

FERC'S TETHER TANTRUM: WHY SUPPRESSING STATE SUPPORT FOR RENEWABLE ENERGY VIOLATES THE FEDERAL POWER ACT AND THREATENS U.S. CLIMATE LEADERSHIP

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ABSTRACT

The United States' role as a proactive leader on combatting climate change reached its high-water mark during the presidency of Barack Obama. At the United Nation's 2015 Paris Climate Conference, the United States acknowledged the scientifically observed link between anthropogenic greenhouse gas (GHG) emissions and global warming and negotiated a deal with other nations to adapt to and prevent its consequences. Among the commitments that emerged from this deal was the United States' ambitious but achievable target to reduce economy-wide GHG emissions 26 to 28% below 2005 levels by 2025. The most consequential effort to meet this goal was the Clean Power Plan, under which the federal government introduced standards that would help reduce GHG emissions in the electricity sector by improving power plant efficiency and transitioning from coal to natural gas and renewable energy. President Donald Trump has dramatically curtailed these environmental standards, among many others, such that the United States is no longer on track to honor its commitment to its peer nations.

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*In the absence of federal climate change leadership, state policies supporting the use of renewable energy for electricity generation are becoming increasingly essential for the United States to meet its emissions reduction target. Many states are rising to this challenge by passing legislation to source much or all of their electricity needs from zero-emission sources like wind, solar, or nuclear power. This policymaking model may no longer be viable, however, due to two recent rulings by the Federal Energy Regulatory Commission (FERC). In *Calpine Corp. v. PJM Interconnection, LLC and ISO New England, Inc.*, FERC creatively reinterpreted its governing statute, the Federal Power Act, to require FERC to suppress the effects of states' renewable energy policies.*

As this Comment explains, these decisions fail to accommodate legitimate exercises of state power as the Federal Power Act (FPA) and Supreme Court precedent require. Consistent with the states' traditional police power to protect their citizens' health and welfare, the FPA expressly preserves significant authority for states to regulate local electricity generation facilities and electricity sales to in-state consumers. Supreme Court precedent has established a collaborative federalism model to resolve modern jurisdictional disputes between state and federal authority to regulate in the electricity sector. Under this model, states may subsidize preferred electricity providers within their territory, irrespective of the impacts of those subsidies on interstate electricity markets under federal jurisdiction, so long as those subsidies are not "tethered" to the recipients participating in interstate electricity markets. By negating state renewable energy policies that are constitutionally valid exercises of the states' traditional police power as well as consistent with the Supreme Court's "tethering" test, FERC's recent rulings contradict these established principles. Accordingly, these rulings should be overturned, and FERC should accommodate—rather than suppress—states' legitimate interests in combatting climate change.

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INTRODUCTION

The science is clear: our time to act on climate change¹ is running out. On September 23, 2019 at the United Nations Climate Action Summit, climate activist Greta Thunberg made an impassioned call for

1. “Climate change” and “global warming” are often used interchangeably but have slightly different meanings. *What’s the Difference Between Climate Change and Global Warming?*, NASA, <https://climate.nasa.gov/faq/12/whats-the-difference-between-climate-change-and-global-warming>. “Global warming” refers to global temperature rise beginning in the twentieth century that is largely attributable to the increased concentration of greenhouse gasses in the Earth’s atmosphere. *See id.*; *What Is the Difference Between Global Warming and Climate Change*, US GEOLOGICAL SURV., https://www.usgs.gov/faqs/what-difference-between-global-warming-and-climate-change-1?qt-news_science_products=0#qt-news_science_products. “Climate change” refers to a broader range of observed impacts of changing climatic patterns, including global warming, warming oceans, ice melt, extreme weather events, and ocean acidification. *Climate Change: How Do We Know?*, NASA, <https://climate.nasa.gov/evidence>.

world leaders to heed the latest and most reliable scientific findings on climate change:

To have a 67% chance of staying below a 1.5[°C] global temperature rise—the best odds given by the [Intergovernmental Panel on Climate Change] [(IPCC)]—the world had 420 gigatons of CO₂ [carbon dioxide] left to emit back on Jan[uary] 1st, 2018. . . . With today's emissions levels, that remaining CO₂ budget will be entirely gone within less than 8 1/2 years.²

During the 2015 Paris Climate Conference,³ the United States participated in international negotiations with other parties to the United Nations Framework Convention on Climate Change.⁴ At the

2. *Transcript: Greta Thunberg's Speech at the U.N. Climate Action Summit*, NAT'L PUB. RADIO (Sept. 23, 2019, 1:58 PM), <https://www.npr.org/2019/09/23/763452863/transcript-greta-thunbergs-speech-at-the-u-n-climate-action-summit> [<https://perma.cc/KDK7-58EC>]. These findings are not controversial. The IPCC report that Thunberg refers to represents the most comprehensive climate science assessment ever, citing more than 6,000 peer-reviewed studies. *See Rapid Response Needed to Limit Global Warming*, SCI. DAILY (Oct. 8, 2018), <https://www.sciencedaily.com/releases/2018/10/181008075147.htm> [<https://perma.cc/GAQ2-MWLP>]. *See generally* Intergovernmental Panel on Climate Change [IPCC], *Global Warming of 1.5°C* (2018), https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_High_Res.pdf [<https://perma.cc/A474-AMSK>]. The December 2019 emergence of the COVID-19 pandemic has, admittedly, led to an “unprecedented decline” in current global carbon dioxide emissions. *See* Int'l Energy Agency [IEA], *Global Energy Review 2020: The Impacts of the Covid-19 Crisis on Global Energy Demand and CO₂ Emissions*, at 16, 44 (Apr. 2020), <https://www.iea.org/reports/global-energy-review-2020> [<https://perma.cc/H9D7-LP L4>] (noting that global carbon dioxide emissions fell 5% in the first quarter of 2020 relative to the same time period in 2019). Reduced economic activity and an associated plunge in demand for coal, oil, and natural gas fuel sources are responsible for this decline. *Id.* at 3. However, the longevity of these emissions reductions is doubtful as lockdown measures ease. *See id.* at 21, 44 (suggesting that “unwillingness to use public transport[ation]” post-COVID-19 may increase gasoline consumption in the transportation sector, and that recoveries from previous economic downturns have caused “immediate rebounds” in carbon dioxide emissions). Indeed, the International Monetary Fund and the Energy Information Administration forecast that global carbon emissions will rebound by 5.8% and 3.5%, respectively, in 2021 alone. Corinne Le Quéré et al., *Temporary Reduction in Daily Global CO₂ Emissions During the Covid-19 Forced Confinement*, NATURE (May 19, 2020), <https://www.nature.com/articles/s41558-020-0797-x> [<https://perma.cc/2Z6P-WAU3>].

3. *The Paris Agreement*, UNITED NATIONS CLIMATE CHANGE, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement> [<https://perma.cc/SD5V-C3Z9>].

