies would also aggregate their respective constitutional risks and thereby increase the adopting state's overall vulnerability to constitutional challenges of its renewable energy policy program. Refuting common intuition as well as widespread scholarly skepticism, this Article makes the case that joint implementation of state-level renewable portfolio standards and feed-in tariffs allows policymakers to capture significant economic benefits in-state while reducing, rather than exacerbating, the state's overall risk of constitutional attacks on its climate and clean energy policies.

In its recent *California Public Utilities Commission*³⁶ decision, FERC endorses state feed-in tariff programs under PURPA that require utilities to pay higher rates for electricity from renewables so long as (i) there is a state mandate, such as a renewable portfolio standard, that requires utilities to procure a certain percentage of electricity from renewable sources, and (ii) the established

33. See Michael Barsa & David A. Dana, *A Climate Change Lens on the Dormant Commerce Clause, Lifecycle GHG Taxes, and In-State RPSS Requirements*, 5 SAN DIEGO J. CLIMATE & ENERGY L. 69, 71–72 (2014); Kirsten H. Engel, *The Dormant Commerce Clause Threat to Market-Based Environmental Regulation: The Case of Electricity Deregulation*, 26 ECOLOGY L.Q. 243, 324 (1999); Danny Englese, *Tilting at Windmills: Finding an Alternative Dormant Commerce Clause Framework to Preserve Renewable Portfolio Standard Generator Location Requirements*, 47 ARIZ. ST. L. J. 983, 1002 (2015); Sam Kalen, *Dormancy Versus Innovation*, 65 OKLA. L. REV. 381, 424–25 (2013); Daniel K. Lee & Timothy P. Duane, *Putting the Dormant Commerce Clause Back to Sleep: Adapting the Doctrine to Support State Renewable Portfolio Standards*, 43 ENVTL. L. 295, 355–60 (2013). *But see* William Griffin, *Renewable Portfolio Standards and the Dormant Commerce Clause: The Case for In-Region Location Requirements*, 41 B.C. ENVTL. AFF. L. REV. 133, 161 (2014) (arguing that in-region requirements in Massachusetts's state RPS could be deemed constitutional under existing dormant Commerce Clause doctrine).
34. See Nathan Endrud, *State Renewable Portfolio Standards: Their Continued Validity and Relevance in Light of the Dormant Commerce Clause, the Supremacy Clause, and Possible Federal Legislation*, 45 HARV. J. ON LEGIS. 259, 270, 280 (2008).
35. See Kelly, *supra* note 31, at 773; Weissman, *supra* note 31, at 360.
36. Cal. Pub. Utils. Comm'n., 133 FERC ¶ 61,059 (Oct. 20, 2010).

rate does not exceed the avoided cost for these renewables.³⁷ Through these requirements, FERC not only pays homage to states' historic sovereignty over fuel choice³⁸ but also acts the part of matchmaker for state-level feed-in tariffs and renewable portfolio standards, requiring state policymakers to adopt a portfolio standard in order to use their PURPA authority to set effective, yet preemption-proof feed-in tariff rates.³⁹

In exchange for this renewable portfolio standard-induced shield against preemption, feed-in tariffs allow states to capture the economic benefits of renewable energy in-state to a degree that a state renewable portfolio standard could not without raising concerns under the dormant Commerce Clause. That is because PURPA's geographically limited jurisdictional grant creates an implicit location requirement for renewable power generators to operate in close proximity to local in-state networks. After all, a PURPA-based, state-level feed-in tariff can require only local, in-state utilities to grant renewable generators interconnection with local networks and to purchase their output at above-market rates. In a renewable portfolio standard, an express location requirement of this sort would most certainly be held to violate the dormant Commerce Clause. When it derives naturally from a PURPA-based feed-in tariff's geographically limited scope of application, however, such an implicit location requirement offers state policymakers a constitutionally sound strategy for ensuring that state policy-induced renewable energy deployment, along with the associated job creation and other economic benefits, occurs within the state.⁴⁰

This Article proceeds in five Parts. Part One offers a short primer on renewable portfolio standards and feed-in tariffs. Part Two surveys recent Commerce Clause litigation over the constitutionality of state-level renewable portfolio standards and assesses their vulnerability to constitutional challenges. Part Three surveys recent Supremacy Clause challenges to state-level feed-in tariffs and develops their constitutional risk profile. Part Four pushes back against the literature's longstanding view that renewable portfolio standards and feed-in tariffs represent mutually exclusive policy alternatives and draws on recent FERC precedent to argue that both policies should, in fact, be jointly implemented to more effectively advance global and local environmental and economic interests alike—at an overall lower risk of constitutional challenges than either policy alone. Part Five explores normative implications of the proposed solution for state leadership in climate and clean energy policy.

37. See *id.* at 61,267.

38. See Mary Ann Ralls, *Congress Got It Right: There's No Need to Mandate Renewable Portfolio Standards*, 27 ENERGY L. J. 451, 454 (2008); Jim Rossi, *The Limits of a National Renewable Portfolio Standard*, 42 CONN. L. REV. 1425, 1448 (2010). See also *infra* Part II.B.1

39. See *infra* Part III.B.3.

40. See *infra* Part IV.

I. RENEWABLE PORTFOLIO STANDARDS AND FEED-IN TARIFFS: A PRIMER

Renewable portfolio standards and feed-in tariffs both aim to promote the deployment of low-carbon, renewable energy generation infrastructure but each policy employs different means to achieve their common objective. Where portfolio standards rely on the market's invisible hand to determine the value of renewable electricity, feed-in tariffs require regulators to set the appropriate rates for renewable power.⁴¹ These and other design characteristics and differences not only shape each policy's political appeal but also affect its constitutional risk profile. To better appreciate this dynamic relationship, this section seeks to provide a working knowledge of each policy's principal features.

A renewable portfolio standard, also known as a renewable target or quota obligation, requires electric utility companies to source a certain share of the electricity they sell to end-users from renewable sources of energy.⁴² Utilities prove their compliance with these requirements through "renewable energy credits" ("RECs").⁴³ Power plant operators normally receive one such credit for every megawatt hour ("MWh") of electricity generated from renewable resources.⁴⁴ Non-utility power generators, also known as independent power producers, can sell their RECs to utilities in order to receive a premium on top of their income from power sales in the wholesale electricity market. Utilities subject to a renewable portfolio standard's sourcing requirements can also invest in their own renewable power generation facilities to earn RECs for the electricity they produce. Whether utilities choose to earn their own credits or purchase them from others, they eventually pass the associated costs on to their ratepayers.⁴⁵ Many portfolio standards are technology-neutral and award the same amount of credits for all eligible renewable energy technologies. More and more jurisdictions, however, implement technology-specific renewable portfolio standards, that offer carve-outs or credit multipliers for select renewable energy technologies⁴⁶ and project size and location.⁴⁷ In 1983, Iowa became the first

41. See Felix Mormann, *Re-Allocating Risk: The Case for Closer Integration of Price- and Quantity-Based Support Policies for Clean Energy*, 27 *THE ELEC. J.* 9, 13 (2014).

42. See Reinhard Haas et al., *A Historical Review of Promotion Strategies for Electricity from Renewable Energy Sources in EU Countries*, 15 *RENEWABLE & SUSTAINABLE ENERGY REVIEWS* 1003, 1011–12 (2011); MIGUEL MENDONÇA ET AL., *POWERING THE GREEN ECONOMY—THE FEED-IN TARIFF HANDBOOK* 161 (2009).

43. Haas et al., *supra* note 42, at 1014; MENDONÇA ET AL., *supra* note 42, at 161. Internationally, renewable energy credits are also referred to as Tradable Green Certificates or Renewable Energy Guarantees of Origin.

44. See Lincoln L. Davies, *Power Forward: The Argument for a National RPS*, 42 *CONN. L. REV.* 1340, 1359, 1378 (2010) (reporting that some states award RECs for every kWh of renewable electricity generation).

45. See *id.* at 1410.

46. See, e.g., *infra* note 169 and accompanying text.

47. See, e.g., *infra* note 170 and accompanying text.

state in the union to adopt a renewable portfolio standard.⁴⁸ Today, twenty-nine states, the District of Columbia, and three U.S. territories have adopted portfolio standards to promote the deployment of renewable energy technologies.⁴⁹ International adopters of renewable portfolio standards include Australia, Belgium, Sweden, and the United Kingdom.⁵⁰

Feed-in tariffs are two-pronged policy instruments for the promotion of renewables deployment.⁵¹ The “feed-in” prong guarantees renewable power generators access to their local power grid in order to ensure viable sales and distribution channels for their electricity. The “tariff” prong requires local electric utilities to purchase the power output of these generators at above-market rates that are designed to cover the generator’s cost and offer a reasonable return on investment.⁵² These rates can be set as a fixed total price for electricity from renewables, a premium to be paid in addition to the market price, or a percentage of retail rates.⁵³ While renewable portfolio standards let the market determine trading prices for RECs and, hence, the overall value of renewable electricity, feed-in tariffs require regulators to set tariff rates at a level that is high enough to effectively incentivize investment in renewable power generation without offering windfall profits.⁵⁴ Like portfolio standards, feed-in tariffs pass the costs of premium payments for renewable energy onto ratepayers.⁵⁵

48. See Davies, *supra* note 44, at 1357.

49. See N.C. Clean Energy Tech. Ctr., *Renewable Portfolio Standard Policies* (2016), <https://perma.cc/2JVN-WKT8>. Eight more states and one U.S. territory have adopted non-binding goals for the deployment of renewables. See *id.* For a discussion of the history and political background of state renewable portfolio standards, see Barry Rabe, *Race to the Top: The Expanding Role of U.S. State Renewable Portfolio Standards*, 7 SUSTAINABLE DEV. L. & POL’Y 10, 10 (2007).

50. See MENDONÇA ET AL., *supra* note 42, at 150; INT’L ENERGY AGENCY, *DEPLOYING RENEWABLES—PRINCIPLES FOR EFFECTIVE POLICIES* 94 (2008).

51. Wilson H. Rickerson et al., *If the Shoe FITs: Using Feed-in Tariffs to Meet U.S. Renewable Electricity Targets*, 20 THE ELEC. J. 73, 73 (2007). For a detailed description of the various feed-in tariff design elements, see MENDONÇA ET AL., *supra* note 42, at 15.

52. The first-ever feed-in tariff in the United States, implemented with great success by the municipality of Gainesville, Florida, was designed to offer a return on investment of 5–6%. See KARLYNN CORY ET AL., NAT’L RENEWABLE ENERGY LAB., *FEED-IN TARIFF POLICY: DESIGN, IMPLEMENTATION, AND RPS POLICY INTERACTIONS* (2009), <https://perma.cc/XSE7-EX5Z>. The duration of the utility’s purchase obligation under a feed-in tariff ranges from eight years in Spain to fifteen years in France to twenty years in Germany, see Dominique Finon, *Pros and Cons of Alternative Policies Aimed at Promoting Renewables*, 12 EIB PAPERS 110, 115 (2007).

53. The second option is sometimes referred to as a “feed-in premium” or “premium feed-in tariff,” see MENDONÇA ET AL., *supra* note 42, at 40. For an example of the retail rate percentage option, see, e.g., Lucy Butler & Karsten Neuhoff, *Comparison of Feed-in Tariff, Quota and Auction Mechanisms to Support Wind Power Development*, 33 RENEWABLE ENERGY 1854, 1855 (2008). Unless expressly stated otherwise, this Article refers to all of these options uniformly as feed-in tariffs.

54. MENDONÇA ET AL., *supra* note 42, at 19.

55. *Id.* at 29.

Feed-in tariffs are usually technology-specific offering different tariff rates for different strands of renewable energy technologies based on their respective technological maturity and generation costs.⁵⁶ In addition, feed-in tariff design can be size-sensitive so as to account for the different cost structures of utility-scale and distributed generation.⁵⁷ Historically, feed-in tariffs have been particularly popular in European countries such as Denmark, Germany, Portugal, and Spain.⁵⁸ Recent U.S. adopters of feed-in tariff programs to promote renewables include California,⁵⁹ Hawaii,⁶⁰ Maine,⁶¹ Oregon,⁶² Rhode Island,⁶³ Vermont,⁶⁴ and Washington.⁶⁵

II. CONSTITUTIONAL CHALLENGES TO STATE RENEWABLE PORTFOLIO STANDARDS

A number of state renewable portfolio standards have recently come under attack for alleged violations of the Constitution. Recent litigation reveals the Commerce Clause as the most common grounds for constitutional challenges (*infra* Section A.) and provides the canvas on which to sketch a constitutional risk profile for state-level portfolio standard policies (*infra* Section B.). Unlike state feed-in tariffs,⁶⁶ the current generation of state renewable portfolio standards does not raise preemption issues under the Constitution's Supremacy Clause.⁶⁷

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56. *Id.* at 26. For an example of cost reductions through technology learning in solar photovoltaics and onshore wind energy, see INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, SPECIAL REPORT RENEWABLE ENERGY SOURCES—SUMMARY FOR POLICYMAKERS 12 (2011).
57. MENDONÇA ET AL., *supra* note 42, at 27.
58. See INT'L ENERGY AGENCY, *supra* note 50, at 94. For further background, see generally David Grinlinton & LeRoy Paddock, *The Role of Feed-in Tariffs in Supporting the Expansion of Solar Energy Production*, 41 U. TOL. L. REV. 943 (2010). More recently, many jurisdictions outside of Europe have adopted FITs to promote renewable energy, including the Canadian province of Ontario, South Africa, Kenya, the Indian states West Bengal, Rajasthan, Gujarat, and Punjab, as well as Australia's Capital Territory, New South Wales, and South Australia. See MENDONÇA ET AL., *supra* note 42, at 77.
59. See CAL. PUB. UTIL. CODE § 399.20 (West 2017).
60. See Decisions and Orders, Docket 2008-0273, Haw. Pub. Util. Comm'n (2008), <https://perma.cc/E835-EVXC>.
61. See ME. REV. STAT. ANN. tit. 35-A, § 3603 (West 2016).
62. See OR. REV. STAT. ANN. § 757.365 (West 2016) and implementing Orders 10-198, 10-200, 11-339 by the Oregon Public Utilities Commission.
63. See 39 R.I. GEN. LAWS ANN. § 39-26.1, 39-26.2 (West 2016).
64. See VT. STAT. ANN. tit. 30, § 8005a (West 2016).
65. See WASH. REV. CODE ANN. § 82.16.110 (West 2016), WASH. ADMIN. CODE 458-20-273 (West 2016).
66. See *infra* Part III.
67. See, e.g., Steven Ferrey, *Solving the Multimillion Dollar Constitutional Puzzle Surrounding State "Sustainable" Energy Policy*, 49 WAKE FOREST L. REV. 121, 182 (2014) ("Renewable

The Constitution's Commerce Clause has long played a pivotal part in determining the proper allocation and exercise of state and federal authority related to environmental⁶⁸ and energy⁶⁹ policy and regulation. The ability of states to serve as laboratories of democracy⁷⁰ and sustainability through climate and clean energy policy innovation is constrained by the Constitution's Commerce Clause. In pertinent part, the Commerce Clause states that "Congress shall have Power . . . [t]o regulate Commerce . . . among the several States."⁷¹ While this affirmative grant of authority to Congress⁷² imposes no express limi-

portfolio standards at the state level do not raise constitutional Supremacy Clause issues but in the design of some state programs raise dormant commerce clause issues."); Harvey Reiter, *Removing Unconstitutional Barriers to Out-of-State and Foreign Competition from State Renewable Portfolio Standards: Why the Dormant Commerce Clause Provides Important Protection for Consumers and Environmentalists*, 36 ENERGY L.J. 45, 66 (2015) ("Neither the Public Utilities Regulatory Policies Act (PURPA) . . . nor the Federal Power Act (FPA) . . . preempts states from favoring renewable resources over conventional fossil fuel generation.").