4. *Nationally Determined Contributions (NDCs)*, UNITED NATIONS CLIMATE CHANGE, <https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs> [<https://perma.cc/EPH5-NEZN>]; Melissa Denchak, *Paris Climate Agreement: Everything You Need to Know*, NAT. RESOURCES DEF. COUNCIL

conference, these parties submitted Nationally Determined Contributions (NDCs), voluntary commitments by signatory states to reduce greenhouse gas (GHG) emissions across sectors and adapt to looming climate change impacts.⁵ In its own NDC, the United States set an “economy-wide target of reducing its greenhouse gas emissions by 26–28[%] below its 2005 level [by] 2025.”⁶ The centerpiece of the U.S. NDC was the Obama Administration’s Clean Power Plan (CPP), in which the Environmental Protection Agency (EPA) proposed guidelines to reduce electricity sector emissions 32% below 2005 levels by 2030.⁷ The Obama Administration intended to achieve this goal through the EPA’s promulgation of performance standards for power plants under the Clean Air Act⁸ that would make coal-fired power plants more efficient and facilitate the transition from coal-based electricity to natural gas and renewable energy resources.⁹

In a series of rollbacks, the Trump Administration has dramatically curtailed federal climate-focused initiatives, including by withdrawing from the 2015 Paris Climate Agreement¹⁰ and replacing the CPP with the Affordable Clean Energy (ACE) Rule.¹¹ Under the ACE Rule, the EPA asserts that it lacks statutory authority under the Clean Air Act to

(Dec. 12, 2018), <https://www.nrdc.org/stories/paris-climate-agreement-everything-you-need-know> [<https://perma.cc/LKC5-69B8>].

5. *Nationally Determined Contributions (NDCs)*, *supra* note 4.

6. *U.S.A. First NDC Submission*, UNITED NATIONS CLIMATE CHANGE, <https://www.unfccc.int/sites/ndcstaging/PublishedDocuments/United%20States%20of%20America%20First/U.S.A.%20First%20NDC%20Submission.pdf> [<https://perma.cc/6QXD-S2RV>].

7. Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 80 Fed. Reg. 64,662, 64,665 (Oct. 23, 2015) (to be codified at 40 C.F.R. pt. 60) [hereinafter Clean Power Plan].

8. 42 U.S.C. §§ 7401–7671q (2012).

9. See Clean Power Plan at 64,663; Press Release, White House, Office of the Press Sec’y, Fact Sheet: U.S. Reports its 2025 Emissions Target to the UNFCCC (Mar. 31, 2015), <https://obamawhitehouse.archives.gov/the-press-office/2015/03/31/fact-sheet-us-reports-its-2025-emissions-target-unfccc> [<https://perma.cc/6KH6-UAUN>]; *Fact Sheet: Overview of the Clean Power Plan*, U.S. ENVTL. PROT. AGENCY, <https://archive.epa.gov/epa/cleanpowerplan/fact-sheet-overview-clean-power-plan.html> [<https://perma.cc/UHL9-VRX8>].

10. Lisa Friedman, *Trump Serves Notice to Quit Paris Climate Agreement*, N.Y. TIMES (Nov. 4, 2019), <https://www.nytimes.com/2019/11/04/climate/trump-paris-agreement-climate.html>.

11. Repeal of the Clean Power Plan; Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units; Revisions to Emission Guidelines Implementing Regulations, 84 Fed. Reg. 32,520 (July 8, 2019) (to be codified at 40 C.F.R. pt. 60).

mandate the transition from coal to natural gas and renewable-energy-based electricity generation.¹² Accordingly, the ACE Rule will deliver substantially smaller electricity sector GHG emissions reductions than the CPP promised.¹³

In the absence of federal leadership on climate change policy, state policies supporting the growth of renewable energy are essential for the United States to meet the emissions reduction target set in its NDC. Many states are seeking to reduce electricity sector emissions by implementing Renewable Portfolio Standards and Clean Energy Standards (collectively, “RPS”), and by making efforts to put a price on carbon pollution.¹⁴ This Comment examines two recent Federal Energy Regulatory Commission (FERC) rulings that seek to suppress the effects of mid-Atlantic and New England states’ RPS policies, demonstrates how these state policies are both constitutionally valid and consistent

12. *Id.* at 32,522.

13. *See USA, CLIMATE ACTION TRACKER* (Jul 30, 2020), <https://climateactiontracker.org/countries/usa> [<https://perma.cc/R8S2-BNKX>] (ranking the United States’ current climate commitments as “critically insufficient” to holding global warming below 2°C, let alone the Paris Agreement’s stronger 1.5°C limit).

14. Rich Glick & Matthew Christiansen, *FERC and Climate Change*, 40 ENERGY L.J. 1, 11 & n.44 (2019). California, the District of Columbia, Hawaii, New Mexico, New York, and Washington have all either passed legislation or announced goals to source 100% of their electricity from carbon-free sources like wind, solar, or nuclear power by midcentury. *Id.* at 25 n.114. No states directly tax GHG emissions; however, several states put a price on GHGs through cap-and-trade programs. *Id.* at 11 n.46. RPS programs require that utilities serving customers in the state source a specified percentage of their electricity supply from specified clean energy resources. State Renewable Portfolio Standards and Goals, NAT’L CONFERENCE OF STATE LEGISLATURES (Apr. 17, 2020), <https://www.ncsl.org/research/energy/renewable-portfolio-standards.aspx> [<https://perma.cc/W622-F7EG>]. Utilities that are subject to RPS requirements must obtain Renewable Energy Credits (RECs) or Zero Emissions Credits (ZECs) that represent the environmental attributes of one megawatt hour of renewable or zero-emission energy generation. *Id.* Often, RPS programs will incorporate trading systems that reduce compliance costs by allowing regulated utilities to obtain RECs and ZECs either by generating renewable or zero-emission electricity themselves or by purchasing excess RECs or ZECs owned by other utilities in the applicable electricity market. *Renewable Energy Explained: Portfolio Standards*, U.S. ENERGY INFO. ADMIN. (Nov. 18, 2019), <https://www.eia.gov/energyexplained/renewable-sources/portfolio-standards.php> [<https://perma.cc/WM68-PT69>]. Those utilities that fail to obtain sufficient RECs or ZECs to comply with the RPS are often subject to “Alternative Compliance Payments.” *See Comparison of Renewable Portfolio Standards (RPS) Programs in PJM States*, PJM ENVTL. INFO. SERVS., <https://www.pjm-eis.com/~media/pjm-eis/documents/rps-comparison.ashx> [<https://perma.cc/7W7P-P3AU>].

with the Federal Power Act¹⁵ (FPA), and concludes that the FERC rulings suppressing these state policies should be overturned.

Part I explains the need to transform the United States' antiquated electrical grids to address climate change and the formation of the electricity sector's interstate market regulators—Independent System Operators and Regional Transmission Organizations (collectively, "ISO/RTOs"). Part I also discusses the body of case law informing the electricity sector's "collaborative federalism" jurisdictional structure under the FPA, which delineates between the federal government's regulatory authority over interstate wholesale electricity sales and transmission infrastructure and the states' regulatory authority over intrastate retail electricity sales and generation facilities. Finally, Part I discusses FERC's rulings in *Calpine Corp. v. PJM Interconnection, LLC*¹⁶ and *ISO New England, Inc.*¹⁷ ("ISO-NE"), which imply that ISO/RTOs have an obligation to suppress the effect of state incentives for renewable energy due to their potential to decrease prices that fossil-fuel-based electricity generators receive in wholesale markets. Part II compares these rulings with precedent interpreting the FPA's collaborative federalism jurisdictional framework to demonstrate that the state RPS policies at issue in *Calpine* and *ISO-NE* (the "RPS Policies") are both constitutionally valid and fall under the states' exclusive jurisdiction to regulate intrastate electricity generation facilities. Part III concludes that FERC's proposed alternative treatment for subsidized renewable energy generation facilities violates the FPA and will further hinder vital state-led efforts to combat climate change.

I. BACKGROUND

Discerning the relationship between FPA's collaborative federalism principles and state renewable energy policies first requires understanding the states' motivations for those policies and the history in which the electricity sector developed. Accordingly, the following Sections explain the social, environmental, and economic risks of unmitigated climate change, the importance of electricity sector transformation to address those risks, and the technological and regulatory evolution underlying the modern electrical grid.

15. Federal Power Act, Pub. L. No. 74-333, 49 Stat. 803, 838 (1935).

16. 163 FERC ¶ 61,236 (2018).

17. 162 FERC ¶ 61,205 (2018).

A. *Climate Change Impacts Are Increasing the Urgency of Electricity Sector Transformation*

What will happen if we fail to prevent global warming in excess of 1.5°C? Anthropogenic global warming has already resulted in observed changes to the environment, including rising land and ocean temperatures, more frequent drought and heatwaves, and increasingly intense precipitation events.¹⁸ While future impacts will vary depending on the rate of warming, geographic location, levels of economic development, and policy choices, experts have explained that global warming in excess of 1.5°C poses profound and potentially irreversible risks to human health, food security, water supply, and economic growth.¹⁹ Indeed, the Trump Administration's own National Climate Assessment indicates that, absent a dramatic reduction in GHG emissions, *annual* U.S. economic losses caused by climate change will reach hundreds of billions of dollars by the end of the century.²⁰

Limiting global warming to 1.5°C requires “rapid and far-reaching” transitions to reduce emissions from energy, land, infrastructure, and industrial systems.²¹ Globally, human-caused emissions of CO₂ would

18. IPCC, *supra* note 2, at 177.

19. *Id.* at 5, 9. Global warming poses risks including increased prevalence of heat and ozone-related mortality, urban heatwaves, and vector-borne diseases such as malaria and dengue fever. *Id.* at 9. Accordingly, climate change presents an “unacceptably high level of risk for the current and future health of populations across the world.” Nick Watts et al., *The 2018 Report of the Lancet Countdown on Health and Climate Change: Shaping the Health of Nations for Centuries to Come*, 392 LANCET 2479, 2479 (2018). Further, IPCC anticipates poverty will increase as global warming increases because disadvantaged and vulnerable populations that are dependent on agricultural and coastal livelihoods will experience disproportionately adverse consequences from global warming. IPCC, *supra* note 2, at 9. Global warming in excess of 1.5°C will also negatively affect global food security due to “projected impacts of climate change and extreme weather on yields, crop nutrient content, livestock, fisheries and aquaculture and land use.” *Id.* at 238. Further, studies suggest that global warming increases the likelihood of water scarcity and drought in the Mediterranean region and Southern Africa. *Id.* at 200. Meanwhile, hazards of river flooding and runoff will likely increase in other regions due to increased extreme precipitation events. *Id.* at 203. Finally, studies demonstrate that limiting global warming to 1.5°C instead of 2°C would save 8.1–11.6 trillion USD in avoided damages to gross world product by 2050 alone. *Id.* at 256.

20. U.S. GLOB. CHANGE RESEARCH PROGRAM, FOURTH NATIONAL CLIMATE ASSESSMENT: IMPACTS, RISK, AND ADAPTION IN THE UNITED STATES 26 (2018), <https://nca2018.globalchange.gov> [<https://perma.cc/3VLQ-AVVM>] (stating that annual losses in some economic sectors are projected to exceed the current GDP of many U.S. states).

21. IPCC, *supra* note 2, at 15.

need to fall by about 45% from 2010 levels by 2030 and reach “net zero” emissions by around 2050.²² Studies propose a range of technological and policy options to reach this target, but they consistently call for an accelerated transition from electrical grids²³ to renewable energy (or renewables).²⁴

The United States has an essential role to play in reducing global electricity sector CO₂ emissions. Until recently,²⁵ electrical systems were the single largest source of U.S. GHG emissions, and they currently produce 1,809 million metric tons of CO₂-equivalent emissions annually.²⁶ Even though the federal government has walked back support for renewable energy,²⁷ technological advances and changing consumer preferences are driving decarbonization of the electricity sector.²⁸ As a result, renewable energy technologies are now often the lowest cost form of new energy and regularly cost customers less than electricity

22. *Id.* at 12.

23. In the electricity sector, the term “electrical grid” often references the entirety of the interconnected network that generates, supplies, and delivers electricity to consumers. *See Smart Meters and a Smarter Grid*, U.S. DEP’T OF ENERGY (May 16, 2011), <https://www.energy.gov/energysaver/articles/smart-meters-and-smarter-grid> [<https://perma.cc/A8YU-MVYM>]. The term carries this meaning in this Comment unless otherwise indicated.

24. IPCC, *supra* note 2, at 320. To limit global warming to 1.5°C, the studies that the IPCC report cites call for sourcing up to 79% of all electricity from renewables alone by 2030. *Id.*

25. As of 2017, GHG emissions from transportation activities accounted for the largest portion (28.9%) of total U.S. greenhouse gas emissions, followed by electricity sector emissions, which accounted for 27.5% of total emissions. U.S. ENVTL. PROT. AGENCY, EPA 430-R-19-001, INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990-2017 ES-24 (2017), <https://www.epa.gov/sites/production/files/2019-04/documents/us-ghg-inventory-2019-main-text.pdf> [<https://perma.cc/GTE8-3PH8>].

26. U.S. ENVTL. PROT. AGENCY, U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990-2016 ES-6 (2018), https://www.epa.gov/sites/production/files/2018-01/documents/2018_complete_report.pdf [<https://perma.cc/BG4N-44SC>].

27. *See supra* notes 10–13 and accompanying text.

28. *2020 Renewable Energy Industry Outlook*, DELOITTE (2019), <https://www.deloitte.com/content/dam/Deloitte/us/Documents/energy-resources/us-2020-renewable-energy-industry-outlook.pdf> [<https://perma.cc/8BMK-VRG9>] (“Renewables are likely to continue moving into the driver’s seat in electricity markets as utilities and regulators prefer them to replace retiring capacity and customers increasingly choose them to save costs and address climate change concerns.”). As of 2017, electricity generation levels were essentially equivalent to generation levels in 2005, while 2017 CO₂ emissions fell 27% below 2005 levels. Jonathan L. Ramseur, CONG. RESEARCH SERV., R45453, U.S. CARBON DIOXIDE EMISSIONS IN THE ELECTRICITY SECTOR: FACTORS, TRENDS, AND PROJECTIONS 8 (2019).

from existing fossil-fuel-fired power plants.²⁹ Indeed, a November 2018 assessment of the cost of energy comparing energy generation and storage resources showed that, even accounting for high upfront capital investment costs, renewable energy generation costs are now at or below the marginal costs of conventional fossil-fuel-based generation.³⁰ States have tried to capitalize on these cost trends to drive grid transformation; however, these efforts are complicated due to the electricity sector's slowly evolving regulatory regime, which imposes jurisdictional limitations on states' policymaking authority.³¹