68. See, e.g., *Or. Waste Sys., Inc. v. Dep't of Env'tl. Quality*, 511 U.S. 93, 108 (1994) (invalidating Oregon statute imposing extra fee on import of out-of-state waste for disposal); *C & A Carbone, Inc. v. Town of Clarkstown*, 511 U.S. 383, 385–86 (1994) (invalidating municipal flow control ordinance mandating solid waste to be processed at designated transfer station before leaving municipality); *Chem. Waste Mgmt., Inc. v. Hunt*, 504 U.S. 334, 346–348 (1992) (invalidating Alabama statute imposing extra fee on import of out-of-state hazardous waste for disposal); *Fort Gratiot Sanitary Landfill, Inc., v. Mich. Dep't of Nat. Res.*, 504 U.S. 353, 367–68 (1992) (invalidating Michigan statute prohibiting landfill operators from accepting waste from other counties); *Maine v. Taylor*, 477 U.S. 131, 151 (1986) (upholding Maine statute banning import of live baitfish from out-of-state); *Sporhase v. Nebraska*, 458 U.S. 941, 960 (1982) (invalidating Nebraska statute's reciprocity requirement for out-of-state use of Nebraska groundwater); *Hughes v. Oklahoma*, 441 U.S. 322, 338 (1979) (invalidating Oklahoma statute prohibiting out-of-state export of minnows taken from in-state waters); *City of Philadelphia v. New Jersey*, 437 U.S. 617, 629 (1978) (invalidating New Jersey statute banning the import of solid waste). See also Christine A. Klein, *The Environmental Commerce Clause*, 27 HARV. ENVTL. L. REV. 1, 44 (2003).
69. See, e.g., *New Energy Co. of Indiana v. Limbach*, 486 U.S. 269, 280 (1998) (invalidating Ohio statute reserving state-issued tax credits for ethanol to ethanol produced in-state or in states offering tax credits for Ohio-produced tax credits); *Wyoming v. Oklahoma*, 502 U.S. 437, 458 (1992) (invalidating Oklahoma statute requiring in-state utilities to burn a minimum share of local coal); *New England Power Co. v. New Hampshire*, 455 U.S. 331, 344 (1982) (invalidating New Hampshire statute restricting out-of-state exports of hydropower); *All. for Clean Coal v. Miller*, 50 F.3d 591, 596–97 (7th Cir. 1995) (invalidating Illinois statute requiring in-state utilities to consider local coal industry in developing Clean Air Act compliance plans while granting full rate recovery for scrubbers in plants burning Illinois coal); *All. for Clean Coal v. Bayh*, 72 F.3d 556, 560–61 (7th Cir. 1995) (invalidating Indiana statute on commerce clause grounds).
70. See *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting).
71. U.S. CONST. art. I, § 8, cl. 3.
72. Over the years, different courts have interpreted the scope of the Commerce Clause's affirmative grant of authority differently. See, e.g., *Heart of Atlanta Motel, Inc. v. United States*, 379 U.S. 241, 258 (1964) (recognizing Congress's authority under the Commerce Clause to enact the public accommodations provisions of the Civil Rights Act of 1964 that prohibit

tation on state authority, the Commerce Clause “has long been understood to have a ‘negative’ aspect that denies the States the power unjustifiably to discriminate against or burden the interstate flow of articles of commerce.”⁷³ This “negative” or “dormant” corollary dominated the first century of Commerce Clause cases before the Supreme Court.⁷⁴ The Court continues to interpret the dormant Commerce Clause to prohibit “economic protectionism” in the form of “regulatory measures designed to benefit in-state economic interests by burdening out-of-state competitors.”⁷⁵

Just as “the Framers’ distrust of economic Balkanization was limited by their federalism favoring a degree of local autonomy,”⁷⁶ so, too, is the dormant Commerce Clause’s denial of state authority limited. Where state regulation discriminates against interstate commerce on its face, in its purpose, or in its practical effect, it is subject to strict scrutiny and will be held virtually per se unconstitutional unless the state can demonstrate that its regulation serves a legitimate local purpose and this purpose can not be served as well by available nondiscriminatory means.⁷⁷

One important exception to the dormant Commerce Clause jurisprudence’s general ban on inter-state discrimination is the market participant doctrine. Under this doctrine, where a state or local government enters and participates in the relevant market, say by owning or funding the enterprise

racial discrimination by motels serving interstate travelers); *Wickard v. Filburn*, 317 U.S. 111, 128–29 (1942) (acknowledging Congress’s Commerce Clause authority to regulate, through the Agricultural Act of 1938, wheat grown and consumed on the same farm based on the substantial effect of such home-growing activities in defeating and obstructing the Act’s purpose to stimulate inter-state trade in wheat). For examples of more restrictive interpretation, see, e.g., *United States v. Morrison*, 529 U.S. 598, 613 (2000) (holding that Congress did not have Commerce Clause authority to enact the Violence Against Women Act because gender-motivated crimes of violence do not constitute economic activity); *United States v. Lopez*, 514 U.S. 549, 560–61 (1995) (holding that the Gun-Free School Zones Act exceeded Congress’s Commerce Clause authority because possession of a gun in a local school zone does not constitute economic activity substantially affecting interstate commerce).

73. *Or. Waste Sys., Inc. v. Dep’t of Env’tl. Quality*, 511 U.S. 93, 98 (1994) (citing *Wyoming v. Oklahoma*, 502 U.S. 437, 454 (1992); *Welton v. Missouri*, 91 U.S. 275 (1876)).
74. See, e.g., *Willson v. Black-Bird Creek Marsh Co.*, 27 U.S. 245, 252 (1829) (holding that a Delaware act authorizing construction of a dam on the Delaware River was not “repugnant to the power to regulate commerce in its dormant state”). See also Kalen, *supra* note 33, at 387; Klein, *supra* note 68, at 23, 44.
75. *W. Lynn Creamery, Inc. v. Healy*, 512 U.S. 186, 192–93 (1994) (citing *New Energy Co. of Ind. v. Limbach*, 486 U.S. 269, 273–74 (1988)).
76. *Dep’t of Revenue of Ky. v. Davis*, 553 U.S. 328, 338 (2008) (citing THE FEDERALIST NOS. 7, 11 (Alexander Hamilton), NOS. 42, 51 (James Madison); *Garcia v. San Antonio Metropolitan Transit Auth.*, 469 U.S. 528, 546 (1985)).
77. See *Maine v. Taylor*, 477 U.S. 131, 138 (1986) (citing *Hughes v. Oklahoma*, 441 U.S. 322 (1979)).

receiving preferential treatment through state regulation, such regulation does not run afoul of the dormant Commerce Clause.⁷⁸

If a state regulates even-handedly in pursuit of a legitimate local public interest, and its effects on interstate commerce are only incidental, the pertinent regulation will be upheld unless courts find the burden imposed on such commerce to be clearly excessive in relation to the putative local benefits.⁷⁹ A state law that does not discriminate against out-of-state entities may nevertheless be found to violate the dormant Commerce Clause if it effectively controls conduct beyond that state's boundaries.⁸⁰ Under the Commerce Clause's extraterritoriality doctrine, courts generally apply strict scrutiny and strike down state laws that have the practical effect of regulating commerce occurring wholly outside the regulating state's borders.⁸¹

A. Recent Litigation over State Renewable Portfolio Standards

State-level renewable portfolio standards are under sustained and systematic attack for violations of the dormant Commerce Clause from a remarkably diverse potpourri of plaintiffs. Not surprisingly, mining interests worried about sinking demand for coal and other fossil fuels in an increasingly renewables-fueled energy economy lead the charge in several states.⁸² Elsewhere, large in-state electricity customers attack local state portfolio standards driven by fear of rising power prices as the result of the state's commitment to renewable energy.⁸³ Electric utilities, too, challenge local renewable portfolio standards in an

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78. See *Dep't of Revenue of Ky.*, 553 U.S. 328, 339 (2008); *United Haulers Ass'n, Inc. v. Oneida-Herkimer Solid Waste Mgmt. Auth.*, 550 U.S. 330, 362 (2007); *White v. Mass. Council of Constr. Emp'rs, Inc.*, 460 U.S. 204, 207 (1983); *Reeves, Inc. v. Stake*, 447 U.S. 429, 436 (1980); *Hughes v. Alexandria Scrap Corp.*, 426 U.S. 794, 807–08 (1976).
 79. See *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 142 (1970) (citing *Huron Portland Cement Co. v. City of Detroit*, 362 U.S. 440, 443 (1960)). For an instructive sample application of the *Pike* balancing test, see *Kassel v. Consol. Freightways Corp. of Delaware*, 450 U.S. 662, 678–79 (1981) (invalidating Iowa law banning the use of sixty-five-foot double-trailer trucks within the state due to safety benefits found insufficient to overcome the imposed burden on interstate commerce).
 80. See *Healy v. Beer Inst., Inc.*, 491 U.S. 324, 336 (1989) (citing *Brown-Forman Distillers Corp. v. New York State Liquor Auth.*, 476 U.S. 573, 579 (1986) (“The critical inquiry is whether the practical effect of the regulation is to control conduct beyond the boundaries of the State.”)).
 81. See *Healy*, 491 U.S. at 337. See also Alexandra B. Klass & Elizabeth Henley, *Energy Policy, Extraterritoriality, and the Dormant Commerce Clause*, 5 SAN DIEGO J. CLIMATE & ENERGY L. 127, 142–48 (2014) (distinguishing between the Supreme Court's line of price-affirmation and business cases and its line of transportation cases related to the extraterritoriality doctrine).
 82. See challenges to the renewable portfolio standards of Colorado (*infra* notes 94–103 and accompanying text) and Minnesota (*infra* notes 109–116 and accompanying text).
 83. For example, Missouri's renewable portfolio standard has faced several challenges. See *infra* notes 104–108 and accompanying text.

apparent attempt to protect their own generation assets against competition from incoming renewable power generators.⁸⁴ Notwithstanding their differing motives, all of these plaintiffs seek to use the dormant Commerce Clause to shut down, rather than expand, emerging state markets for renewable energy. Truer to the Clause's anti-protectionist and pro-competitive thrust, some electric utilities⁸⁵ as well as generators⁸⁶ and manufacturers⁸⁷ within the renewables industry challenge the constitutionality of state portfolio standards in order to open up the respective state's renewable energy market to out-of-state firms.

In spring of 2010, TransCanada Power Marketing, seeking to sell hydro-power into Massachusetts, challenged the Commonwealth's renewable portfolio standard alleging that its solar carve-out for in-state distributed generation and its in-state eligibility requirements for long-term utility purchase agreements over renewable electricity violated the Constitution's dormant Commerce Clause.⁸⁸ TransCanada and the state of Massachusetts eventually settled the case, granting the plaintiff its desired access to the Commonwealth's power market while avoiding a judgment on the constitutionality of the state's renewable portfolio standard.⁸⁹ Prompted by the lawsuit, Massachusetts amended the underlying statute to suspend⁹⁰ and, eventually, repeal⁹¹ the portfolio standard's in-state eligibility requirements for long-term utility purchase agreements over renewable electricity. The solar carve-out for in-state distributed generation, however, remains in place.⁹²

In 2011, American Tradition Institute ("ATI")⁹³ filed suit in federal court alleging that Colorado's renewable portfolio standard violated the dormant

84. *See id.*

85. *See* challenges to the RPSs of California (*infra* notes 117–127 and accompanying text) and Missouri (*infra* notes 104–108 and accompanying text).

86. *See* challenges to the Massachusetts RPS (*infra* notes 88–91 and accompanying text).

87. *See* challenges to the Delaware RPS (*infra* notes 128–132 and accompanying text).

88. *See* Complaint at 3–17, *TransCanada Power Marketing LTD v. Bowles*, CA (2010) (No. 4:10cv-40070-FDS).

89. *See Transcanada Renewable Lawsuit Scores a Win in MA*, CLIMATE LAWYERS BLOG (June 11, 2010), <http://perma.cc/F2LV-EJ7Q>.

90. Order Adopting Emergency Regulations, Decision No. 10-58 (Mass. Dep't of Pub. Utils. June 9, 2010), <https://perma.cc/U3T8-NLE2> (striking the words "within the Commonwealth of Massachusetts, its waters and adjacent federal waters" from its regulations at 220 MASS. CODE REGS. 17.01(1) (2009) and "in the Commonwealth of Massachusetts" from 220 MASS. CODE REGS.17.05(1)(c)(4) (2009)).

91. Order Adopting Final Regulations, Decision No. 10-58-A (Mass. Dep't of Pub. Utils. Aug. 20, 2010), <https://perma.cc/HJ5V-95NW>.

92. *See* 225 MASS. CODE REGS. 14.05(4)(a) (2016) ("The Solar Carve-out Renewable Generation Unit must use solar photovoltaic technology, be used on-site, located in the Commonwealth of Massachusetts, and be interconnected with the electric grid.").

93. Originally launched in Colorado in early 2009 as the Western Tradition Institute, the ATI describes itself as a public policy research and educational foundation. Tax filings suggest financial support by oil, gas, and coal interests. *See* AM. TRADITION INST., DESMOG:

Commerce Clause for a number of reasons.⁹⁴ ATI's most fundamental attack claimed that Colorado's mandate that 30% of the state's retail electricity sales must come from renewable sources by 2020⁹⁵ violated the dormant Commerce Clause by limiting the sales of electricity generated from sources that participate in the interstate retail electricity market and by discriminating in favor of Colorado.⁹⁶ ATI's more targeted attacks aimed at Colorado's Tradable Renewable Energy Credits Limitation Program, Standard Rebate Offer Program, Recovery of Cost Incentives Program, and Retail Rate Impact Rule.⁹⁷ In its earlier complaints, ATI also attacked several provisions within the Colorado portfolio standard that offered credit multipliers to certain classes of generators if they were located within the state.⁹⁸ Before a decision on the merits, the Colorado legislature responded to ATI's lawsuit by amending the underlying statute to eliminate all in-state location preferences.⁹⁹

On summary judgment, the District Court ruled against ATI, now calling itself Energy and Environment Legal Institute ("EELI"), holding that Colorado's renewable portfolio standard did not violate the dormant Commerce Clause.¹⁰⁰ The court held that the mandate—in its revised post-2013 form—does not impermissibly control wholly out-of-state commerce because it does not affect commerce unless and until an out-of-state electricity generator freely chooses to do business with a Colorado utility.¹⁰¹ The court went on to hold that the shift from fossil fuel-fired electricity generation to low-carbon renewable generation effectuated by the Colorado renewable portfolio standard does not constitute an excessive burden on interstate commerce.¹⁰² On appeal, the Tenth Circuit affirmed the District Court's decision.¹⁰³

Also in 2011, a group of large electricity customers and electric utility companies filed suit in Missouri state court alleging a dormant Commerce Clause violation through regulations that accepted only bundled RECs, i.e., credits traded together with the electricity for which they were issued, as proof

CLEARING THE PR POLLUTION THAT CLOUDS CLIMATE SCIENCE (2016), <http://perma.cc/NG22-N5X9>.

94. See *Am. Tradition Inst. v. Colorado*, 876 F. Supp. 2d 1222, 1227–28 (D. Colo. 2012).

95. See COLO. REV. STAT. § 40-2-124(1)(c)(I)(E) (2010).

96. See *Am. Tradition Inst.*, 876 F. Supp. 2d at 1227–28.

97. See *id.* at 1228.

98. See Amended Complaint for Declaratory Relief, at ¶¶ 70, 72, 74, *Am. Tradition Inst. v. Colorado*, No. 1:11-cv-00859-WJM-KLM (D. Colo. Apr. 22, 2011).

99. See 2013 Colo. Legis. Serv. Ch. 414 (S.B. 13-252) (2013).

100. See *Energy & Env't Legal Inst. v. Epel*, 43 F. Supp. 3d 1171 (D. Colo. 2014).

101. See *id.* at 1179.

102. See *id.* at 1183 (citing *Exxon Corp. v. Governor of Maryland*, 437 U.S. 117, 127 (1978)).

103. See *Energy & Env't Legal Inst. v. Epel*, 793 F.3d 1169 (10th Cir. 2015), *cert. denied*, 136 S. Ct. 595 (2015).

of compliance with the state's renewable portfolio standard.¹⁰⁴ The court avoided the Commerce Clause challenge by striking the regulation for lack of the public service commission's authority to include a bundling requirement in its regulations that was not considered in the enabling legislation for Missouri's renewable portfolio standard.¹⁰⁵ One year later, plaintiffs reiterated their arguments regarding the regulations' alleged violation of the dormant Commerce Clause on appeal.¹⁰⁶ Plaintiffs also voiced concerns over the portfolio standard's impact on electricity rates.¹⁰⁷ But the appellate court considered the challenge moot given that the public service commission had, in the meantime, withdrawn the controversial provisions before its regulation entered into force.¹⁰⁸

In late 2011, the state of North Dakota and several coal companies filed suit in federal court alleging, among other things, that Minnesota's Next Generation Energy Act ("NGEA") violates the dormant Commerce Clause.¹⁰⁹ Breaking with previously observed litigation patterns, North Dakota's challenge does not target the NGEA's provisions related to the Minnesota renewable portfolio standard's positive sourcing mandate that 25% of the state's energy consumption come from renewables by 2025.¹¹⁰ Instead, North Dakota and its co-plaintiffs attack the NGEA's "negative" sourcing mandate that "no person shall . . . import or commit to import from outside the state power from a new large energy facility that would contribute to statewide power sector carbon dioxide emissions; or . . . enter into a new long-term power purchase agreement that would increase statewide power sector carbon dioxide emissions."¹¹¹ The NGEA defines "statewide power sector carbon dioxide emissions" to include "all emissions of carbon dioxide from the generation of electricity imported from outside the state and consumed in Minnesota."¹¹²

The District Court found that the pertinent provisions of the NGEA violate the dormant Commerce Clause because they constitute impermissible extraterritorial regulation.¹¹³ As electricity entering the near boundary-less grid

104. State, ex rel. Mo. Energy Dev. Ass'n v. Pub. Serv. Comm'n, Nos. 10AC-CC00511, 10AC-CC00512, 10AC-CC00513, 10AC-CC00528, 10AC-CC536, Doc. No. SL01DOCS\3510904.2 (Mo. Ct. App. June 29, 2011).

105. See *id.* at 12 (citing Mo. Rev. Stat. § 393.1030.1 (2012)) (allowing utilities to comply with the state renewable portfolio standard in whole or in part by purchasing renewable energy credits.).

106. State, ex rel. Mo. Energy Dev. Ass'n v. Pub. Serv. Comm'n, 386 S.W.3d 165, 175 (Mo. Ct. App. 2012).

107. See *id.* at 170.

108. See *id.* at 176 (citing 4 CSR 240-20.100 (2)(A) and (2)(B)(2)).

109. North Dakota v. Swanson, CIV. 11-3232 SRN/SER, 2012 WL 4479246 (D. Minn. 2012).

110. MINN. STAT. § 216C.05, subdiv. 2(2) (2010).

111. MINN. STAT. § 216H.03, subdiv. 3(2), (3) (2010).

112. MINN. STAT. § 216H.03, subdiv. 2 (2010).

113. See North Dakota v. Heydinger, 15 F. Supp. 3d 891, 916, 919 (D. Minn. 2014). See also David M. Driesen, *Must the States Discriminate Against Their Own Producers Under the Dor-*

becomes indistinguishable from the rest of the electricity in the grid, the court found, the NGEA effectively requires out-of-state parties to conduct their out-of-state business according to Minnesota law.¹¹⁴ In addition, the NGEA was found to improperly require non-Minnesota merchants to seek regulatory approval before undertaking transactions with other non-Minnesota entities.¹¹⁵ On appeal, the Eighth Circuit affirmed the District Court's decision.¹¹⁶

In early 2012, Public Utility District No. 1 of Washington's Cowlitz County ("Cowlitz") filed an application for rehearing before the California Public Utilities Commission, alleging that the three-tiered structure of California's renewable portfolio standard and the Commission's implementing regulations violate the dormant Commerce Clause.¹¹⁷ One year earlier, SB 2 (1X)¹¹⁸ had restructured California's renewable energy sourcing requirements into three separate tiers.¹¹⁹ Category One encompasses energy and RECs delivered to a California balancing authority without substituting electricity from another source. Category Two includes energy and credits that cannot be delivered to a California balancing authority without substituting electricity from another source. Category Three applies to unbundled renewable energy credits and credits that do not meet the conditions for the previous two categories.¹²⁰ California's revised renewable portfolio standard requires that its sourcing requirements be met primarily with transactions that fall into Category One.¹²¹

Cowlitz alleged that the revised three-tiered structure makes it more difficult for utilities to use renewable energy imported from out-of-state generators to comply with California's portfolio standard. As an out-of-state developer of wind projects and exporter of wind-generated electricity to California, Cowlitz argued that California's three-tiered sourcing structure caused it to lose a con-

mant Commerce Clause?, 54 Hous. L. Rev. 1 (2016) (using the District Court's *Heydinger* decision as the basis for developing novel rationales for extraterritorial regulation that should not run afoul of the dormant Commerce Clause).

114. *See id.* at 918.

115. *See id.* at 918–19 (citing *Healy v. Beer Inst., Inc.*, 491 U.S. 324 (1989)).

116. *North Dakota v. Heydinger*, 825 F.3d 912, 923 (8th Cir. 2016). Interestingly, only one of the three appellate judges found the NGEA to violate the dormant Commerce Clause, with the remaining two affirming the district court's decision based on a finding that the NGEA's negative sourcing mandate was subject to preemption by the FPA. One of the latter two further found the NGEA's negative sourcing mandate to be preempted by the Clean Air Act.

117. Application of Public Utility District No. 1 of Cowlitz County for Rehearing of Decision 11-12-052 (Jan. 20, 2012), <https://perma.cc/3G7V-VGVC>.

118. 2011 Cal. Legis. Serv. 1st Ex. Sess. Ch. 1 (S.B. 2) (West), <https://perma.cc/S5A3-9E6C>.

119. CAL. PUB. UTIL. CODE § 399.16(b) (2011).

120. *See id.* § 399.16(b)(1).

121. California's RPS mandates that the share of Category One transactions to meet the required share of renewable electricity rise from at least 50% in 2011 to a minimum of 75% starting in 2017. *See id.* § 399.16(c)(1).

tract to supply wind energy to California's Pacific Gas & Electric.¹²² Cowlitz claimed that the three-tiered renewable portfolio standard violates the dormant Commerce Clause because its practical effect is to discriminate against out-of-state generators.¹²³ Category One's requirement to deliver eligible energy to the California balancing authority was alleged to grant preferential treatment to in-state generators at the expense of out-of-state generators who are less likely to comply with the delivery requirement.¹²⁴ Similarly, Cowlitz alleged that the bundling requirement for RECs and other requirements for Category Two discriminate against out-of-state generators and violate the dormant Commerce Clause.¹²⁵

The California Public Utilities Commission denied Cowlitz' application for rehearing citing the county's failure to demonstrate that California's three-tiered renewable portfolio standard facially or practically discriminates against out-of-state generators of renewable electricity because it regulates evenhandedly and does not draw a distinction or apply different rules merely because a generator is located out-of-state as opposed to in-state.¹²⁶ As an aside, the Commission noted that the three-tiered structure of the state's renewable portfolio standard would also pass constitutional muster under the *Pike* balancing test.¹²⁷

In summer of 2012, FuelCell Energy, a Connecticut-based manufacturer of fuel cells, filed suit in federal court alleging that the 2011 Amendments to the statute implementing Delaware's renewable portfolio standard¹²⁸ violated the Constitution's dormant Commerce Clause and Equal Protection Clause.¹²⁹ The Amendments had added energy from fuel cells to the types of power generation eligible for credit-earning compliance with the state's sourcing mandate provided that the fuel cell-powered generation facility is "located in Delaware."¹³⁰ In addition, the underlying statute, as amended, requires that such a facility be owned and/or operated by an entity that "manufactures fuel cells in Delaware" and that state authorities designate as an "economic development

122. See Application of Public Utility District No. 1, *supra* note 117, at 5.

123. See *id.* at 11.

124. See *id.* at 10.

125. See *id.* at 17.

126. See Order Denying Applications for Rehearing of Decision 11-12-052, Cal. Pub. Utils. Comm'n (Nov. 1, 2013), <https://perma.cc/J928-BC5T>.

127. *Id.* at 16 n.12.

128. See 26 DEL. CODE §§ 351-64 (2016).

129. See *Nichols v. Markell*, No. CV 12-777-CJB, 2014 WL 1509780, at *22-25 (D. Del. 2014). The suit of the named plaintiff Nichols, a Delaware ratepayer, was dismissed for lack of standing. *Id.* at *25.

130. 26 DEL. CODE § 352(17) (2016).

opportunity.”¹³¹ The case settled in late 2015 with a consent order requiring defendants to ignore the latter two—but not the first—requirements.¹³²

B. *Sketching a Constitutional Risk Profile for State Renewable Portfolio Standards*

Recent litigation¹³³ along with a growing body of pertinent literature¹³⁴ suggests that the greatest threat to state renewable portfolio standards, in terms of constitutional attacks, lies in dormant Commerce Clause challenges. The frequency and efficacy of these challenges depend in large part on the degree and modalities by which state portfolio standards seek to internalize the economic benefits derived from thus induced renewable energy deployment.

For the purposes of global climate change mitigation through greenhouse gas emission reductions, it matters little whether the solar and wind energy that displaces carbon-intensive fossil-fueled energy is generated in-state, out-of-state or even in another country.¹³⁵ Climate science indicates that the heat-trapping effect of greenhouse gases in the atmosphere manifests itself across the globe regardless of whether these gases are emitted in New York or New Delhi.¹³⁶ Location matters greatly, however, for the job creation, tax revenue, and other economic benefits associated with renewable energy deployment.¹³⁷ State policymakers and their constituents may be willing to give their neighbors and, ultimately, the rest of the world a free ride regarding the climate benefits

131. *Id.* § 352(16).

132. *See* Nichols v. Markell, No. CV 12-777-CJB, at *2–3 (D. Del. Oct. 20, 2015). Defendants also agreed to pay for FuelCell’s attorneys’ fees. *Id.* at *4.

133. *See supra* Part II.A.

134. *See, e.g.*, CAROLYN ELEFANT & EDWARD A. HOLT, CLEAN ENERGY STATES ALLIANCE, THE COMMERCE CLAUSE AND IMPLICATIONS FOR STATE RENEWABLE PORTFOLIO STANDARD PROGRAMS (2011); Endrud, *supra* note 34; Stephen Ferrey, *Threading the Constitutional Needle with Care: The Commerce Clause Threat to the New Infrastructure of Renewable Power*, 7 TEX. J. OIL GAS & ENERGY L. 59 (2012); Kalen, *supra* note 33; Alexandra B. Klass, *Climate Change and the Convergence of Environmental and Energy Law*, 24 FORDHAM ENVTL. L. REV. 180 (2013); Lee & Duane, *supra* note 33; Trevor D. Stiles, *Renewable Resources and the Dormant Commerce Clause*, 4 ENVTL. & ENERGY L. & POL’Y J. 34 (2009). For an earlier, slightly broader analysis, see Engel, *supra* note 33.

135. Other environmental benefits associated with substituting renewable energy generation for fossil-fueled power generation, such as air quality improvements and water conservation, accrue at a more local scale. *See* Mormann, *supra* note 1, at 1638 (describing the local environmental benefits associated with renewable energy).

136. *See* Massachusetts v. EPA, 549 U.S. 497, 523–24 (2007) (acknowledging that the warming effect of greenhouse gas emissions manifests itself globally regardless of their point of origin but rejecting EPA’s argument that, therefore, regulation of domestic greenhouse gas emissions would be ineffective due to projected increases in greenhouse gas emissions from China, India, and other developing nations).

137. *See, e.g.*, Engel, *supra* note 33, at 268, 274 (mourning the “hemorrhage” of economic benefits as a downside of state RPS programs).

created through their state's commitment to low-carbon renewables. But they tend to feel less generous about related opportunities for economic development.

The 2011 amendments to Delaware's renewable portfolio standard offer an illustrative example of how state policymakers use clean energy deployment as a vehicle for promoting in-state economic interests.¹³⁸ The record reveals that, prior to the amendments, Delaware officials had negotiated with a manufacturer of fuel cells to open up a factory in Delaware.¹³⁹ The amendments eventually added fuel cells to the suite of technologies eligible for compliance with the sourcing mandate, along with in-state manufacture and location requirements—all in consideration of the “associated employment and other economic benefits” expected to accrue to the state and its residents.¹⁴⁰ Such joint pursuit of global environmental interests and in-state economic interests is by no means unique to Delaware and will likely endear policymakers to their local constituents. Keeping the economic benefits of renewable energy deployment within the state's geographic boundaries, however, may require design elements that increase a state-level portfolio standard's vulnerability to dormant Commerce Clause challenges. To be sure, a locationally agnostic state renewable portfolio standard does not raise concerns under the Constitution's Commerce Clause. Expressly location-based, in-state or in-region requirements and preferences, however, bring state portfolio standards in conflict with the dormant Commerce Clause. Delivery-based and other facially neutral, functional requirements and preferences offer a less constitutionally controversial option for state renewable portfolio standards to capture some, albeit not all of the economic benefits associated with renewable energy deployment. These and other limitations on the ability of state policymakers to adopt renewable portfolio standards that internalize the economic benefits of renewables in-state have prompted widespread scholarly skepticism over the policy's constitutional viability leading a number of environmental scholars to call for reform of modern dormant Commerce Clause doctrine.

1. *Locationally Agnostic State Renewable Portfolio Standards*

State renewable portfolio standards that do not favor in-state generators or otherwise discriminate against out-of-state generators, manufacturers, or others

138. See *Nichols v. Markell*, No. CV 12-777-CJB, 2014 WL 1509780, at *1 (D. Del. Apr. 17, 2014).

139. *Id.* at *2.

140. In fact, Delaware offered several additional incentives to attract the new fuel cell manufacturing plant, including \$16.5 million from the Delaware Strategic Fund and a rent-free ground lease. *Id.*

based on their location pass constitutional muster.¹⁴¹ Historically, states have had jurisdiction over fuel choice, power generation portfolios, and resource development within their respective energy economies.¹⁴² As FERC has noted:

As a general matter, states have broad powers under state law to direct the planning and resource decisions of utilities under their jurisdiction. States may, for example, order utilities to build renewable generators themselves, or deny certification of other types of facilities if state law so permits. They also, assuming state law permits, may order utilities to purchase renewable generation.¹⁴³

The Energy Policy Act of 2005¹⁴⁴ acknowledges state sovereignty over fuel choice and generation portfolios insofar as it requires state regulators to *consider* but not to *adopt* fuel diversity standards with a diverse range of fuels and technologies, including renewables.¹⁴⁵ As further testament to pre-existing state authority to adopt renewable portfolio standards, the Act relieves state regulators of their obligation to consider these and other fuel diversity standards to the extent that they have already done so.¹⁴⁶ Finally, the Energy Policy Act of 2005 clarifies that none of its provisions prohibit states from adopting, pursuant to state law, any standard or rule for electric utilities beyond the standards enumerated therein.¹⁴⁷

2. *State Renewable Portfolio Standards with Location-Based Requirements and Preferences*

Location-based requirements and other preferences for in-state generators, manufacturers, or others come in a variety of forms. Some state renewable portfolio standards, like that of Delaware,¹⁴⁸ expressly mandate that only renewable power generation facilities located within state borders will be eligible for the

141. See, e.g., Englese, *supra* note 33, at 986 (“[S]tate renewable quotas are constitutional.”); Reiter, *supra* note 67, at 65 (“Favoring renewable generation over fossil-fueled energy sources poses no dormant Commerce Clause issue.”); *id.* at 66 (“Neither the Public Utilities Regulatory Policies Act . . . nor the Federal Power Act . . . preempts states from favoring renewable resources over conventional fossil fuel generation.”). See also Ferrey, *supra* note 67, at 182 (noting that only certain design characteristics of state RPS programs “raise dormant Commerce Clause issues”).

142. See, e.g., Mormann, *supra* note 1, at 1651; Ralls, *supra* note 38; Rossi, *supra* note 38.

143. S. Cal. Edison Co. & San Diego Gas & Elec. Co., 71 FERC ¶ 61269, 62080 (June 2, 1995).

144. Pub. L. No. 109-58, 119 Stat. 594.

145. See 16 U.S.C. § 2621(d)(12) (2012).

146. See 16 U.S.C. § 2622(d).

147. See 16 U.S.C. § 2627(b).

148. See *supra* notes 128–132 and accompanying text.

issuance of RECs for compliance with the state's sourcing mandate.¹⁴⁹ Others use credit multipliers to grant more RECs and, hence, greater value to renewable power generated in-state.¹⁵⁰ Instead of the generation facility's location, some state renewable portfolio standards afford preferential treatment to facilities constructed with in-state labor or materials manufactured in-state.¹⁵¹ Whatever their regulatory design details, such in-state requirements and preferences may improve the political appeal of a state's renewable energy sourcing requirement,¹⁵² but do so at the expense of heightened vulnerability to dormant Commerce Clause challenges. It may seem surprising that, to date, no court has issued a decision on the merits regarding the constitutionality of location-based requirements and preferences in state renewable portfolio standards. This seeming lack of judicial clarity, however, should not be misconstrued as an indication that the constitutionality of such provisions or, more precisely, the lack thereof is in serious dispute. Rather, courts have not been given opportunity to issue a substantive decision because state regulators have found ways to avoid fighting what would be a losing battle. When challenged on dormant Commerce Clause grounds, state regulators have either amended their respective renewable portfolio standards to eliminate controversial location-based in-state requirements and preferences¹⁵³ or settled the case in question so as to avoid the stigma of a judgment against their sourcing mandates.¹⁵⁴ The closest to a judgment on the merits comes in the form of a dictum from Judge Posner who, writing for the Seventh Circuit, quipped:

Michigan's first argument—that its [RPS] law forbids it to credit wind power from out of state against the state's required use of renewable energy by its utilities—trips over an insurmountable constitutional objection. Michigan cannot, without violating the commerce clause of Article I of the Constitution, discriminate against out-of-state renewable energy.¹⁵⁵

149. See, e.g., D.C. CODE §34-1432(e)(1) (2015); 20 ILL. COMP. STAT. 3855/1-75(c)(3) (2016); IND. CODE 8-1-37-12(b) (2016); 225 MASS. CODE REGS. 14.05(4)(a) (2016).