B. *Electricity Sector Regulation in the United States*

Culminating with its most recent ruling on the FPA in *Hughes v. Talen Energy Marketing, LLC*,³² the Supreme Court has authored lengthy precedent interpreting the FPA with respect to jurisdictional disputes between states and the federal government in the U.S. electricity sector.³³ The evolution of this precedent towards a collaborative federalism structure mirrors technological advancements within the electricity sector and gradual restructuring of the sector towards interconnectivity.³⁴

1. *Early electricity sector regulation*

At their inception, electrical grids carried power from centralized electricity generation facilities, and the efficiency of transmission and distribution infrastructure was limited.³⁵ As a result, early electrical utilities were small and isolated and could only profitably supply local electricity demand.³⁶ Utilities at this time were vertically integrated,

29. Glick & Christiansen, *supra* note 14, at 7.

30. *Levelized Cost of Energy and Levelized Cost of Storage 2018*, LAZARD (Nov. 8, 2018), <https://www.lazard.com/perspective/levelized-cost-of-energy-and-levelized-cost-of-storage-2018> [<https://perma.cc/WUF8-S5BB>].

31. *See infra* Section I.B.

32. 136 S. Ct. 1288 (2016).

33. *See infra* Section I.B.3.a–d.

34. *See Hughes*, 136 S. Ct. at 1299–1300 (Sotomayor, J., concurring) (stating that, given the inherently interconnected nature of the modern electrical grid, crossover impacts of federal and state activities in the electricity sector are not only permissible but intended under the FPA's collaborative federalism structure).

35. *See* Michael Panfil, *From Attleboro to EPSA: The Pace of Change and Evolving Jurisdictional Frameworks in the Electricity Sector* 5 (Sept. 23, 2019) (unpublished manuscript, on file with author) (discussing the first centralized electricity generation system in New York City in 1882).

36. *See* Panfil, *supra* note 35, at 5 (noting that states regulated the electricity sector because power grids were “small, isolated, and individual”).

meaning they owned and operated all aspects of the electrical grid, from the power plants themselves to the transmission and distribution infrastructure carrying power to industrial and residential consumers.³⁷

Because early electrical utilities were small and isolated, their operation was almost exclusively limited to within a particular state.³⁸ As a result, state and local Public Utility Commissions led initial regulatory oversight of the sector, granting utilities monopoly franchises that guaranteed a regulated rate of return based on their cost of service in exchange for a promise that the utilities would provide service to the region's captive customer bases.³⁹ As electricity generation, transmission, and distribution technologies improved, many companies began to enter the industry, seeking to capitalize on economies of scale by interconnecting electrical grid infrastructure, often over state lines.⁴⁰ By allowing interconnected utilities to draw upon each other's generation reserves when needed, rather than forcing each utility to independently maintain enough generation capability to consistently meet demand, grid interconnectivity had the potential to reduce service costs and enhance service reliability.⁴¹

However, grid interconnectivity also reduced the ability of states to effectively regulate monopolist utilities that, despite efficiency gains from interconnectivity, could charge higher prices. These utilities realized they could use interstate consolidation to evade state regulatory authority because "states did not have jurisdiction over interstate transmission or rates charged for electricity," and, at the time, "federal

37. *Federal Power Act and Organized Electricity Markets*, R ST. ELEC. (Aug. 2016), <https://www.rstreet.org/wp-content/uploads/2018/04/electricity1-1.pdf> [<https://perma.cc/7WLK-SNVC>].

38. *Id.*

39. *Id.*

40. See CONG. RESEARCH SERV., R44783, *THE FEDERAL POWER ACT (FPA) AND ELECTRICITY MARKETS 3–5* (2017) [hereinafter *FEDERAL POWER ACT*].

41. See J. DUNCAN GLOVER ET AL., *POWER SYSTEM ANALYSIS AND DESIGN* 17 (5th ed. 2012) ("[I]nterconnected utilities can [also] schedule power transfers during normal periods to take advantage of energy-cost differences in respective areas, load diversity, time zone differences, and seasonal conditions. For example, utilities whose generation is primarily hydro can supply low-cost power during high-water periods in spring/summer, and can receive power from the interconnection during low-water periods in fall/winter. Interconnections also allow shared ownership of larger, more efficient generating units.").

regulations did not exist for such interstate activities.”⁴² This blind spot in the electricity sector became known as the “*Attleboro Gap*.”⁴³

To mitigate the unregulated market power of interstate utilities, Congress enacted the Federal Power Act in 1935. The FPA vested the Federal Power Commission (now FERC) with authority to regulate “the sale of electric energy at wholesale in interstate commerce” and “the transmission of electric energy in interstate commerce.”⁴⁴ Pursuant to this authority, the FPA requires FERC to ensure that all prices set for the sale of electricity under its regulatory authority (and all regulations affecting such prices) are “just and reasonable,” and to refrain from “grant[ing] any undue preference or advantage” to any company or “maintain[ing] any unreasonable difference in rates, charges, . . . [or] facilities . . . between localities or . . . classes of service.”⁴⁵ However, in establishing a federal regulator with authority over interstate transactions in the electricity sector, the FPA also explicitly reserved to the states regulatory authority over intrastate aspects of the sector, including retail electricity sales and electricity generation facilities themselves.⁴⁶

2. *Bright line jurisdiction*

A “steady flow” of cases followed passage of the FPA, testing the jurisdictional limits that the FPA’s division of authority between the states and FERC imposed.⁴⁷ Early cases interpreting this division of authority sought to create a clear rule, finding “Congress meant to draw a bright line easily ascertained, between state and federal jurisdiction.”⁴⁸

42. FEDERAL POWER ACT, *supra* note 40, at 2; Clinton A. Vince & John S. Moot, *Federal Preemption Versus State Utility Regulation in a Post-Mississippi Era*, 10 ENERGY L.J. 1, 9–10 (1989) (“[Electrical utilities] were regulated solely by state public service commissions. . . . The monopoly power that utilities possessed, unencumbered by wholesale-level regulation, provided the seeds for corporate mischief and overreaching.”).

43. *See* Pub. Utils. Comm’n of R.I. v. *Attleboro Steam & Elec. Co.*, 273 U.S. 83, 90 (1927) (finding that the sale of electrical current delivered by one company to another at the state line is a transaction in interstate commerce, and, therefore, “[t]he rate is . . . not subject to regulation by either of the two States . . . [and] if such regulation is required it can only be attained by the exercise of the power vested in Congress”).

44. 16 U.S.C. § 824(b)(1) (2018); *see supra* note 15.

45. *Id.* § 824d(a)–(b).

46. *Id.* § 824(b)(1) (“[FERC] . . . shall not have jurisdiction . . . 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 . . .”).

47. *FERC v. Elec. Power Supply Ass’n*, 136 S. Ct. 760, 766 (2016).

48. *Fed. Power Comm’n v. S. Cal. Edison Co.*, 376 U.S. 205, 215 (1964).