150. See, e.g., ARIZ. ADMIN. CODE § 14-2-1806(D) (2015); 26 DEL. CODE § 356(a)(1), (b)–(e) (2016); MO. REV. STAT. § 393.1030(1) (2012).

151. See, e.g., ARIZ. ADMIN. CODE § 14-2-1806(E) (2015); DEL. CODE ANN. tit. 26, § 356 (d)–(e) (2016).

152. See Englese, *supra* note 33, at 986.

153. See, e.g., Massachusetts's emergency regulation to suspend its in-state generator requirements, *supra* notes 90–91 and accompanying text; Colorado's elimination of its in-state generator requirements, *supra* note 99 and accompanying text.

154. See, e.g., Massachusetts's settlement with TransCanada, *supra* note 89 and accompanying text; Delaware's settlement with FuelCell Energy, *supra* note 132 and accompanying text.

155. Ill. Commerce Comm'n v. Fed. Energy Regulatory Comm'n, 721 F.3d 764, 776 (7th Cir. 2013).

Indeed, it seems hard to imagine a scenario in which a court asked to judge the constitutionality of a state renewable portfolio standard's location-based in-state requirements and preferences would not strike them down for violation of the dormant Commerce Clause.¹⁵⁶ Due to their facially discriminatory nature, the pertinent provisions would be subject to strict scrutiny and struck down unless the state can demonstrate that its regulation serves a compelling state interest and that this interest could not be served as well by available non-discriminatory means.¹⁵⁷ The Supreme Court has interpreted the latter "excuse" for a state's facial discrimination against interstate commerce very restrictively.¹⁵⁸ Only on one occasion was the Court persuaded that a state's facially discriminatory regulation was justified by a legitimate purpose that could not be achieved through less discriminatory measures. In that particular instance, the Court accepted Maine's regulation banning out-of-state imports of live baitfish as the least discriminatory means to protect the state's fragile fisheries from parasites and invasive species.¹⁵⁹ The Supreme Court has made it clear, however, that "[s]hielding in-state industries from out-of-state competition is almost never a legitimate local purpose, and state laws that amount to 'simple economic protectionism' consequently have been subject to a 'virtually per se rule of invalidity.'"¹⁶⁰ As illustrated by the example of Delaware's treatment of energy from fuel cells,¹⁶¹ in-state requirements and preferences in state renewable portfolio standards tend to be driven primarily by economic concerns and, hence, would not pass muster under the "legitimate purpose" test.¹⁶²

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156. See Endrud, *supra* note 34, at 270 ("[A] requirement that the renewable energy used to meet a state's RPS obligation be generated within the state itself . . . would almost certainly be struck down"); Engle, *supra* note 33, at 1009–10 ("[A] pure location requirement, requiring energy providers to obtain a certain amount of renewable energy from in-state resources, would fail under the per se test."); Ferrey, *supra* note 134, at 106 ("The state can regulate RECs, but it must not discriminate based solely on geography."); Patrick R. Jacobi, *Renewable Portfolio Standard Generator Applicability Requirements: How States Can Stop Worrying and Learn to Love the Dormant Commerce Clause*, 30 VT. L. REV. 1079, 1111 (2006) ("In-state, location-based requirements in a purely REC-based RPS are per se invalid."); Stiles, *supra* note 134, at 64 ("Any requirement that the energy used to meet the RPS threshold must be generated within the state itself would almost certainly be found to violate the Dormant Commerce Clause.").
157. See *Maine v. Taylor*, 477 U.S. 131, 138 (1986) (citing *Hughes v. Oklahoma*, 441 U.S. 322, 336 (1979)).
158. See, e.g., *Lee & Duane*, *supra* note 33, at 308 ("States rarely meet this level of scrutiny.").
159. See *Maine*, 477 U.S. at 151 ("The evidence in this case amply supports the District Court's findings that Maine's ban on the importation of live baitfish serves legitimate local purposes that could not adequately be served by available nondiscriminatory alternatives.").
160. *Id.* at 148 (citing *Philadelphia v. New Jersey*, 437 U.S. 617, 624 (1978)).
161. See *supra* notes 138–140 and accompanying text.
162. *But see Lee & Duane*, *supra* note 33, at 322–23 (arguing that credit multipliers for in-state generation could be upheld under *West Lynn Creamery*).

One commentator has suggested that states find themselves on constitutionally safer ground when geographic requirements and preferences in their renewable portfolio standards are based on in-*region* rather than in-*state* location.¹⁶³ The overwhelming majority of scholars, however, agree that such provisions, while not discriminating against all other forty-nine states in the union, would still be considered facially discriminatory by the courts regarding all out-of-region states and, hence, be struck down for violation of the dormant Commerce Clause.¹⁶⁴ Indeed, the Supreme Court has, in a different context, made it clear that scaling discriminatory in-state requirements up to in-region requirements makes them no less facially discriminatory and, hence, no less troublesome for the purposes of dormant Commerce Clause review.¹⁶⁵

3. *State Renewable Portfolio Standards with Delivery-Based and Other Functional Requirements and Preferences*

Like California,¹⁶⁶ a number of states have included provisions in their renewable portfolio standards¹⁶⁷ that require renewable energy credit-earning electricity to be delivered into their state or regional power grid.¹⁶⁸ Others re-

163. See Griffin, *supra* note 33, at 160–65 (arguing that Massachusetts’s facially discriminatory in-region location requirement for RPS-eligible generators might be upheld by a court for serving a legitimate local purpose that could not be adequately served by non-discriminatory means). For examples of regional location requirements and preferences, see D.C. CODE § 34-1432(e) (2012); 26 DEL. CODE § 352(6) (2016); MD PUB. UTIL. § 7-701(n)(2) (2013).

164. See, e.g., Endrud, *supra* note 34, at 271 (“[I]n-region location requirements, while not discriminatory towards certain neighboring states, would still be facially discriminatory against the remainder of states and would therefore also be invalidated.”); Jacobi, *supra* note 156, at 1132 (“[I]n-region limits and adjacency limits still exclude the majority of states in the United States based purely on location.”); NANCY RADER & SCOTT HEMPLING, THE RENEWABLES PORTFOLIO STANDARD: A PRACTICAL GUIDE, at A-1 (2001) (“The state law would still discriminate, facially, against other states.”); Reiter, *supra* note 67, at 51 (“Regional, rather than explicit in-state preferences, likewise will not escape condemnation under the Commerce Clause.”).

165. See *Ne. Bancorp, Inc. v. Bd. of Governors of Fed. Reserve Sys.*, 472 U.S. 159, 174 (1985) (“There can be little dispute that the dormant Commerce Clause would prohibit a group of States from establishing a system of regional banking by excluding bank holding companies from outside the region if Congress had remained completely silent on the subject.”).

166. See *supra* notes 117–121 and accompanying text.

167. See, e.g., CAL. PUB. UTIL. CODE § 399.11(e)(2) (2016); MD PUB. UTIL. § 7-701(k)(2) (2013).

168. These delivery requirements are often defined in terms of the Independent System Operator (“ISO”) or Regional Transmission Operator (“RTO”) that the state in question belongs to. For more background on ISOs and RTOs, see Hannah J. Wiseman & Hari M. Osofsky, *Dynamic Energy Federalism*, 72 MD. L. REV. 773, 804, 817 (2013).

quire or reward energy generated using certain types of technologies¹⁶⁹ or project sizes.¹⁷⁰ When the requirements and preferences of state renewable portfolio standards are defined in these functional terms they raise significantly fewer concerns under the dormant Commerce Clause than when defined in geographic terms, such as the in-state location requirements above.¹⁷¹ A state sourcing requirement's carve-outs or credit multipliers for solar and other renewable energy technologies apply to in-state and out-of-state generators alike. The same is true of requirements or preferences for renewable energy coming from distributed generation and other project sizes. In the absence of any facial discrimination, these provisions would not be subject to strict scrutiny but, rather, the more lenient *Pike* balancing test.¹⁷² Under this test, evenhanded regulation for a legitimate local purpose with merely incidental effects on interstate commerce will be upheld "unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits."¹⁷³ To be sure, a solar carve-out such as that in New Mexico's renewable portfolio standard¹⁷⁴ could be construed as placing a burden on renewable power entrepreneurs in Washington state where the solar resource quality is considerably lower.¹⁷⁵ A court would be hard-pressed, however, to consider this burden as "clearly excessive" compared to the state renewable portfolio standard's putative local benefits of improved reliability and supply diversity.¹⁷⁶ A corollary to their relatively low

169. See, e.g., 4 COLO. CODE REGS 723-3-3654(e) (2015); CONN. GEN. STAT. § 16-245a (2014); D.C. CODE § 34-1432(c) (2015); 26 DEL. CODE § 354(a) (2010); 20 ILL. COMP. STAT. 3855/1-75(c)(1) (2016); MD PUB. UTIL. § 7-703(b) (2013); 225 MASS. CODE REGS. 14.05(4) (2016); MO. REV. STAT. § 393.1030(1) (2016); NEV. REV. STAT. ANN. 704.7821(2)(a) (LexisNexis 2016); N.M. Code R. § 17.9.572.7 (LexisNexis 2016) (implementing N.M. STAT. ANN., § 62-16-4 (2016)); N.H. REV. STAT. ANN. § 362-F:4(II) (2006); N.J. ADMIN. CODE § 14:8-2.4(b) (2016); OHIO REV. CODE ANN. § 4928.64(B)(2) (LexisNexis 2016); 73 PA. STAT. § 1648.3(b)(2) (2006).

170. See, e.g., ARIZ. ADMIN. CODE R14-2-1805(B), R14-2-1806(F) (2015); D.C. CODE § 34-1432(e)(1) (2015); 20 ILL. COMP. STAT. 3855/1-75(1) (2016).

171. See *supra* Part II.B.2.

172. See *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 142 (1970). See also *supra* note 79 and accompanying text.

173. *Pike*, 397 U.S. at 142 (citing *Huron Portland Cement Co. v. City of Detroit*, 362 U.S. 440, 443 (1960)).

174. See N.M. CODE R. § 17.9.572.7 (LexisNexis 2016) (implementing N.M. STAT. ANN., § 62-16-4 (2016)).

175. See KRISTEN ARDANI & ROBERT MARGOLIS, U.S. DEP'T OF ENERGY, 2010 SOLAR TECHNOLOGIES MARKET REPORT 53 (2011).

176. See also ELEFANT & HOLT, *supra* note 134, at 12 ("DG or solar set-asides impose minimal burdens on commerce . . ."); Reiter, *supra* note 67, at 66 ("[A]s long as they are not favoring in-state over out-of-state competitors, states may also favor particular renewable technologies over others without running afoul of the Commerce Clause."). In addition to these primarily economic benefits, renewable portfolio standards also create environmental benefits. While climate benefits derived from fewer greenhouse gas emissions accrue to the world at large, other environmental benefits accrue at a more localized scale. See *supra* note 135.

burden on interstate commerce and, hence, minimal vulnerability to dormant Commerce Clause challenges, however, is that technology- and size-based requirements and preferences are less effective at ensuring that all, or even most, of the economic benefits associated with renewable energy will be enjoyed in-state.

Delivery requirements—into the state or regional grid—for energy to be compliant with a state’s sourcing mandate offer greater prospects for capturing more of renewable energy’s economic benefits within the state. With their evenhanded application to in-state and out-of-state generators alike, such requirements would also be subject to *Pike* balancing. The costs for out-of-state or out-of-region generators to connect to the grid in question likely represent a greater incidental burden on interstate commerce than those imposed by the above requirements and preferences based on a project’s technology or size.¹⁷⁷ Nevertheless, the prevailing view among scholars¹⁷⁸ and regulators¹⁷⁹ appears to be that these delivery costs would not be considered clearly excessive relative to a state renewable portfolio standard’s putative benefits, hence, passing muster under the dormant Commerce Clause.

4. *Scholarly Calls for Reform of Commerce Clause Doctrine*

Calls for reform of the courts’ dormant Commerce Clause doctrine are neither new nor limited to the context of state renewable portfolio standards.¹⁸⁰ Widespread concern over the constitutional viability of these policies, however,

177. See also ELEFANT & HOLT, *supra* note 134, at 12 (“an out-of-state developer may face added cost to connect”).

178. See *id.* (“[C]ommentators generally agree that in-state and regional delivery requirements will survive commerce clause review.”); Endrud, *supra* note 34, at 273; Anne Havemann, *Surviving the Commerce Clause: How Maryland Can Square Its Renewable Energy Laws with the Federal Constitution*, 71 MD. L. REV. 848, 885 (2012) (“[T]he state should keep its REC-based system but emphasize the delivery of benefits over the location of the energy source.”); Jacobi, *supra* note 156, at 1129 (“Since eligibility is based on benefit delivery and not location, these statutes do not discriminate and should survive a dormant Commerce Clause challenge.”); RADER & HEMPLING, *supra* note 164, at A-4.

179. In its order denying rehearing of Cowlitz County’s complaint over the California RPS’s requirement that eligible energy be delivered into the California ISO, the California Public Utilities Commission noted, in passing, that the delivery requirement would pass muster under the *Pike* balancing test. See *supra* notes 126–127 and accompanying text.

180. See, e.g., Julian N. Eule, *Laying the Dormant Commerce Clause to Rest*, 91 YALE L.J. 425, 437 (1982) (arguing that the dormant Commerce Clause should be abandoned in favor of using the Privileges and Immunities Clause as the principal safeguard against state protectionist measures); Catherine Gage O’Grady, *Targeting State Protectionism Instead of Interstate Discrimination Under the Dormant Commerce Clause*, 34 SAN DIEGO L. REV. 571, 576 (1997) (arguing that dormant Commerce Clause doctrine should focus on state protectionism and consider inter-state discrimination as a secondary concern only, abandoning the current practice of virtual per se invalidity of discriminatory measures).

has produced a veritable chorus of calls for reform specifically related to renewable portfolio standards. One commentator, for instance, urges revision of the facial discrimination test to acknowledge “second-best reasoning” where states seek to correct market failures related to natural resources and to expand the market participant exception¹⁸¹ for states seeking to prevent the loss of environmental public goods funded by state consumer investments.¹⁸² Another commentator advocates for a departure from the strict scrutiny standard in favor of a more lenient standard of scrutiny to permit state experimentation for motives other than bald economic protectionism.¹⁸³ Others argue that, in recognition of the instrumental usefulness of renewable energy regulations, courts should expand the intermediate scrutiny standard applied in First Amendment and Equal Protection cases to dormant Commerce Clause inquiries related to state renewable portfolio standards.¹⁸⁴ The same commentators also suggest expanding the market participant exception¹⁸⁵ to include states when regulating renewable energy due to their heavy involvement with electric utilities, effectively expanding the Fourteenth Amendment’s entanglement rationale to dormant Commerce Clause inquiries.¹⁸⁶ Others call for viewing dormant Commerce Clause cases through a climate-change lens to reveal that some seemingly discriminatory state treatment of like products, in fact, constitutes differential treatment of different products, including renewable energy.¹⁸⁷ Perhaps in acknowledgment that courts are unlikely to modify existing dormant Commerce Clause doctrine solely for the purposes of state renewable portfolio standards, one commentator calls on Congress to pass legislation with express authorization for such state renewable energy sourcing mandates that include preferential treatment for in-state generation.¹⁸⁸

In the following two sections, this Article makes the case that such sweeping—and improbable—reforms are not necessary. State policymakers have other means of jointly promoting renewable energy deployment and in-state economic development without running afoul of the Constitution’s dormant Commerce Clause.

181. See *supra* note 78 and accompanying text.

182. See Engel, *supra* note 33, at 324, 334.

183. See Kalen, *supra* note 33, at 424–25.

184. See Lee & Duane, *supra* note 33, at 355–58.

185. For precedent related to the market participant exception, see *supra* note 78.

186. See Lee & Duane, *supra* note 33, at 359–60.

187. See Barsa & Dana, *supra* note 33, at 70–71.

188. See Endrud, *supra* note 34, at 281.

III. CONSTITUTIONAL CHALLENGES TO STATE FEED-IN TARIFFS

Compared to over three decades of experience with renewable portfolio standards,¹⁸⁹ feed-in tariffs are a much more recent addition to the U.S. energy policy landscape.¹⁹⁰ Despite their relative novelty, state feed-in tariff programs have already become the target of constitutional challenges. Recent litigation suggests that state-level feed-in tariffs are particularly vulnerable to Supremacy Clause challenges (*infra A.*). The constitutional risk profile of these policies, therefore, depends primarily on the likelihood that their particular design features are preempted by federal law (*infra B.*). In contrast to renewable portfolio standards,¹⁹¹ state-level feed-in tariffs tend not to raise concerns under the dormant Commerce Clause.¹⁹²

States are limited in their discretion to adopt feed-in tariff policies to promote renewable energy deployment by the looming threat that their efforts may be subject to federal preemption under the Constitution's Supremacy Clause.¹⁹³ The Supreme Court has continuously attempted to clarify and refine the scope and requirements of federal preemption of state law under the Supremacy Clause.¹⁹⁴ The court has summarized this preemptive effect to apply "when Congress, in enacting a federal statute, expresses a clear intent to preempt state

189. Iowa adopted the first-ever renewable portfolio standard in the United States in 1983. *See Davies, supra* note 44, at 1357.

190. The first-ever feed-in tariff in the United States was adopted by the city of Gainesville, FL in 2009. *See CORY, supra* note 52, at 9 and accompanying text.

191. *See supra* Part II.

192. The absence of Commerce Clause challenges directed at state feed-in tariffs may be the result of their relative novelty but could also be attributed to important doctrinal differences between state-level feed-in tariffs and renewable portfolio standards. Portfolio standards with location-specific requirements and preferences impose a significant burden on interstate commerce by discriminating against out-of-state generators. *See supra* notes 155–165 and accompanying text. In contrast, state feed-in tariffs merely guarantee above-market rates to eligible generators within the state's jurisdiction. According to the Supreme Court, "[a] pure subsidy funded out of general revenue ordinarily imposes no burden on interstate commerce, but merely assists local business." *W. Lynn Creamery, Inc. v. Healy*, 512 U.S. 186, 199 (1994) (alteration in original). To be sure, feed-in tariffs tend to be financed by ratepayers, not taxpayers, but their purpose to assist local business is the same as that of a subsidy funded out of general tax revenues. Moreover, PURPA expressly authorizes states to adopt feed-in tariff policies to support local generation of renewable and other eligible energy. *See infra* Part III.2.

193. U.S. CONST. art. VI, para. 2: "This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the contrary notwithstanding."

194. *See, e.g., Medtronic Inc. v. Lohr*, 518 U.S. 470, 500 (1996); *La. Pub. Serv. Comm'n v. Fed. Comm'n Comm'n*, 476 U.S. 355, 368–69 (1986); *Fla. Lime & Avocado Growers, Inc. v. Paul*, 373 U.S. 132, 142 (1963); *Rice v. Santa Fe Elevator Corp.*, 331 U.S. 218, 236 (1947); *Hines v. Davidowitz*, 312 U.S. 52, 65–68 (1941).

law, when there is outright or actual conflict between federal and state law, where compliance with both federal and state law is in effect physically impossible, where there is implicit in federal law a barrier to state regulation, where Congress has legislated comprehensively, thus occupying an entire field of regulation and leaving no room for the States to supplement federal law, or where the state law stands as an obstacle to the accomplishment and execution of the full objectives of Congress.”¹⁹⁵ In the case of state-level feed-in tariff programs, the threat of preemption looms large due to the FPA’s general assignment of authority over the underlying wholesale transactions to federal, rather than state regulators (*infra* 1.). State-level feed-in tariffs may, however, evade preemption insofar as they are adopted pursuant to the limited wholesale rate-setting authority afforded to states under the Public Utility Regulatory Policies Act (*infra* 2.).

1. *The Federal Power Act of 1935*

In its 1928 *Attleboro* decision, the Supreme Court curtailed the states’ ability to regulate sales of electricity across state lines holding that the sale of electricity to an out-of-state buyer constituted interstate commerce within the purview of the Commerce Clause.¹⁹⁶ A state public utility commission’s rate order for such a power sale was found to impose a burden on interstate commerce in violation of the dormant Commerce Clause.¹⁹⁷ To fill the resulting regulatory void, also referred to as the “Attleboro gap,”¹⁹⁸ Congress passed the Federal Power Act of 1935.¹⁹⁹ Among other things, the FPA vested the Federal Power Commission, the predecessor of today’s FERC, with exclusive authority to regulate “the sale of electric energy at wholesale in interstate commerce.”²⁰⁰

Section 201 of the FPA defines the “sale of electric energy at wholesale” as a “sale of electric energy to any person for resale.”²⁰¹ Feed-in tariffs require electric utilities to purchase the electricity output of eligible generators at pre-determined rates.²⁰² The utilities, in turn, sell that electricity along with the

195. *La. Pub. Serv. Comm’n*, 476 U.S. at 368–69.

196. *Pub. Utils. Comm’n of R.I. v. Attleboro Steam & Elec. Co.*, 273 U.S. 83, 86 (1927). For a critical review, see Sam Kalen, *Muddling Through Modern Energy Policy: The Dormant Commerce Clause and Unmasking the Illusion of an Attleboro Line*, 24 N.Y.U. ENVTL. L.J. (forthcoming 2017).

197. *See Attleboro*, 273 U.S. at 89.

198. *See, e.g.*, Rossi, *supra* note 31; *New York v. Fed. Energy Regulatory Comm’n*, 535 U.S. 1, 20 (2002).

199. 16 U.S.C. § 791 (1935) *et seq.* *See also* Robert R. Nordhaus, *The Hazy “Bright Line”: Defining Federal and State Regulation of Today’s Electric Grid*, 36 ENERGY L.J. 203, 204 (2015) (explaining the genesis of the FPA).

200. 16 U.S.C. § 824(b) (2012).

201. 16 U.S.C. § 824(d).

202. *See supra* notes 51–57 and accompanying text.

power that they generate and purchase from other generators to their customers. The sale of electricity from renewable power generators to electric utilities, therefore, falls squarely within the FPA's definition of a wholesale transaction over electric energy.

FERC's rate-setting authority under the FPA further requires that the wholesale transaction in question take place in interstate commerce.²⁰³ States and utilities have sought to limit the jurisdictional reach of FERC's rate-setting authority by asserting the (predominantly) intrastate nature of certain wholesale transactions.²⁰⁴ Courts and FERC alike, however, have consistently defended and, in some cases, expanded FERC's broad jurisdiction over wholesale transactions of electric energy, pointing to the electrical grid's interconnectedness across state lines and the comingling of in-state with out-of-state electricity as sufficient to warrant a transaction's qualification as interstate commerce.²⁰⁵

Two recent Supreme Court decisions indicate some willingness to interpret the statutory scope of state authority over energy regulation in a more expansive fashion, albeit in the context of demand response²⁰⁶ and state anti-trust regulation.²⁰⁷ Most recently, however, the Supreme Court held that a Maryland program providing a long-term contract for differences for a new in-state natural gas plant to make up for any shortcomings in the generator's sales on the wholesale power market is preempted by the FPA because it contravenes the Act's assignment of exclusive jurisdiction over wholesale rates to FERC.²⁰⁸ While the Court expressly excludes other direct state-level subsidies, such as feed-in tariffs from the scope of its holding,²⁰⁹ its decision serves as a reminder

203. 16 U.S.C. § 824(b).

204. *See, e.g.*, Fed. Power Comm'n v. Fla. Power & Light Co., 404 U.S. 453 (1972); Fed. Power Comm'n v. S. Cal. Edison Co., 376 U.S. 205 (1964).

205. *See Fla. Power & Light*, 404 U.S. at 462; *S. Cal. Edison*, 376 U.S. at 209. *See also* New York v. Fed. Energy Regulatory Comm'n, 535 U.S. 1, 17 (2004) (holding broadly that, in accordance with FERC's open-access Order No. 888, "unbundled retail transmissions targeted by FERC are indeed transmissions of 'electric energy in interstate commerce,' because of the nature of the national grid."). While there is no seamless national power grid, two of the three primary power grids, also referred to as interconnects, serve multiple states. *See* NERC, *North American Electric Reliability Corporation Interconnections*, <https://perma.cc/5HPR-RZ4P>.

206. *See* Fed. Energy Regulatory Comm'n v. Elec. Power Supply Ass'n, 136 S. Ct. 760 (2016). *See also* Joel B. Eisen, *FERC's Expansive Authority to Transform the Electric Grid*, 49 U.C. DAVIS L. REV. 1783 (2016) (making the case that recent Supreme Court precedent expands federal jurisdiction over the electric industry); Jim Rossi, *The Brave New Path of Energy Federalism*, TEX. L. REV. (forthcoming 2017) (interpreting recent Supreme Court precedent as indication for a gradual shift away from dual sovereignty and toward more concurrent jurisdiction over energy regulation).

207. *See* ONEOK, Inc. v. Learjet, Inc., 135 S. Ct. 1591 (2015).

208. *See* Hughes v. Talen Energy Mktg., 136 S. Ct. 1288, 1297 (2016).

209. *Id.* at 1299.

of the FPA's strict division of rate-setting authority between federal and state regulators.

As a result of FERC's plenary and exclusive²¹⁰ rate-setting authority for wholesale transactions under the FPA, a state-level feed-in tariff that mandates utilities to purchase renewable power at state-mandated rates would be subject to federal preemption under the Constitution's Supremacy Clause—unless the state adopted its feed-in tariff in accordance with the limited wholesale rate-setting authority afforded to states under PURPA.²¹¹

2. *The Public Utility Regulatory Policies Act of 1978*

Congress passed PURPA in response to the 1970s oil crisis to fuel the domestic development of alternative sources of energy, including renewables.²¹² At the time, electricity markets across the United States and around the world were monopolistic or oligopolistic at best and often run by government-owned utilities. PURPA set the regulatory stage for pioneering entrepreneurs to enter the nation's electricity markets and sell the power they produce from micro-generation, cogeneration and renewable power plants over the grid.

Long before the first serious attempts at large-scale deregulation of the electricity sector, PURPA allowed for the exemption of eligible cogeneration and renewable power generators, defined as Qualifying Facilities ("QFs"), from certain federal and state public utility regulation.²¹³ Moreover, PURPA granted these power producers access to the grid and required public utility companies to purchase the incoming producers' electricity at non-discriminatory rates based on the utilities' avoided cost.²¹⁴ While these rates allowed efficiently run cogeneration and some biomass plants to operate at a profit, they were not

210. See also Rossi, *supra* note 206, at 7 (highlighting the critical distinction between broad or plenary jurisdiction and exclusive jurisdiction, both of which may but need not necessarily coincide).

211. See Cal. Pub. Utils. Comm'n, 132 FERC ¶ 61,047, 61,337 (2010) ("While Congress has authorized a role for States in setting wholesale rates under PURPA, Congress has not authorized other opportunities for States to set rates for wholesale sales in interstate commerce by public utilities, or indicated that the Commission's actions or inactions can give States this authority.").

212. Public Utilities Regulatory Policies Act of 1978, Pub. L. No. 95-617, 92 Stat. 3119. See also Fed. Energy Regulatory Comm'n v. Mississippi, 456 U.S. 742, 750 (1982).

213. See 18 C.F.R. § 292.601 (2016). For the eligibility criteria of QFs, see 18 C.F.R. §§ 292.204–05 (2016).

214. See 16 U.S.C. § 824a-3 (2012). For a detailed discussion of PURPA and its relevance to energy entrepreneurs pioneering in renewables and cogeneration, see Robert N. Danziger, *Renewable Energy Resources and Cogeneration: Community Systems and Grid Interaction as a Public Utility Enterprise*, 2 WHITTIER L. REV. 81, 94 (1979); Steven Ferrey et al., *Fire and Ice: World Renewable Energy and Carbon Control Mechanisms Confront Constitutional Barriers*, 20 DUKE ENV'T. L. & POL'Y F. 125, 140 (2010); Grinlinton & Paddock, *supra* note 58, at 960.

nearly high enough to cover the costs of producing electricity from then-nascent renewable energy technologies such as solar or wind.

As advanced as the regulatory framework introduced by PURPA was, it lacked a comprehensive and coherent policy framework providing for the financial incentives necessary to promote the large-scale deployment of renewable energy. Instead, financial support for most renewables was as intermittent as their energy output. This policy patchwork led to a series of boom-and-bust cycles that put many early renewable energy entrepreneurs out of business and left the industry with a doubtful reputation.²¹⁵ The great opportunity in the 1970s and 1980s that PURPA had created to give the United States a head start into the global clean energy race was missed.²¹⁶ Still, PURPA continues to provide the applicable regulatory framework for the sale of electricity to the grid by most incoming renewable power generators. In fact, PURPA may well cast the deciding vote on the constitutionality and, with it, the long-term success of state-level feed-in tariffs as drivers of renewable energy deployment.

The rates at which electric utilities are required to purchase power from QFs under PURPA are determined in one of two ways. The first option is for the QF to negotiate with the utility to sell its electricity at market-based rates.²¹⁷ For renewable power generators and other QFs, this approach has the theoretical advantage that such negotiated rates may account for the higher production costs of electricity from solar, wind, and other emerging renewable energy technologies.²¹⁸ In practice, however, negotiated rates are unlikely to cover the full cost of renewable power since utilities tend to use their market power to pay the lowest rate possible for a QF's power.²¹⁹

215. See MENDONÇA ET AL., *supra* note 42, at 172. For a more recent discussion of the need to break out of recurring boom-and-bust cycles, see JESSE JENKINS ET AL., BREAKTHROUGH INSTITUTE, BEYOND BOOM & BUST: PUTTING CLEAN TECH ON A PATH TO SUBSIDY INDEPENDENCE (2012).

216. Just how far ahead of its time Congress was with the passage of PURPA can be seen by taking a glance at some of today's leading nations in renewables deployment. Germany, for instance, did not pass its first act of legislation granting non-utility producers of electricity grid access (Electricity Feed-In Law) until 1991—thirteen years after PURPA. It took Germany only two more years, however, to recognize and remedy the dilemma of missing financial incentives for electricity generation from renewables through further legislation to actively promote the deployment of renewables, i.e., the Full Cost Rates Law of 1993. See, e.g., Lincoln L. Davies & Kirsten Allen, *Feed-in Tariffs in Turmoil*, 116 W. VA. L. REV. 937, 943 (2014); Haas et al., *supra* note 42, at 1014.

217. See 18 C.F.R. § 292.301(b) (2016). See also FERC Order No. 697-A, Market-Based Rates for Wholesale Sales of Electric Energy, Capacity and Ancillary Services by Public Utilities, 123 FERC ¶ 61,055 (2008).

218. Such negotiated rates are not subject to market-based rate approval by FERC and may exceed PURPA's statutory cap of avoided cost. See 16 U.S.C. § 824a-3(b) (2012).

219. For accounts of this utility practice, see, e.g., Ferrey et al., *supra* note 214, at 140; Miles, *supra* note 29, at 1268.

The second option is for the QF to sell its power at a rate that the state, through its public utility commission, has pre-determined. PURPA, thus, grants states limited authority to set rates for wholesale electricity sales between QFs and utilities. Implementation of a feed-in tariff based on rate-setting authority under PURPA, therefore, may allow a state to evade federal preemption for violation of FERC's rate-setting authority under the FPA. There is just one problem: State-mandated rates under PURPA may not exceed the utility's avoided cost.²²⁰ In the words of Congress, rates may not be higher than the "incremental cost to the electric utility of alternative electric energy."²²¹ The Act goes on to define this incremental cost as "the cost to the electric utility of the electric energy which, but for the purchase from [the QF], such utility would generate or purchase from another source."²²² Historically, this avoided-cost cap has been determined based on the lowest-cost alternative power source—usually coal-fired or, more recently, natural gas-fired electricity—and, hence, would not be enough to cover the higher generation costs of emerging renewable energy technologies.

For state feed-in tariff programs to pass constitutional muster and effectively drive the large-scale deployment of renewable energy, they would need to establish rates that comply with PURPA's avoided-cost cap and, at the same time, manage to reflect the higher production costs of renewable energy generators.²²³ Situated at the intersection between federal and state regulatory authority on the one hand and conventional and renewable energy on the other hand, the proper meaning and determination of PURPA's avoided-cost mandate has long been controversial as the following cases illustrate.

A. Recent Litigation over State Feed-in Tariffs

While state feed-in tariff programs in their current form are a relatively recent addition to the U.S. energy policy landscape, some earlier state policies share similar design elements. To better appreciate the judicial history of today's feed-in tariff and earlier, "feed-in tariff-esque" policies, the following survey of relevant litigation therefore starts in the 1990s and, hence, well before the dawn of the actual feed-in tariff era in the United States.

In 1995, FERC found a Connecticut statute requiring a local utility to purchase power from a resources recovery facility to be preempted by PURPA insofar as it established a purchase obligation at more than the utilities' avoided

220. See 16 U.S.C. § 824a-3(b).

221. *Id.*

222. *Id.* § 824a-3(d).