Physical characteristics of electrical grid assets, along with their geographical location, informed bright line jurisdictional analysis, with power generated for interstate wholesale markets falling under FERC jurisdiction and power generated for intrastate retail markets falling under state jurisdiction.⁴⁹

Bright line jurisdictional analysis was particularly well suited to the early electrical grid because of the physical characteristics of the electrical grid itself. Utilities during the early twentieth century were predominately vertically integrated local monopolies receiving a regulated rate of return based on their cost of service.⁵⁰ Unlike today, where technologies like rooftop solar and battery storage allow electricity consumers to provide unused electricity services to the wholesale markets,⁵¹ the structure of the early electrical grid was unidirectional, “with one-way flows of energy from central station generators, over transmission networks, through substations to distribution systems, and over radial distribution circuits to end-use customers.”⁵² Accordingly, FERC’s regulatory jurisdiction clearly covered interstate sales of wholesale electricity generation and

49. See *Elec. Power Supply Ass’n v. FERC*, 753 F.3d 216, 221–22 (D.C. Cir. 2014), *rev’d*, 136 S. Ct. 760 (2016) (seeking to fashion a bright line in which “States retain exclusive authority to regulate the retail market”); Robert R. Nordhaus, *The Hazy “Bright Line”: Defining Federal and State Regulation of Today’s Electric Grid*, 36 ENERGY L.J. 203, 207 (2015) (“[T]he Bright Line’s wholesale/retail division of labor remained basically workable for many years. Utilities were largely vertically integrated. Power flowed from large central-station generating facilities through high-voltage transmission systems either for sale at wholesale to other utilities or for delivery through local distribution facilities to end-users. It was clear which sales were at wholesale and which at retail, and the FERC was fairly readily able to distinguish transmission from distribution.”). Wholesale and retail electricity sales are two markets in which buyers and sellers obtain electricity for sale to others or for personal use. See *Wholesale vs. Retail Electricity Costs*, ISO NEW ENG., <https://www.iso-ne.com/about/what-we-do/in-depth/wholesale-vs-retail-electricity-costs> [<https://perma.cc/59QR-BGWU>] (“Like most commodities, electricity is first produced and sold on the wholesale level before it is sold and distributed to consumers on the retail level.”).

50. *New York v. FERC*, 535 U.S. 1, 5 (2002) (“Although there were some interconnections among utilities, most operated as separate, local monopolies subject to state or local regulation. Their sales were ‘bundled,’ meaning that consumers paid a single charge that included both the cost of the electric energy and the cost of its delivery.”); Nordhaus, *supra* note 49, at 207; *Federal Power Act and Organized Electricity Markets*, *supra* note 37.

51. See *infra* notes 72–73 and accompanying text.

52. *Energy Transmission, Storage, and Distribution Infrastructure*, U.S. DEP’T OF ENERGY QUADRENNIAL ENERGY REV. S-1, 3-3 (2015), https://www.energy.gov/sites/prod/files/2015/07/f24/QUER%20Full%20Report_TS%26D%20April%202015_0.pdf [<https://perma.cc/S88M-733G>].

transmission, while state regulatory jurisdiction covered intrastate activity and retail sales after that electricity was ramped down at transformers to be transported through local distribution lines.⁵³

Bright line jurisdictional analysis was also well suited to the early electrical grid due to the characteristics of early electricity generation. Monopolistic utilities naturally prevented competition between different “classes of service” because they were typically the sole providers of wholesale energy resources in the grid.⁵⁴ As a result, FERC could not functionally grant undue advantages to its preferred energy alternatives because no or very few alternatives existed.⁵⁵ This absence of competition in electricity generation markets meant FERC could review the reasonableness of a utility’s proposed cost-of-service ratemaking without the need to—or possibility of—considering its effect on competition between power generation facilities falling under state jurisdiction.⁵⁶

3. *Modern electrical grid restructuring and the emergence of the collaborative federalism jurisdictional framework*

Beginning in the 1970s, an “impulse to restructure” the electricity sector emerged, based on the belief that certain components of the sector could achieve more efficient and reliable outcomes for consumers through competition and introduction of new technologies, rather than through regulation of monopolies based on cost of service.⁵⁷ Indeed, utilities that were guaranteed a rate of return based on their cost of service had a strong incentive to unnecessarily maximize investments in grid infrastructure to guarantee a larger revenue base.⁵⁸ To balance the need for reliable service with competitive prices, proponents of

53. Jeffery S. Dennis et al., *Federal/State Jurisdictional Split: Implications for Emerging Electricity Technologies*, DEP’T OF ENERGY 8 (2016), <https://www.energy.gov/sites/prod/files/2017/01/f34/Federal%20State%20Jurisdictional%20Split-Implications%20for%20Emerging%20Electricity%20Technologies.pdf> [<https://perma.cc/B8YL-P5AY>].

54. 16 U.S.C. § 824d(b) (2018); *Energy Transmission, Storage, and Distribution Infrastructure*, *supra* note 52, at 3-3.

55. *New York*, 535 U.S. at 5 (noting that “[c]ompetition among utilities was not prevalent” when the FPA became law).

56. Jim Rossi, *The Brave New Path of Energy Federalism*, 95 TEX. L. REV. 399, 402 (2016) (explaining that the threat of new technologies in competitive energy markets has “seriously blurred the clear jurisdictional lines of dual sovereignty”).

57. See David B. Spence, *Can Law Manage Competitive Energy Markets?*, 93 CORNELL L. REV. 765, 770 (2008).

58. *Id.* at 770–71.

restructuring called for decoupling electricity generation from delivery.⁵⁹ In this system, electricity generation would be subject to competition and sold separately from the delivery of that electricity, which customers would continue to pay for on a cost-of-service basis.⁶⁰ Acting in concert with the technological advancements enabling this competition, Congress and FERC passed a series of reforms that have strained the bright line jurisdictional framework, necessitating a different approach to resolving jurisdictional disputes in the electricity sector, known as “collaborative federalism.”⁶¹

In 1992, Congress passed the Energy Policy Act,⁶² which enabled and encouraged FERC to require utilities with transmission assets to provide transmission services to generators that were not affiliated with the transmitter’s own generation resources.⁶³ Shortly thereafter, FERC issued Order No. 888, which aimed to create and promote competition in the power generation market by ensuring that all electricity generation companies had fair access to transmission infrastructure.⁶⁴ Order No. 888 required all public utilities that own, control, or operate facilities for transmission of electricity in interstate commerce to (1) file open access non-discriminatory transmission tariffs with FERC available for any generation company to purchase and (2) functionally unbundle their wholesale electricity generation services from their transmission services by charging a separate rate for each service.⁶⁵

59. *See id.* at 772 (observing that while delivery of electricity is a natural monopoly due to the inefficiency of “the construction of duplicate delivery networks between two points,” “[c]ompetition in energy production should eventually weed out those producers that cannot provide reliable service at competitive prices”).

60. *See id.*

61. *See Hughes v. Talen Energy Mktg., LLC*, 136 S. Ct. 1288, 1299–1300 (2016) (Sotomayor, J., concurring) (explaining that crossover impacts of federal and state activities in the electricity sector are both permissible and intended under the FPA’s collaborative federalism structure).

62. Energy Policy Act of 1992, Pub. L. No. 102-486, 106 Stat. 2776 (1992) (codified at 16 U.S.C. § 824j(a) (2018)).

63. *Id.* at 2915.

64. *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities*, Order No. 888, 75 FERC ¶ 61,080, at 1 (1996); *New York v. FERC*, 535 U.S. 1, 16–18, 20 (2002) (affirming Order No. 888 and holding that FERC has jurisdiction over unbundled retail transmissions because these transmissions are part of interstate commerce).

65. *Energy Primer: A Handbook of Energy Market Basics*, FED. ENERGY REG. COMM’N, 39–40 (2015), <https://www.ferc.gov/sites/default/files/2020-06/energy-primer-2020.pdf>.

To regulate these newly unbundled transmission markets, FERC also promoted the establishment of Independent System Operators (ISOs) and Regional Transmission Organizations (RTOs) (collectively, “ISO/RTOs”) in Orders No. 888 and No. 2000, respectively.⁶⁶ These non-profit and independent entities act as transmission market administrators—coordinating, controlling, and monitoring the operation of the electrical grid, including through running auctions that set prices for wholesale electricity generation services.⁶⁷ Today, ISO/RTOs regulate transmission markets for roughly two thirds of the U.S. electricity system.⁶⁸

ISO/RTOs fostered competition in wholesale electricity markets historically dominated by incumbent vertically integrated utilities by facilitating the entrance of independent power producers (also known as “merchant generators”) into the wholesale market auctions.⁶⁹ This new source of competition required FERC to change its standard of review for determining wholesale rates.⁷⁰ Instead of focusing on the reasonableness of a *cost-of-service*-based rate sought by a utility, FERC instead focused on the competitiveness of that rate determined in the *wholesale market auctions* managed by ISO/RTOs.⁷¹

Over time, FERC has introduced energy technologies into these newly competitive wholesale markets that are located beyond the traditional boundaries of federal jurisdiction under the bright line jurisdictional framework. Advanced technologies, such as energy

66. See *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities*, *supra* note 64, at 6; *Regional Transmission Organizations*, Order No. 2000, 89 FERC ¶ 61,285 (1999).

67. See *Energy Primer: A Handbook of Energy Market Basics*, *supra* note 65, at 59 (“RTO market operations encompass multiple services that are needed to provide reliable and economically efficient electric service to customers.”).

68. *Id.* at 40.

69. William Boyd & Ann E. Carlson, *Accidents of Federalism: Ratemaking and Policy Innovation in Public Utility Law*, 63 UCLAL. REV. 810, 832 (2016). Independent power producers typically do not own transmission infrastructure capable of transporting the electricity they generate to sources of demand and therefore must rely on bidding their generation into transmission markets or selling directly to distributors. *Electricity Explained: How Electricity Is Delivered to Customers*, U.S. ENERGY INFO. ADMIN. (2019), <https://www.eia.gov/energyexplained/electricity/delivery-to-consumers.php> [<https://perma.cc/53XH-FTL8>].

70. Joel B. Eisen, *FERC’s Expansive Authority to Transform the Electric Grid*, 49 U.C. DAVIS L. REV. 1783, 1818 (2016).

71. *Id.* at 1812.

storage, rooftop solar, and smart metering,⁷² are often physically located at the end-use consumer and “can provide services in both wholesale and retail markets,” by allowing end-user consumers to control when they draw electricity from the grid, provide electricity to the grid themselves, and reduce peak demand.⁷³ FERC has already begun to acknowledge the cost-savings and grid reliability benefits that demand response⁷⁴ and battery storage technologies provide by facilitating their introduction into interstate wholesale electricity markets in Orders No. 745 and No. 841, respectively.⁷⁵

Recognizing that FERC’s regulatory responsibilities increasingly require consideration of merchant generator competitors and new energy technologies affected by state policy and located beyond FERC’s traditional physically-defined jurisdiction, the Supreme Court has gradually embraced the collaborative federalism framework that it outlined in *New York v. FERC*⁷⁶ and expanded upon in *FERC v. Electric Power Supply Ass’n*⁷⁷ and *Hughes v. Talen Energy Marketing, LLC*. This framework discards bright line jurisdictional framework’s focus on the physical location of an electricity sector asset that a particular policy targets, instead focusing on the intent, target, and effect of the policy to determine whether the asset is subject to state or federal regulatory authority.⁷⁸

72. Smart meters are installed at industrial and residential electricity end-users and wirelessly monitor and communicate electricity consumption data to the serving utility and customer. See *Smart Meters and a Smarter Grid*, *supra* note 23.

73. Dennis et al., *supra* note 53, at 8 (“[N]ew distributed energy resources (including energy storage) can be interconnected to either the FERC-jurisdictional high-voltage transmission system or the state-jurisdictional low-voltage local distribution system (or behind the customer’s meter).”); see PETER FOX-PENNER, SMART POWER: CLIMATE CHANGE, THE SMART GRID, & THE FUTURE OF ELECTRIC UTILITIES 39–40 (2014).

74. “Demand response” refers to policies that encourage consumers to shift their electricity use to balance demand with supply instead of requiring generation resources to supply electricity during peak usage periods. See FOX-PENNER, *supra* note 73, at 40; M.H. Albadi & E.F. El-Saadany, *A Summary of Demand Response in Electricity Markets*, 78 ELECTRIC POWER SYS. RES. 1989, 1990 (2008).

75. See, e.g., *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators*, Order No. 841, 162 FERC ¶ 61,127 (2018) (requiring ISO/RTOs to compensate energy storage resources in wholesale energy markets); *Demand Response Compensation in Organized Wholesale Energy Markets*, Order No. 745, 134 FERC ¶ 61,187 (2011) (requiring ISO/RTOs to compensate demand response resources in wholesale energy markets).

76. 535 U.S. 1 (2002).

77. 136 S. Ct. 760 (2016).

78. Panfil, *supra* note 35, at 1.

a. *New York v. FERC outlines fundamental principles for collaborative federalism*

In *New York v. FERC*, the Supreme Court for the first time outlined principles for interpreting the FPA that would come to underlie the modern collaborative federalism framework.⁷⁹ The State of New York challenged FERC Order No. 888, arguing that FERC invaded exclusive state jurisdiction under the FPA by regulating rates for intrastate retail transmission services unbundled from retail generation services.⁸⁰ In essence, New York's argument called for the Supreme Court to apply the traditional bright line jurisdictional framework to find that the proper jurisdictional line between the states and FERC fell between wholesale and retail markets.⁸¹

In rejecting New York's argument and finding Order No. 888 consistent with the FPA, the Supreme Court first noted that, generally, retail transmission services are, in fact, transmissions in interstate commerce due to the interconnected nature of the national electrical grid.⁸² Therefore, the FPA's statutory allocation of authority to FERC over "transmission of electric energy in interstate commerce" clearly authorized FERC to assert jurisdiction over intrastate transmission services.⁸³ More importantly, however, the Supreme Court acknowledged that the electricity sector had fundamentally changed since the inception of the FPA, when the grid was "neatly divided into spheres of retail versus wholesale sales."⁸⁴ The Court noted that, compared to when the FPA became law in 1935, when "[c]ompetition among utilities was not prevalent," over time competition had "increased dramatically" while technological advances had "made it possible to generate electricity efficiently in different ways and in smaller plants."⁸⁵ The Court recognized that, in seeking to introduce this competition to wholesale power markets by "opening up transmission services" that utilities used "discriminatorily to block competition," Order No. 888

79. Rossi, *supra* note 56, at 428 (noting that the Supreme Court's decision in *New York v. FERC* "provided the first sign that dual sovereignty was destined to fall").