223. For a list of the criteria that states have to consider when setting rates under PURPA, see 18 C.F.R. § 292.304(e) (2016). See also Grinlinton & Paddock, *supra* note 58, at 964. For a cost comparison between emerging renewable energy and conventional energy, see LAZARD, LEVELIZED COST OF ENERGY ANALYSIS—VERSION 8.0 (2014).

cost.²²⁴ In its order denying reconsideration of *Connecticut*, FERC clarified that a state cannot impose rates in excess of avoided cost on utilities even if the generation facility has been exempted from the FPA's ratemaking provisions pursuant to FERC regulations.²²⁵

In its 1997 *Midwest Power Systems* decision, FERC found Iowa legislation that mandated the state's utilities to purchase electricity from certain types of generating facilities to be generally consistent with the FPA and PURPA.²²⁶ However, the commission declared the legislation to be preempted by federal law insofar as utilities were required to purchase power at rates above their avoided cost.²²⁷

In July 2010, FERC issued a similar decision related to California's feed-in tariff under the state's AB 1613 program to promote cogeneration facilities that produce and sell both heat and power.²²⁸ In *California Public Utilities Commission*, the commission summarized its previous precedents to clarify that a program such as AB 1613 will be preempted by federal law, unless (i) the generators from which state utilities are required to purchase electricity are QFs under PURPA and (ii) the mandated purchase price does not exceed the utilities' avoided cost.²²⁹ FERC further clarified that environmental concerns over greenhouse gas emissions or climate change do not relieve state legislators from their rate regulation limitations established by the FPA and PURPA, including the avoided-cost cap.²³⁰ Citing section 201(b)(1) of the FPA²³¹ Intervenor Sacramento Municipal Utility District ("SMUD") urged FERC to clarify that, due to their intrastate nature, distribution-level feed-in tariff programs do not implicate FERC's rate setting jurisdiction.²³² SMUD warned that a decision asserting FERC jurisdiction over all distribution-level power sales to utilities would place millions of homeowners, farmers and businesses selling power from rooftop solar panels or small wind turbines to their local utility under FERC's

224. *Connecticut*, 70 FERC ¶ 61,012 at 61,029 (1995).

225. *Connecticut*, 71 FERC ¶ 61,035 at 61,153 (1995). For more information on exemption from the FPA, see Order No. 671, FERC Stats. & Regs. ¶ 31,203 (2006).

226. *Midwest Power Systems*, 78 FERC ¶ 61,067 at 61,246 (1997).

227. *Id.* at 61,244.

228. See Cal. Pub. Utils. Comm'n, 132 FERC ¶ 61,047 (2010).

229. *Id.* at 61,338.

230. See *id.*

231. In pertinent part, section 201(b)(1) reads "The Commission shall have jurisdiction over all facilities for such transmission or sale of electric energy, but shall not have jurisdiction, except as specifically provided in this subchapter and subchapter III of this chapter, over facilities used for the generation of electric energy or over facilities used in local distribution or only for the transmission of electric energy in intrastate commerce, or over facilities for the transmission of electric energy consumed wholly by the transmitter." 16 U.S.C. § 824(b)(1) (2012).

232. Cal. Pub. Utils. Comm'n, 132 FERC ¶ at 61,336-37.

reign.²³³ Denying SMUD's request for clarification, FERC instead emphasized that its "FPA authority to regulate sales for resale of electric energy and transmission in interstate commerce by public utilities is not dependent on the location of generation or transmission facilities, but rather on the definition of, as particularly relevant here, wholesale sales contained in the FPA."²³⁴

In October 2010, FERC issued a clarification of its July *California Public Utilities Commission* decision to address uncertainty among the states created by FERC's 1995 *SoCal Edison* decision²³⁵ as to what alternative sources could be lawfully considered for the determination of a utility's avoided cost.²³⁶ In its clarification, FERC acknowledged that "there is language in the *SoCal Edison* proceeding that would seem to permit state commissions to base avoided costs on 'all sources *able to sell to the utility*,' and other language that requires a state commission to take into account 'all sources' (the latter being unmodified by the phrase 'able to sell to the utility' used elsewhere)."²³⁷ Under FERC's own regulations for the implementation of PURPA, avoided cost rates may "differentiate among [QFs that use] various technologies on the basis of the supply characteristics of [these] different technologies."²³⁸ Consequently, FERC pointed out that its interpretation of PURPA and pertinent regulation does not preclude a source-specific avoided cost rate structure.²³⁹ The commission went on to clarify *SoCal Edison* as follows: "[I]f a state required a utility to purchase 10% of its energy needs from renewable [sources], then a natural gas-fired unit, for example, would not be a source 'able to sell' to that utility for the specified renewable resources segment of the utility's energy needs, and thus would not be relevant to determining avoided costs for that segment of the utility's energy needs."²⁴⁰ Remarkably, FERC framed its illustrative examples to highlight that its reasoning applies not only to the cogeneration facilities subject to California's AB 1613 program before the Commission but also to renewable power generators. The Commission proceeded to clarify that, stated more broadly, "where a state requires a utility to procure a certain percentage of energy from generators with certain characteristics, generators with those characteristics

233. *Id.* at 61,337.

234. *Id.* at 61,339 (citing Transmission Access Policy Study Grp. v. Fed. Energy Regulatory Comm'n, 225 F.3d 667, 695–96 (D.C. Cir. 2000), *aff'd sub nom.* New York v. Fed. Energy Regulatory Comm'n, 535 U.S. 1 (2002)); Detroit Edison Co. v. Fed. Energy Regulatory Comm'n, 334 F.3d 48, 51 (D.C. Cir. 2003); *see also* Fed. Power Comm'n v. Fla. Power & Light Co., 404 U.S. 453 (1972).

235. S. Cal. Edison Co., 71 FERC ¶ 61,269 at 62,075 (1995).

236. Cal. Pub. Utils. Comm'n, 133 FERC ¶ 61,059 (2010).

237. *Id.* at 61,267.

238. *Id.* at 61,263 (citing 18 C.F.R. § 292.304(c)(3)(i) (2010)).

239. *Id.* at 61,266.

240. *Id.* at 61,267.

constitute the sources that are relevant to the determination of the utility's avoided cost for that procurement requirement."²⁴¹

If FERC had hoped that its *California Public Utilities Commission* clarification would resolve all uncertainty and doubt as to the constitutionality of state-level feed-in tariffs, the Commission's hopes were sorely disappointed. In 2013, Vermont-based Otter Creek Solar filed a petition for FERC enforcement action against the Vermont Public Service Board arguing *inter alia* that the source-specific avoided-cost determinations under Vermont's feed-in tariff program violated PURPA and the FPA.²⁴² Exercising its discretion under section 210(h)(2)(A) PURPA,²⁴³ FERC declined to initiate an enforcement action without assessing the merits of Otter Creek's complaint²⁴⁴ and, in 2014, also denied Otter Creek's request for reconsideration.²⁴⁵

B. *Sketching a Constitutional Risk Profile for State Feed-in Tariffs*

Notwithstanding FERC's declared goal of eliminating any uncertainty regarding the outer limits of preemption-proof state feed-in tariff programs, the above series of precedents appears to have exacerbated legal uncertainty among not only states but expert analysts and legal scholars, too. Yet, FERC's *California Public Utilities Commission* precedent has, in fact, opened up a path for state feed-in tariffs that offer high enough rates to effectively promote renewables without falling victim to preemption under the Supremacy Clause. Some limitations remain, however.

1. *The National Renewable Energy Laboratory's Workaround*

In an attempt to remedy this uncertainty, the National Renewable Energy Laboratory ("NREL") commissioned a study to evaluate the federal law constraints for state-level feed-in tariff policies and to explore possible solutions.²⁴⁶ The NREL study suggests that states relying on PURPA can circumvent the avoided-cost cap for payment to QFs in one of three ways: First, states can issue RECs that QFs can sell to utilities in addition to the electricity they feed into the grid.²⁴⁷ These credits serve as proof that the utilities have met their

241. *Id.*

242. *See* Otter Creek Solar LLC, 143 FERC ¶ 61,282, 62,969 (2013).

243. *See* 16 U.S.C. § 824a-3(h)(2)(A) (2012) ("The Commission may enforce the requirements of subsection (f) against any State regulatory authority or nonregulated electric utility.").

244. *See* Otter Creek Solar LLC, 143 FERC ¶ 61,282, 62,969 (2013).

245. *See* Otter Creek Solar LLC, 146 FERC ¶ 61,192, 61,837 (2014).

246. SCOTT HEMPLING ET AL., RENEWABLE ENERGY PRICES IN STATE-LEVEL FEED-IN TARIFFS: FEDERAL LAW CONSTRAINTS AND POSSIBLE SOLUTIONS, REPORT NREL/TP-6A2-47408 (2010).

247. *Id.* at 14.

obligations under the state's RPS.²⁴⁸ Second, states can provide QFs with cash grants or pay them production-based incentives.²⁴⁹ Such subsidies could be funded either by taxpayers through the general state budget or by ratepayers through a so-called system benefits charge.²⁵⁰ The third option that NREL found permissible under FERC precedent is to establish a purchase price in excess of the utility's avoided cost and to grant the utility tax credits equal to the excess.²⁵¹ In this scenario, however, NREL warns that the state must be wary of changes in the utility's avoided cost, such as those caused by price fluctuations in the markets for coal, natural gas, and other fuel. If the premium afforded to the QF were to exceed the tax credit's value, it would constitute a violation of PURPA and, ultimately, lead to preemption under the Supremacy Clause.²⁵² The ingenuity of the aforementioned options notwithstanding, they themselves raise a number of policy, regulatory, and financial challenges. Most importantly, NREL's trifecta of options is likely to impose significant transaction costs on a fledgling industry that is already struggling with higher technology and financing costs than its competitors.²⁵³

2. Sustained Scholarly Skepticism over State Feed-in Tariffs

Before FERC's 2010 orders related to California's AB 1613 program, the constitutionality of state-level feed-in tariffs that offer high enough rates to effectively promote renewable energy was in serious doubt. In fact, the scholarly community displayed a rare moment of unity in its assessment that such feed-in tariff programs would almost inevitably be subject to federal preemption under the Supremacy Clause. Remarkably, scholarly skepticism over states' ability to craft promotionally effective, yet preemption-proof feed-in tariffs persists even after FERC's *California Public Utilities Commission* clarification.

Prior to FERC's October 2010 *California Public Utilities Commission* clarification, the scholarly community was virtually united in its assessment that states could not adopt feed-in tariff rates that were high enough to effectively

248. For the states' authorization to create REC regimes, see *supra* Part II.B.1. See also American Ref-Fuel Co., 105 FERC ¶ 61,004, 61,007 (2003) (acknowledging state authority over RECs created under a state RPS).

249. HEMPLING ET AL., *supra* note 246, at 16–17 (citing CGE Fulton, 70 FERC ¶ 61,290 (1995)).

250. The states' authorization to grant such direct payments to producers of electricity from renewables was confirmed in CGE Fulton, 70 FERC ¶ 61,290 (1995).

251. HEMPLING ET AL., *supra* note 246, at 18.

252. Cf. CGE Fulton, 70 FERC ¶ 61,290, 61,844 (1995).

253. For an account of the renewable energy industry's technological and financial challenges, see generally, FELIX MORMANN & DAN REICHER, BROOKINGS INSTITUTE, SMARTER FINANCE FOR CLEANER ENERGY: OPEN UP MASTER LIMITED PARTNERSHIPS (MLPs) AND REAL ESTATE INVESTMENT TRUSTS (REITs) TO RENEWABLE ENERGY (2012).

promote renewable energy without falling victim to federal preemption.²⁵⁴ The avoided-cost cap imposed on states' limited PURPA authority to set wholesale rates was considered an insurmountable obstacle. Ironically, the very instrument that had originally been conceived to promote renewables and other alternative energy sources had turned into a major roadblock along the clean energy race: "[W]hile the goals underlying PURPA are much the same as the purpose of state feed-in tariffs, the requirement that rates for mandated PURPA purchases not exceed the utility's avoided cost jeopardizes the goals underlying feed-in tariffs because such tariffs are designed to pay a premium for renewable energy."²⁵⁵ Others classified the avoided-cost cap and feed-in tariff rates that cover a renewable power generator's cost while offering a reasonable profit as "mutually exclusive concepts."²⁵⁶ In sum, "[a]ny theoretical feed-in tariff proposal, in order to be effective, would have to require prices well above purchasing utilities' avoided costs, and therefore would be subject to a FPA challenge by rate-payers or utilities."²⁵⁷

Even after FERC's *California Public Utilities Commission* orders,²⁵⁸ large portions of the scholarly community appear not to appreciate the full scope of the latitude that the Commission has recognized for state implementation of feed-in tariffs. Since FERC's 2010 rulings, a number of scholars have voiced their sustained skepticism over the constitutionality of state feed-in tariffs that offer rates high enough to cover the costs of emerging renewable energy technologies.²⁵⁹ Despite FERC's express approval of source-specific avoided-cost calculations,²⁶⁰ most commentators have little faith in the states' ability to adopt effective, yet preemption-proof feed-in tariff programs. While granting states "slightly more discretion," the *California Public Utilities Commission* orders are perceived to "significantly limit a state's ability to mimic the methods and results" that have made feed-in tariff policies so successful outside the United

254. See, e.g., Ferrey et al., *supra* note 214, at 181; Teresa E. Morton & Jeffrey M. Peabody, *Feed-in Tariffs: Misfits in the Federal and State Regulatory Regime?*, 23 THE ELEC. J. 17 (2010); Bradley Motl, *Reconciling German-Style Feed-in Tariffs with PURPA*, 28 WIS. INT'L L.J. 742 (2010–2011); John Perkins, *Overcoming Jurisdictional Obstacles to Feed-in Tariffs in the United States*, 40 GOLDEN GATE U. L. REV. 97 (2009–2010); David Yaffe, *Are State Renewable Feed-in Tariff Initiatives Truly Throttled by Federal Statutes After the FERC California Decision?*, 23 THE ELEC. J. 9 (2010).

255. Morton & Peabody, *supra* note 254, at 19.

256. Motl, *supra* note 254, at 753.

257. Ferrey et al., *supra* note 214, at 201.

258. See Cal. Pub. Utils. Comm'n, 132 FERC ¶ 61,047 (2010); Cal. Pub. Utils. Comm'n, 133 FERC ¶ 61,059 (2010).

259. See, e.g., Bloom et al., *supra* note 31, at 27; Dorsi, *supra* note 31, at 176; Ferrey, *supra* note 31, at 90; Kelly, *supra* note 31, at 732; Rossi, *supra* note 31, at 249–50; Weissman, *supra* note 31, at 356–57.

260. See *infra* Part III.B.3.

States.²⁶¹ Similarly, there is concern that state-level feed-in tariffs “could only match the level required by other policies.”²⁶² Another commentator reads *California Public Utilities Commission* as the “definitive ruling on state feed-in tariffs that made crystal clear their constitutional limits.”²⁶³ According to these limits, feed-in tariffs “do not pass constitutional muster under the U.S. Constitution when implemented by states.”²⁶⁴ A recent article by feed-in tariff expert Lincoln Davies succinctly sums up the prevailing scholarly skepticism: “Because the Constitution declares federal law supreme, both PURPA and the FPA effectively prevent states from adopting feed-in tariffs.”²⁶⁵ More moderate critics of FERC conclude that “[a]t the very least, it has raised the regulatory hurdles for many participants in FIT projects.”²⁶⁶ Others urge to reinterpret PURPA’s avoided-cost mandate as a “preemption floor” rather than the current “ceiling price preemption approach.”²⁶⁷ Some, finally, suggest resolving these issues through federal legislation that expressly permits state-level feed-in tariffs.²⁶⁸

3. FERC Guidance for Preemption-Proof State Feed-in Tariffs

The sustained scholarly skepticism over states’ ability to adopt feed-in tariffs that effectively promote renewable energy without running afoul of the Supremacy Clause is only partly warranted. FERC has, at last, opened up a path forward allowing states to use their PURPA authority to implement feed-in tariff policies that are effective yet preemption-proof. Some uncertainty and limitations regarding the precise scope of state latitude persist, however.

a. Rates Based on Two-Tiered Avoided-Cost Calculus

FERC’s *California Public Utilities Commission* clarification has opened the door for state feed-in tariffs under PURPA to establish higher rates for electricity from renewables so long as (i) there is a state mandate, such as an RPS, that

261. Kelly, *supra* note 31, at 763. See also Ferrey, *supra* note 31, at 115–16 (“[S]till a real limitation pursuant to the Federal Power Act and the Filed Rate Doctrine applying the Supremacy Clause, as this PURPA avoided cost cannot exceed the most economical cost avoided by the utility finding the best option for this particular type of power from anywhere deliverable to its grid.”).

262. Dorsi, *supra* note 31, at 189. See also Ferrey, *supra* note 31, at 117 (“This FERC 2010 order and clarification still preempts the European-style and to-date U.S. state calculations of high feed-in tariffs.”).

263. Ferrey, *supra* note 134, at 107.

264. *Id.* at 107, 110 (noting further that FIT programs “typically exceed substantially utility-avoided costs”).