80. *New York*, 535 U.S. at 16.

81. *See id.*

82. *Id.* at 17.

83. *Id.* at 18–20.

84. *Id.* at 16.

85. *Id.* at 5, 7.

actually furthered the FPA's core statutory requirements to "remedy unduly discriminatory practices."⁸⁶

b. FERC v. Electric Power Supply Ass'n enumerates the modern test for jurisdictional disputes involving federal action

In *Electric Power Supply Ass'n*, advocates of incumbent utilities challenged FERC Order No. 745, which required ISO/RTOs to allow new demand response technology-enabled resources to bid into wholesale energy market auctions.⁸⁷ The Electric Power Supply Association (EPSA) noted that demand response resources ultimately originate from end-use customers.⁸⁸ Accordingly, EPSA argued Order No. 745 would impermissibly impact geographic components of the grid traditionally falling under state jurisdiction per the bright line jurisdictional framework.⁸⁹

In rejecting EPSA's argument, the Court noted that "wholesale and retail markets in electricity are inextricably linked" and that "transactions that occur on the wholesale market have natural consequences at the retail level."⁹⁰ With this economic reality in mind, the Court eschewed the bright line jurisdictional framework and adopted an intent- and effects-guided inquiry consistent with the modern collaborative federalism framework.⁹¹ In jurisdictional disputes when FERC action purportedly invades state jurisdiction under the FPA, mere incidental impacts of that action on retail rates under state jurisdiction are of "no legal consequence," so long as FERC's action, as was the case with Order No. 745, (1) "directly affect[s] wholesale rates," (2) does not intentionally regulate retail markets, actors, or rates, and (3) is consistent with the FPA's "core purposes" to "curb prices and enhance reliability in the wholesale electricity market."⁹²

c. Hughes v. Talen Energy Marketing, LLC enumerates the modern "tethering" test for jurisdictional disputes involving state action

In *Hughes*, the Supreme Court applied the principles of collaborative federalism outlined in *New York* and *Electric Power Supply Ass'n* to state

86. *Id.* at 10–11.

87. FERC v. Elec. Power Supply Ass'n, 136 S. Ct. 760, 767 (2016).

88. *Id.* at 786.

89. *Id.* at 777.

90. *Id.* at 766, 776.

91. *See id.* at 780 ("Wholesale demand response . . . is a program of cooperative federalism.").

92. *Id.* at 773, 776.

regulatory actions in the electricity sector, creating a distinct test to determine whether state actions impermissibly invade federal jurisdiction under the FPA.⁹³ *Hughes* centered around a Maryland State policy that solicited proposals from various companies for the construction of a new gas-fired power plant and required in-state utilities to enter into a twenty-year “contract for differences” with the winning generation company (GENCO).⁹⁴ However, unlike a traditional bilateral contract, this contract for differences did not transfer ownership of the GENCO’s electricity generation to the in-state utilities but rather required the GENCO to sell its electricity in wholesale market auctions operated by the state’s RTO.⁹⁵ This contract for differences acted as a subsidy by guaranteeing that the GENCO would receive a certain pre-established rate of return for its electricity, irrespective of the rate set in the wholesale market auction.⁹⁶

The Court began by acknowledging that, given the inherently interconnected nature of the modern electrical grid, FERC’s interstate regulations and states’ intrastate regulations would inevitably affect each other’s respective jurisdictions.⁹⁷ Such crossover impacts are not only permissible but are also intended under the FPA’s collaborative federalism structure.⁹⁸ However, in this case, the Court found that Maryland’s policy nonetheless contravened the FPA’s division of authority because it set the interstate wholesale rate received by the GENCO by “[tether[ing],” or conditioning, subsidy eligibility on the GENCO’s participation in wholesale markets.⁹⁹ Exercising its authority over interstate wholesale electricity markets, FERC approved the RTO’s capacity auction as the *sole* mechanism to set rates for the sale of electricity at wholesale.¹⁰⁰ Therefore, the Court found that Maryland

93. See *Hughes v. Talen Energy Mktg., LLC*, 136 S. Ct. 1288, 1299 (2016).

94. *Id.* at 1294.

95. *Id.* at 1295.

96. See *id.* In this contract structure, if the wholesale market auction price is set lower than the contract price, in-state utilities are responsible for paying the winning company the difference, whereas if the wholesale market auction price is set higher than the contract price, the winning company must pay the in-state utilities the difference. *Id.*

97. See *id.* at 1298 (underscoring that “States . . . may regulate within the domain Congress assigned to them even when their laws incidentally affect areas within FERC’s domain”).

98. See *id.* at 1300 (Sotomayor, J., concurring) (emphasizing the importance of preserving states’ regulatory role to meeting the FPA’s goal of ensuring a sustainable supply of efficient and cost-effective electricity).

99. See *id.* at 1297, 1299.

100. *Id.*

invaded FERC's regulatory authority by requiring the GENCO to participate in the wholesale auction but guaranteeing it a distinct rate from the auction clearing price.¹⁰¹

While FERC's wholesale market auction preempted Maryland's contract for differences policy on the basis of this "tethering" test, the *Hughes* Court emphasized the narrow application of its holding.¹⁰² States may regulate in areas incident to "FERC's domain" so long as the state action does not condition or "tether" subsidy eligibility on the entity participating in and clearing the wholesale market—the Maryland policy's "fatal defect."¹⁰³ Post-*Hughes*, the Court's dismissal of certiorari petitions from litigants challenging state electricity sector policies "untethered to a generator's wholesale market participation" suggests states still have broad latitude to subsidize their preferred energy sources.¹⁰⁴

d. Star and Zibelman apply the collaborative federalism framework to state clean energy policies

In recent years, states have taken a leading role in responding to climate change by designing policies that seek to reduce carbon emissions in the power sector by providing subsidy compensation to low- and no-emission sources of electricity generation.¹⁰⁵ These policies are justified by the states' power to protect their citizens' health and welfare pursuant to their longstanding "traditional police power."¹⁰⁶ State policy preference for particular electricity generation sources is not a new trend; states have frequently directed in-state electricity generation portfolios, often providing large subsidies to fossil fuel

101. *Id.*

102. *See id.* at 1299.

103. *Id.* at 1298–99.

104. *Id.* at 1299; *see Elec. Power Supply Ass'n v. Star*, 904 F.3d 518, 523 (7th Cir. 2018); *Coal. for Competitive Elec. v. Zibelman*, 906 F.3d 41, 51 (2d Cir. 2018); Glick & Christiansen, *supra* note 14, at 27–28.