265. Davies, *supra* note 31, at 57.

266. Bloom et al., *supra* note 31, at 27.

267. Rossi, *supra* note 31, at 256.

268. See, e.g., Kelly, *supra* note 31, at 772–73; Weissman, *supra* note 31, at 360–61.

requires utilities to procure a certain percentage of electricity from renewable sources, and (ii) the established rate does not exceed the avoided cost for these renewables.²⁶⁹ Through these requirements, FERC not only pays homage to states' historic sovereignty over fuel choice,²⁷⁰ but essentially acts as matchmaker between state-level feed-in tariffs and renewable portfolio standards. Contrary to the literature's long-standing view that both policy instruments are mutually exclusive,²⁷¹ FERC effectively requires a state to adopt a renewable portfolio standard before that state can use its PURPA authority to adopt a feed-in tariff with rates that are high enough to effectively promote renewable energy. In its most simple form, this combination of renewable portfolio standard and feed-in tariff would allow the state to consider only renewable sources in calculating the utility's avoided cost of generation or procurement.²⁷² Utilities would no longer be able to object to state-mandated purchase rates for solar or wind electricity based on the availability of cheaper electricity fueled by coal or natural gas. FERC has made clear that when a state renewable portfolio standard requires a certain portion of the state's electricity to come from renewables, coal, natural gas and other non-renewable sources, including nuclear, cannot be considered for purposes of determining a utility's avoided cost.²⁷³ This renewables-based avoided cost calculus, in turn, determines the maximum feed-in tariff rate that the state can set under PURPA. Already, some twenty-nine states, three U.S. territories, and the District of Columbia have adopted renewable portfolio standards²⁷⁴ and, hence, are ready to adopt feed-in tariffs that guarantee renewable power generators rates above those required when considering the current least-cost fossil fuel options.

269. See Cal. Pub. Utils. Comm'n, 133 FERC ¶ 61,059 at 61,267–68 (2010).

270. Cf. Ralls, *supra* note 38, at 454. See also *supra* Part II.B.1.; Rossi, *supra* note 38, at 1447–48.

271. Originally, the literature—erroneously—viewed RPS and FIT policies as two mutually exclusive policy instruments but has since come to embrace the possibility that both may, in fact, work in tandem. See, e.g., Lincoln L. Davies, *Reconciling Renewable Portfolio Standards and Feed-In Tariffs*, 32 UTAH ENVTL. L. REV. 311, 313 (2012) (reporting that, between FIT and RPS policies, “states traditionally have chosen one tool or the other”); Rickerson et al., *supra* note 51, at 79; Marc Ringel, *Fostering The Use of Renewable Energies in the European Union: the Race Between Feed-in Tariffs and Green Certificates*, 31 RENEWABLE ENERGY 1, 1, 14 (2006) (“Feed-in tariffs on the one side and green certificates on the other side seem promising tools to foster renewable energies . . . Whether feed-in tariffs or—more likely—green certificates will be chosen is only a first, generic decision.”); Kwok L. Shum & Chihiro Watanabe, *Network Externality Perspective of Feed-in-Tariffs (FIT) Instruments—Some Observations and Suggestions*, 38 ENERGY POLY 3266, 3267 (2010) (“Different governments have attempted to use a price [FIT] vs. quantity [RPS] approach for renewable deployment.”). But see Mormann, *supra* note 1, at 1657 (proposing a model for joint implementation of RPS and FIT regimes toward better mitigation and allocation of investor and regulatory risk).

272. See Cal. Pub. Utils. Comm'n, 133 FERC ¶ 61,059, 61,267 (2010).

273. *Id.*

274. See *supra* note 49 and accompanying text.

Yet, a bifurcated avoided-cost calculation that distinguishes between renewable and non-renewable sources of energy will not suffice to effectively promote a broad array of renewable energy technologies.²⁷⁵ After all, the point of reference for the state's avoided-cost determination would merely shift from the current least-cost non-renewable option to the current least-cost renewable option. As a result, a two-tiered avoided-cost structure would primarily benefit the current least-cost renewable energy technologies, presumably onshore wind and certain biomass installations.²⁷⁶ As a result, a state feed-in tariff based on a broad renewable portfolio standard that requires utilities to procure *any* renewable energy would not be sufficient to cover the cost of power generation from technologies that are less mature today but hold promise for the future, such as distributed solar photovoltaic, advanced geothermal or ocean tidal.²⁷⁷ Perhaps this concern, albeit not voiced explicitly, is behind some of the sustained scholarly skepticism over promotionally effective yet preemption-proof state-level feed-in tariffs. Such a view, however, would fail to recognize the full import of FERC's groundbreaking *California Public Utilities Commission* clarification.

b. Rates Based on Multi-Tiered Avoided-Cost Calculus

FERC's endorsement of a source-specific avoided-cost structure contains no express limitations as to the level of nuance that such a structure may incorporate. Rather, the Commission's ruling and reasoning leave the door wide open for states to structure their avoided-cost calculations not just along two but multiple tiers. The *California Public Utilities Commission* clarification twice emphasizes in identical wording that, "where a state requires a utility to procure a certain percentage of energy from generators with certain characteristics, generators with those characteristics constitute the sources that are relevant to the

275. For the necessity to promote a suite of renewable energy technologies to support the timely transition to a low-carbon economy, see NICHOLAS STERN, *THE ECONOMICS OF CLIMATE CHANGE: THE STERN REVIEW* 358 (2007); Staffan Jacobsson et al., *EU Renewable Energy Support Policy: Faith or Facts?*, 37 *ENERGY POL'Y* 2143, 2144 (2009); Felix Mormann, *Requirements for a Renewables Revolution*, 38 *ECOLOGICAL L.Q.* 903, 937 (2011). See also Alan S. Miller, *Energy Policy from Nixon to Clinton: From Grand Provider to Market Facilitator*, 25 *ENVTL. L.* 715, 729–30 (1995) (warning that the window of opportunity to modernize and diversify the nation's power generation technology portfolio is relatively narrow).

276. See, e.g., LAZARD, *supra* note 223 (comparing the cost of various renewable energy technologies).

277. See *id.* Even a credit multiplier for renewable energy credits awarded for power generated from these technologies would not change the avoided-cost calculation. Such a multiplier is aimed at the eligible generator but, by itself, does not require the utility to fulfill its renewable portfolio standard's sourcing requirement by purchasing the type of power that the respective generator sells. Absent a specific technology-related carve-out, the renewable portfolio standard would leave the utility free to fulfill the entirety of its sourcing obligation by purchasing the least-cost renewable power option. For details on credit multipliers, see Davies, *supra* note 44, at 1377.

determination of the utility's avoided cost for that procurement requirement."²⁷⁸ FERC goes on to explain that "a state may appropriately recognize procurement segmentation by making separate avoided cost calculations."²⁷⁹ The Commission imposes no limitation on the number of such procurement segments that a state may recognize, or the number of resulting, distinct avoided cost calculations. Rather, FERC's language and reasoning suggest that a renewable portfolio standard with a sufficiently nuanced sourcing mandate would allow states to set technology-specific feed-in tariff rates based on a multi-tiered avoided-cost structure. Such a multi-tiered structure could distinguish not only between non-renewable and renewable sources but further differentiate among various renewable energy technologies. In fact, FERC expressly acknowledges that "[a]voided cost rates may also 'differentiate among qualifying facilities using various technologies on the basis of the supply characteristics of the different technologies.'"²⁸⁰

A technology-specific feed-in tariff policy would ensure that power from every strand of renewable energy technologies—mature and emerging—is guaranteed a rate that will cover the cost of generation and offer a reasonable return on investment. Based on FERC's *California Public Utilities Commission* clarification, a state may use its PURPA authority to adopt a technology-specific feed-in tariff program under two conditions. First, the state would have to adopt a renewable portfolio standard that not only requires utilities broadly to source a certain percentage of electricity from renewables but, instead, includes carve-outs that allocate specified portions of the overall renewables quota to specific technologies. Second, the state would need to carefully determine its utilities' avoided cost for each of the carved-out renewable energy technologies. The resulting multi-tiered avoided-cost calculus would form the basis of the state's technology-specific feed-in tariff. For instance, if a state mandated its utilities to procure 5% of their electricity from wind and 5% from solar, that state's feed-in tariff program could set a multi-tiered rate structure under PURPA. This structure could account for the difference in production costs not only between renewables and conventional energy sources but also among different renewable sources of energy, such as solar and wind.

Many states already fulfill the first of the aforementioned two conditions for implementation of a technology-specific feed-in tariff. In fact, close to two-thirds of existing state renewable portfolio standards include some form of carve-out.²⁸¹ Exactly half of all state portfolio standards feature carve-outs for solar technology, while about one-fifth incorporate carve-outs for electricity

278. See Cal. Pub. Utils. Comm'n, 133 FERC ¶ 61,059, 61,267 (2010).

279. *Id.* at 61,268 n.53.

280. See *id.* at 61,265 (citing 18 C.F.R. § 292.304(c)(3)(ii) (2010)).

281. Twenty-three out of thirty state RPSs (including the District of Columbia) feature carve-outs. See *Renewable Portfolio Standards (RPS) with Solar or Distributed Generation Provisions*, DSIRE (2016), <http://perma.cc/62CT-ZBV4>.

from wind and/or biomass.²⁸² Together, these numbers illustrate the states' overwhelming interest in the deployment of a diverse portfolio of renewable energy technologies that extends beyond the current least-cost options. New Mexico's renewable portfolio standard exemplifies this trend: Calling for a 20% share of renewables by 2020, the state mandates a "fully diversified renewable energy portfolio" with no less than 6% of electricity to come from wind and at least 4% to be generated using solar energy.²⁸³ Table 1 illustrates the resulting procurement segmentation.

Segment	Non-RE	RE Wind	RE Solar	RE Other	RE Rest
% of Mix	80%	6%	4%	1%	9%
"able to sell"	Coal, Gas, & Nuclear	Wind only	Solar only	RE w/o solar & wind	Least-cost RE

Table 1: Procurement Segmentation in New Mexico's Renewable Portfolio Standard

Careful study of existing state renewable portfolio standards offers another interesting insight with potential relevance for the design of promotionally effective yet preemption-proof state-level feed-in tariffs: Carve-outs are not necessarily limited to generation technology but can also include other generation characteristics. One in four state renewable portfolio standards includes a carve-out for renewable energy projects of a certain size, usually intended to promote small-scale, distributed generation projects.²⁸⁴ Based on FERC's reasoning in *California Public Utilities Commission*, states are entitled to require "a utility to procure a certain percentage of energy from generators with certain characteristics" with the effect that only these generators will be considered when calculating the utility's avoided cost for said procurement segment.²⁸⁵ In accordance with FERC's agnostic choice of words, "certain characteristics" need not necessarily relate to technology but may also be based on size or other characteristics. As a result, states whose renewable portfolio standards include size-specific carve-outs may choose to adopt feed-in tariff programs with size-specific rates.²⁸⁶

282. *Id.*

283. New Mexico's renewable portfolio standard further includes a 1% carve-out for "other" renewable energy technologies. See N.M. STAT. ANN., § 62-16-4 (2016) and implementing regulation, N.M. CODE R. §17.9.572.7(G) (LexisNexis 2016).

284. See *Renewable Portfolio Standards (RPS) with Solar or Distributed Generation Provisions*, DSIRE (2016), <https://perma.cc/62CT-ZBV4>.

285. See Cal. Pub. Utils. Comm'n, 133 FERC ¶ 61,059, 61,267 (2010).

286. This analysis presumes that the state RPS's carve-outs themselves will pass constitutional muster. As discussed above, location-based carve-outs would violate the dormant Commerce Clause while delivery-based, size-based, and other functionally defined carve-outs or requirements would likely be upheld. See *supra* Parts II.B.2, II.B.3.

c. *Adders and Bonus Payments*

FERC's *California Public Utilities Commission* orders not only open up a path for multi-tiered avoided-cost structures, they also offer guidance on the permissibility and scope of adders or bonus payments to complement the generation-based portion of a state's avoided-cost calculations. The Commission begins by reiterating its opposition to adders for broadly construed and (supposedly) hard-to-quantify environmental externalities.²⁸⁷ FERC proceeds, however, to highlight that environmental and other costs that—but for PURPA-mandated procurement from QFs—would represent real, quantifiable costs to a state's utilities “may be accounted for in a determination of avoided cost rates.”²⁸⁸ Such costs may, for instance, include “expected costs of upgrades to the distribution or transmission system that the QFs will permit the purchasing utility to avoid.”²⁸⁹

FERC's illustrative example could not be more timely given the growing trend among states to promote the distributed generation of renewable electricity.²⁹⁰ Adders and bonus payments can help states provide additional incentives—in the form of higher feed-in tariff rates—for distributed generation and other QFs that offer utilities real, quantifiable cost savings whether they relate to transmission, distribution, or other drivers of utility costs. In fact, these adders and bonus payments may well be the answer to one commentator's critique that “PURPA avoided cost cannot exceed the most economical cost avoided by the utility finding the best option for this particular type of power from anywhere deliverable to its grid.”²⁹¹ The underlying concern appears to be that a state's PURPA-based feed-in tariff rate may not suffice to promote local deployment of renewable energy technologies if utilities can procure that electricity cheaper elsewhere, say due to better solar resource quality in another state.²⁹²

287. See Cal. Pub. Utils. Comm'n, 133 FERC at 61,267–68 (citing *S. Cal. Edison Co.*, 71 FERC ¶ 61,269, 62,080 (1995)).

288. *Id.* at 61,268 (quoting *S. Cal. Edison*, 71 FERC at ¶ 62,080).

289. *Id.*

290. See, e.g., California Governor Jerry Brown's commitment to installing 12,000 MW worth of distributed generation capacity from renewables. Memorandum from Governor Jerry Brown on Renewable Energy (Oct. 12, 2011), <http://perma.cc/DEN9-VSQM>. See also PETER FOX-PENNER, SMART POWER—CLIMATE CHANGE, THE SMART GRID, AND THE FUTURE OF ELECTRIC UTILITIES, 109 (2010) (noting that “capacity planners . . . need to distinguish between large- and small-scale renewable, or, equivalently, centralized and distributed generation”). The avoidance of new transmission construction is especially important at a time when courts curtail FERC backstop transmission jurisdiction. See Joshua P. Fershee, *Moving Power Forward: Creating a Forward-Looking Energy Policy Based on a National RPS*, 42 CONN. L. REV. 1405, 1418 (2010); Mormann, *supra* note 1, at 1636.

291. Ferrey, *supra* note 31, at 115–16.

292. See ARDANI & MARGOLIS, *supra* note 175 and accompanying text for the geographic variance in renewable energy resource availability.

Under such circumstances, transmission- and distribution-related adders and bonus payments could enable a feed-in tariff rate for local QFs that is high enough to tip the scales in favor of local renewables.

4. *Lingering Limitations on States' Feed-in Tariff Authority*

State authority to adopt effective yet preemption-proof feed-in tariffs pursuant to FERC's guidance in *California Public Utilities Commission* is subject to two caveats. The first stems from lingering uncertainty over judicial approval of the Commission's interpretation of PURPA's avoided cost mandate. After all, FERC's statutory construction in *California Public Utilities Commission* is subject to judicial review. Recent Supreme Court decisions, however, reveal a substantial degree of judicial deference and self-restraint in favor of the Commission's decisions related to federal preemption and other jurisdictional questions.²⁹³

The second caveat relates to PURPA's definition of renewable energy QFs. PURPA limits state authority over wholesale rates for renewable energy QFs to generators whose nameplate capacity does not exceed 80MW.²⁹⁴ Accordingly, state efforts to promote larger-scale renewable power generation through feed-in tariff policies remain subject to federal preemption, even after *California Public Utilities Commission*.²⁹⁵ In fact, state jurisdiction over wholesale rates for QFs of 80MW or less has been further diluted since the Energy Policy Act of 2005.²⁹⁶

Among other things, the Energy Policy Act of 2005 authorized FERC to exempt an electric utility from its PURPA obligations vis-à-vis QFs whose nameplate capacity exceeds 20MW if these QFs are found to have undiscriminatory access to a qualified sales platform for their electricity.²⁹⁷ The Act provides that this access requirement is fulfilled in any one of the following three circumstances: (i) "access to an independently administered, auction-based day ahead and real-time wholesale market for the sale of electric energy and access to wholesale markets for long-term sales of capacity and electric energy,"²⁹⁸ (ii) access to transmission and interconnection services by a FERC-approved re-

293. See, e.g., *Hughes v. Talen Energy Mktg., LLC*, 136 S. Ct. 1288, 1298 (2016); *Fed. Energy Regulatory Comm'n v. Elec. Power Supply Ass'n*, 136 S. Ct. 760, 782 (2016); *New York v. Fed. Energy Regulatory Comm'n*, 535 U.S. 1, 23 (2002). See also Rossi, *supra* note 206, at 59 (suggesting that recent Supreme Court precedent points toward agency, rather than judicial determinations of preemption and other jurisdictional questions).

294. See 18 C.F.R. § 292.204 (2016).

295. See *supra* Parts III.A, III.B.

296. Energy Policy Act, Pub. L. No. 109-58 (2005).

297. See 16 U.S.C. § 824a-3(m) (2012). See also 18 C.F.R. § 292.309 (2016) (implementing the Energy Policy Act of 2005 through FERC regulation).

298. See 16 U.S.C. § 824a-3(m)(1)(A).

gional transmission entity and to competitive wholesale markets offering a meaningful opportunity to sell capacity through long-term, short-term and real-time sales to buyers other than the QF's local utility,²⁹⁹ and (iii) access to wholesale markets for the sale of electricity that are at least of competitive quality comparable to the previous two.³⁰⁰

If the qualified access requirement is met, a utility can seek exemption from its PURPA purchase obligation vis-à-vis QF's whose nameplate capacity exceeds 20MW.³⁰¹ In fact, FERC has created rebuttable presumptions in favor of the qualified access requirements and, in practice, exempts utilities on a fairly regular basis.³⁰² Once FERC grants the exemption, states no longer have jurisdiction to require the exempt utility to purchase power from QF's greater than 20MW, let alone at a feed-in tariff rate that is high enough to cover the generator's cost and offer a reasonable return on investment. Rather, the then applicable FPA vests the authority to set wholesale rates exclusively with FERC and would render any conflicting state feed-in tariff subject to federal preemption under the Supremacy Clause.³⁰³ According to one commentator, standard preemption analysis would "entirely eviscerate state efforts to adopt non-market-based feed-in tariffs for larger scale renewable projects."³⁰⁴ In practice, states' PURPA authority to adopt promotionally effective yet preemption-proof feed-in tariffs is therefore limited to smaller-scale projects of 20MW or less.³⁰⁵

Idaho's recent wind disaggregation controversy aptly illustrates the critical value that developers assign to the difference between state-mandated avoided cost rates under PURPA and the less generous rates for larger, PURPA-exempt facilities.³⁰⁶ Several large-scale wind projects in Idaho had artificially disaggregated into clusters of smaller projects in order to qualify for state's more generous PURPA rates. According to the Idaho Public Utilities Commission, the difference between the two rates made disaggregation so appealing that "any attempt to implement criteria in an effort to prevent disaggregation would be met by attempts to circumvent such criteria."³⁰⁷ Nonetheless, the Commission went on to clarify that "it would be erroneous, and illegal pursuant to PURPA, for this Commission to allow large projects to obtain a rate that is not an accu-

299. *See id.* § 824a-3(m)(1)(B).

300. *See id.* § 824a-3(m)(1)(C).

301. *See* 18 C.F.R. § 292.310(d).

302. *See id.* § 292.309(e), (f), (g).

303. *See supra* Parts III.A, III.B. *See also* Rossi, *supra* note 31, at 253.

304. *Id.*

305. Only in Hawaii, Alaska, and the portion of Texas served by the Electric Reliability Council of Texas would, in the absence of FERC authority over wholesale rates, states retain authority to adopt state feed-in tariffs for renewable power generators of 20MW and more.

306. *See* Idaho Pub. Util. Comm'n. Order No. 32697 (Dec. 18, 2012).

307. *Id.* at 3.

rate reflection of the utility's avoided cost for the purchase of the QF generation."³⁰⁸

IV. WHEN ONE PLUS ONE IS LESS THAN TWO: COMBINING RENEWABLE PORTFOLIO STANDARDS AND FEED-IN TARIFFS FOR RECIPROCAL REDUCTION OF CONSTITUTIONAL RISK

In *California Public Utilities Commission*, FERC did more than just open up a path for state feed-in tariffs that effectively promote renewables without risking preemption under the Supremacy Clause. The Commission gave states the blueprint for a policy strategy that can internalize most, if not all, of the economic benefits associated with renewable energy—without running afoul of the Commerce Clause. The key, remarkably, lies in the proper combination of renewable portfolio standards and feed-in tariffs. By itself, each policy exhibits distinct vulnerabilities to constitutional challenges as it seeks to promote both renewable energy deployment and in-state economic development. A standalone state feed-in tariff with rates high enough to cover the cost of distributed solar and other emerging renewable power generators would not survive a Supremacy Clause challenge due to preemption by the FPA.³⁰⁹ A standalone state renewable portfolio standard that uses location-based requirements and preferences to capture associated economic benefits in-state would, due to its facially discriminatory features, be held to violate the dormant Commerce Clause.³¹⁰ Simple arithmetic suggests that combining two policies that each carry significant constitutional risks would also aggregate those risks. Hence, a two-legged regime, combining renewable portfolio standard and feed-in tariff, that seeks both to offer promotionally effective rates to renewable generators and to internalize the associated economic benefits should be at elevated risk of running afoul both the Supremacy Clause and the dormant Commerce Clause. And, yet, the opposite holds true. Combined implementation of state renewable portfolio standards and feed-in tariffs creates an overall lower constitutional risk profile reducing the state's aggregate exposure to constitutional challenges.

In the preceding section, I have explained how state renewable portfolio standards, especially when combined with a system of carve-outs, enable policymakers to implement feed-in tariff programs that pay clean energy entrepreneurs more than the going rate for electricity generated from coal or natural gas—without preemption under the Supremacy Clause.³¹¹ Feed-in tariffs reciprocate renewable portfolio standards' shield function against constitutional challenges by offering policymakers a constitutionally safe way of ensuring that

308. *Id.* at 4 (citing *Rosebud Enterprises v. Idaho Pub. Util. Comm'n*, 917 P.2d 766, 780 (Idaho 1996)).

309. *See supra* Parts III.A, III.B.

310. *See supra* Part II.B.2.

311. *See supra* Part III.B.3.

most, if not all, of the job creation, tax revenue, and other economic benefits of renewable energy accrue within the state. A state-level feed-in tariff's interconnection mandate and purchase requirement are binding only upon electric utilities operating inside the state's boundaries.³¹² As feed-in tariff programs require local utilities to grant incoming renewable power generators grid access, they create a quasi-delivery requirement, such as those a state renewable portfolio standard might employ to capture some economic benefits. When these interconnections, as is common for QF generators, occur at the distribution-system level,³¹³ their practical effect resembles that of the in-state generation requirements that would be constitutionally impermissible under a state renewable portfolio standard.³¹⁴ Due to their definition along functional, as opposed to location-based terms, not to mention their express authorization by PURPA,³¹⁵ these features do not create the same constitutional vulnerability for a state feed-in tariff that they would trigger for a state renewable portfolio standard, while keeping critical economic benefits associated with renewable energy deployment in-state.

V. NORMATIVE IMPLICATIONS OF THE PROPOSED SOLUTION FOR STATE LEADERSHIP IN CLIMATE AND CLEAN ENERGY POLICY

The idea of combining renewable portfolio standards and feed-in tariffs to enable states to be leaders in climate and clean energy policy may be elegant but is also imperfect. Its elegance lies in the simplicity, by which this joint policy regime honors the anti-protectionist and pro-competitive spirit of modern dormant Commerce Clause doctrine while nevertheless allowing states to capture many of the economic benefits of climate-friendly renewables. These benefits are key to rewarding and, thereby, incentivizing state policy leadership in climate change mitigation. Along the way, states serve as policy incubators and motors of diversity, or, borrowing from the time-honored Brandeisian ideal, as laboratories of democracy and sustainability.³¹⁶ Notwithstanding its conceptual elegance, the proposed solution suffers from imperfections in terms of the underlying policy tools as well as their locus of implementation.

For the purpose of reducing greenhouse gas emissions to mitigate anthropogenic climate change, renewable portfolio standards and feed-in tariffs are both second-best policy options. Economists have long suggested that pricing

312. A state FIT program with a broader reach would no longer be covered by PURPA and also violate the extraterritoriality principle of the dormant Commerce Clause. *See supra* notes 80–81 and accompanying text.

313. *See New York v. Fed. Energy Regulatory Comm'n*, 535 U.S. 1, 31 (2002) (Thomas, J., dissenting) (explaining the interplay between high-voltage transmission and lower-voltage distribution lines).

314. *See supra* Part II.B.2.

315. *See supra* Part III.2.

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

greenhouse gas emissions, in the form of a carbon tax³¹⁷ or cap-and-trade regime,³¹⁸ is, in theory at least, the single most efficient policy to mitigate climate change and promote abatement technologies, such as solar, wind, and other low-carbon renewables.³¹⁹ A price on greenhouse gas emissions would require producers to internalize the cost of their emissions and thereby penalize pollution and encourage abatement. Over time, this direct, static effect would be complemented by an indirect, dynamic effect of encouraging the refinement of existing and development of new abatement technologies.³²⁰ From an efficiency perspective, a tax on greenhouse gas emissions or a cap-and-trade scheme would incur lower opportunity costs than direct support for these technologies, including that afforded by a feed-in tariff or renewable portfolio standard.³²¹

From an institutional perspective, the state-centricity of the proposed solution may raise concerns over the locus of implementation for policies aiming to promote clean energy and mitigate global climate change. The literature is only just beginning to engage with the institutional questions surrounding the implementation of feed-in tariffs in the United States. Recent scholarship, however, makes the case that existing regulatory authority and the greater ability to account for local needs and opportunities point to the state, rather than federal forum for implementation of feed-in tariffs.³²² The literature on renewable portfolio standards, meanwhile, has hotly debated the subject for some time. Those who argue for implementation at the federal level point to the better fit with the inter-state nature of the U.S. electricity grid,³²³ efficiency gains from a unified, national market for trading RECs,³²⁴ and the reduced risk of regulatory leakage.³²⁵ Proponents of state-level renewable portfolio standards, on the other

317. See, e.g., Gilbert E. Metcalf & David Weisbach, *The Design of a Carbon Tax*, 33 HARV. ENVTL. L. REV. 499 (2009).

318. See, e.g., Ann E. Carlson, *Designing Effective Climate Policy: Cap-and-Trade and Complimentary Policies*, 49 HARV. J. ON LEGIS. 207 (2012).

319. See, e.g., Finon, *supra* note 52, at 112; Adam B. Jaffe et al., *A Tale of Two Market Failures: Technology and Environmental Policy*, 54 ECOLOGICAL ECON. 164, 165, 169 (2005); Atanas Kolev & Armin Riess, *Environmental and Technology Externalities: Policy and Investment Implications*, 12 EIB PAPERS 134, 140 (2007); STERN, *supra* note 275, at 35, 348.

320. See Kolev & Riess, *supra* note 319, at 137 (discussing the impact of environmental policy on technological change).

321. See Mormann, *supra* note 275, at 929.

322. See Mormann, *supra* note 1, at 1680.

323. See, e.g., Shelley Welton, *From the States Up: Building a National Renewable Energy Policy*, 17 N.Y.U. ENVTL. L.J. 987, 998 (2009) (describing that state-level renewable portfolio standards are considered “physically at odds” with the interstate transmission system).

324. See, e.g., Benjamin K. Sovacool & Christopher Cooper, *Congress Got It Wrong: The Case for a National Renewable Portfolio Standard and Implications for Policy*, 3 ENVTL. & ENERGY L. & POL’Y J. 85, 105 (2008) (critiquing the volatility of trading prices due to the multiplicity of fragmented state markets for renewable energy credits).

325. See, e.g., Robert J. Michaels, *National Renewable Portfolio Standard: Smart Policy or Misguided Gesture?*, 29 ENERGY L.J. 79, 107 (2008) (warning that the heterogeneity of state renewable portfolio standards might be evidence of a “race to the bottom” where state gov-

hand, argue that existing state policy activism displaces the need for federal action,³²⁶ states are better positioned to account for local renewable resources,³²⁷ and have historically been tasked with determining their own energy portfolios.³²⁸

Whatever the merits of either side's arguments,³²⁹ the proposed solution does not preclude the adoption of a federal renewable portfolio standard in the—however distant³³⁰—future. According to FERC's reasoning in *California Public Utilities Commission*, a state or federal renewable portfolio standard alike could provide the procurement segmentation necessary to facilitate the adoption of effective, yet preemption-proof state feed-in tariffs based on a multi-tiered avoided-cost calculus.³³¹

From a practical perspective, one may wonder whether it makes economic sense for a northern state with limited solar resources such as New Jersey to be a contender for the distinction of "solar capital of the nation."³³² Whatever is driving the Garden State's commitment to solar energy—be it environmental or economic motives, or a combination of the two—the political accountability of its policymakers suggests that a majority of New Jersey's electorate supports the push for solar.

Meanwhile, recent events in previously solar-friendly Nevada, where the state's Public Utilities Commission slashed incentives for new and existing rooftop solar installations, illustrate how quickly the political pendulum can

ernments compete for economic activity by producing regulations which fail to satisfy the public interest).

326. See, e.g., Ralls, *supra* note 38, at 451 (maintaining that "[a]ctivities on a number of fronts supplant the need for a federal RPS").
327. See, e.g., Joshua P. Fershee, *Changing Resources, Changing Market: The Impact of a National Renewable Portfolio Standard on the U.S. Energy Industry*, 29 ENERGY L. J. 49, 59 (2008) (laying out the argument that a federal renewable portfolio standard would lead to significant transfers of wealth from states with scarce renewable energy resources to states with an abundance of renewables).
328. See, e.g., Steven Ferrey, *Power Future*, 15 DUKE ENVTL. L. & POL'Y F. 261, 284 (2005) (pointing to the states' historical role as drivers of energy policy).
329. See Mormann, *supra* note 1, at 1680–81 (suggesting that the benefits of a nationwide market for renewable energy credits point to the federal forum as the preferred locus of implementation for renewable portfolio standards).
330. If recent Congressional history is any indication, the adoption of a federal renewable portfolio standard appears unlikely in the foreseeable future. See Davies, *supra* note 44, at 1341 (reporting over two dozen failed proposals for a federal renewable portfolio standard).
331. Recent scholarship has made the case for integrated use of a state feed-in tariff and a state or federal renewable portfolio standard to better mitigate investor and regulatory risk. See Mormann, *supra* note 1, at 1659.
332. *New Jersey, A New Solar Energy Capital*, RENEWABLE ENERGY WORLD (Mar. 26, 2004), <https://perma.cc/4Q8V-JP5F>. See also Lauren Craig, *Solar Capital? It Could Be Vineland, NJ*, EARTH TECHLING (Nov. 20, 2011), <https://perma.cc/4S8Z-FPEH>.

swing back.³³³ Such political volatility and the resulting policy uncertainty³³⁴ may be inevitable and a price worth paying for the state forum's proven ability to overcome the collective action problems that continue to hinder Congressional action in the context of climate and clean energy policy.³³⁵ The proposed combination of renewable portfolio standards and feed-in tariffs to facilitate continuing state policy leadership in this space is, after all, an imperfect solution for an imperfect world.

CONCLUSION

In the absence of decisive Congressional action to combat climate change and promote low-carbon renewable energy, more and more states are stepping in to fill the climate policy void. The proliferation of state renewable portfolio standards suggests that a majority of states are prepared to give their neighbors, and the world at large, a free ride in terms of the environmental benefits of their policy activism. Yet, when it comes to the job creation, tax revenue, and other economic benefits of clean energy deployment, states are less willing to share, as indicated by the prevalence of in-state requirements and preferences among state renewable portfolio standards. With their facial discrimination, these requirements and preferences violate the Constitution's dormant Commerce Clause, placing critical policy momentum for global climate change mitigation and a cleaner energy economy at risk.

Feed-in tariffs, such as those recently adopted by a growing number of pioneering states, allow states to capture most of the economic benefits of their commitment to renewables without running afoul of the dormant Commerce Clause. But state feed-in tariff programs raise issues under the Constitution's Supremacy Clause due to their possible preemption by the FPA. This apparent dilemma has prompted a number of scholars to call for reform of existing Commerce Clause doctrine and Congressional action to expressly authorize discriminatory state renewable portfolio standards and state feed-in tariffs.

Pushing back against the prevailing scholarly pessimism and recognizing the improbability of proposed reforms, this Article makes the case that states can advance global environmental and local economic interests alike by combining renewable portfolio standards and feed-in tariffs. In its recent, largely overlooked *California Public Utilities Commission* decision, FERC has given

333. See Decisions and Orders, Docket 2015-07041, Pub. Utils. Comm'n of Nev. (2016). See also *New Metering Rates and Rules*, PUB. UTILS. COMM'N OF NEV. <https://perma.cc/YC5S-FGVB>.

334. See Felix Mormann, *Enhancing the Investor Appeal of Renewable Energy*, 42 ENVTL. L. 681, 705-06 (2012) (noting the critical importance of policy certainty to leverage private-sector investment).

335. See *supra* note 330; see generally MANCUR OLSON, *THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS* (1971).

state policymakers a blueprint for joint implementation of both policies in a way that reduces, rather than exacerbates, the overall risk of constitutional challenges to the state's policy commitment to climate change mitigation and a cleaner energy economy. The proper combination of both policies proves mutually beneficial as renewable portfolio standards shield promotionally effective state feed-in tariffs from preemption by the FPA while the states' geographically limited tariff-setting authority under PURPA ensures that most of the economic benefits associated with their commitment to clean energy are captured in-state.