105. Glick & Christiansen, *supra* note 14, at 11–12, 15.

106. *See, e.g., Barnes v. Glen Theatre, Inc.*, 501 U.S. 560, 569 (1991) ("The traditional police power of the States is defined as the authority to provide for the public health, safety, and morals, and we have upheld such a basis for legislation."); *Huron Portland Cement Co. v. City of Detroit*, 362 U.S. 440, 442 (1960) ("Legislation designed to free from pollution the very air that people breathe clearly falls within the exercise of even the most traditional concept of what is compendiously known as the police power."). Meanwhile, FERC has expressly precluded traditional environmental considerations from its ratemaking authority under the FPA. *Grand Council of Crees (of Quebec) v. FERC*, 198 F.3d 950, 956 (D.C. Cir. 2000).

interests in the process.¹⁰⁷ This state-level support has coincided with substantial federal funding for the energy industry, heavily tilted towards fossil-fuel-based energy.¹⁰⁸

Litigation over recent climate change policy in Illinois and New York suggests that state support for renewable and low-emission energy sources will not violate the FPA's division of authority between the states and FERC so long as the state support does not violate the *Hughes* "tethering" test. In 2016, the Illinois legislature passed the Future Energy Jobs Act (FEJA)¹⁰⁹ while New York's legislature passed the Clean Energy Standard (CES).¹¹⁰ Similar to other RPS programs,¹¹¹ FEJA and CES implemented a number of measures to protect the health and welfare of Illinois and New York citizens, respectively, by addressing climate change in part through establishing a "Zero Emission Credit" (ZEC) that compensated in-state nuclear energy resources for "the emissions reduction they provide, as a bridge to a clean energy future."¹¹² However, neither FEJA nor CES required nuclear plants to participate in wholesale market auctions to be eligible for the ZEC subsidy.¹¹³

In *Electric Power Supply Ass'n v. Star*¹¹⁴ and *Coalition for Competitive Electricity v. Zibelman*,¹¹⁵ the plaintiffs argued that the ZECs that FEJA and CES created impermissibly intruded on federal authority to set

107. See generally Nancy Pfund & Ben Healey, *What Would Jefferson Do? The Historical Role of Federal Subsidies in Shaping America's Energy Future*, DBL PARTNERS (Sept. 15, 2011), <http://www.dblpartners.vc/wp-content/uploads/2012/09/What-Would-Jefferson-Do-2.4.pdf?0=&48d1ff=> [<https://perma.cc/ZR7N-6CFD>] ("[T]oday's government incentives for renewable energy pale in comparison to the kind of support afforded emerging fuels during previous energy transitions.").

108. See *id.* Using historical averages weighted to 2010 dollars, average annual federal subsidies for oil and gas were 4.86 billion USD from 1918 to 2009, while average annual federal subsidies for renewables were 370 million USD from 1994 to 2009. *Id.*

109. Future Energy Jobs Act of 2016, PUB. ACT NO. 099-0906, 20 ILL. COMP. STAT. ANN. 3855/1-75 (West 2016).

110. Order Adopting a Clean Energy Standard, ECF No. 55-1, at 2 (Aug. 1, 2016).

111. See *supra* note 14 and accompanying text.

112. Michael Panfil, *Supreme Court Declines to Hear New York and Illinois Clean Energy Cases Challenging Zero Emission Credits*, LEGAL PLANET (May 30, 2019), <https://legal-planet.org/2019/05/30/guest-blogger-michael-panfil-supreme-court-declines-to-hear-new-york-and-illinois-clean-energy-cases-challenging-zero-emission-credits> [<https://perma.cc/2B89-N2EK>].

113. *Elec. Power Supply Ass'n v. Star*, 904 F.3d 518, 523–24 (7th Cir. 2018); *Coal. for Competitive Elec. v. Zibelman*, 906 F.3d 41, 52 (2d Cir. 2018).

114. 904 F.3d 518 (7th Cir. 2018).

115. 906 F.3d 41 (2d Cir. 2018).

rates in wholesale electricity markets because the ZECs provided an additional stream of compensation to particular resources participating in wholesale electricity markets, which improved their overall profit margins.¹¹⁶ The court in each case rejected this argument upon the conclusion that the ZEC policies at issue satisfied the *Hughes* “tethering” test.¹¹⁷ Reaffirming the FPA’s collaborative federalism framework outlined in *New York, Electric Power Supply Ass’n*, and *Hughes*, the Second Circuit emphasized in *Zibelman* that “[c]ourts must avoid mistaking the ‘congressionally designed interplay between state and federal regulation’ for impermissible tension that requires pre-emption.”¹¹⁸ Similarly, in *Star*, the Seventh Circuit reiterated that effects on interstate wholesale markets of state authority under the FPA “do not lead to preemption; they are instead an inevitable consequence of a system in which power [to regulate the electricity sector] is shared between state and national governments.”¹¹⁹

4. *Recent FERC rulings preempt state support for clean energy*

Two recent FERC rulings, *Calpine Corp. v. PJM Interconnection, LLC* and *ISO New England, Inc.*¹²⁰ (“*ISO-NE*”), raise concerns that FERC may seek to preempt state action to combat climate change in favor of supporting incumbent utilities providing emissions-intensive, fossil-fuel-based electricity.

In *Calpine*, PJM Interconnection, an RTO serving mostly mid-Atlantic states, satisfied wholesale electricity demand across its grid by operating capacity auctions in which electricity generation companies competed by submitting bids to supply predicted wholesale electricity demand three years in advance.¹²¹ PJM then set a flat “clearing” price received by all generation companies at the lowest bidding price that

116. *Star*, 904 F.3d at 522; *Zibelman*, 906 F.3d at 48.

117. See *Star*, 904 F.3d at 523 (concluding Illinois’s ZEC program was not preempted because nuclear generators need not sell their power in an interstate auction and are therefore “untethered to a generator’s wholesale market participation”) (internal quotations omitted); *Zibelman*, 906 F.3d at 46 (concluding New York’s ZEC program is not preempted because the plaintiffs “failed to identify an impermissible ‘tether’ under *Hughes*”).

118. *Zibelman*, 906 F.3d at 50.

119. *Star*, 904 F.3d at 524.

120. See generally 162 FERC ¶ 61,205 (2018); 163 FERC ¶ 61,236 (2018).

121. *Understanding the Difference Between PJM’s Markets*, PJM INTERCONNECTION (2019), <https://www.pjm.com/-/media/about-pjm/newsroom/fact-sheets/understanding-the-difference-between-pjms-markets-fact-sheet.ashx?la=en>.

satisfies demand for the entire network.¹²² It was in these circumstances that the District of Columbia and ten of the thirteen states comprising PJM's membership passed legislation implementing RPS programs.¹²³ Similar to the Illinois and New York nuclear energy ZEC policies at issue in *Star* and *Zibelman*, the PJM member states' RPS programs issue Renewable Energy Credits (RECs) and ZECs to renewable and nuclear power generators to compensate for the environmental attributes of their electricity generation.¹²⁴ Because electricity providers can satisfy RPS regulatory requirements by purchasing excess RECs and ZECs from each other, these credits are a potentially valuable subsidy for renewable and nuclear power generators and have been described as “[o]ut-of-market payments.”¹²⁵

Taking specific issue with Illinois's ZEC program—the same one at issue in *Star*—a natural gas generation company filed a complaint before FERC in 2016, claiming the ZEC program would “artificially suppress” PJM's wholesale market clearing prices by allowing “uncompetitive” nuclear energy generation companies to submit bids into PJM's capacity auction that do not reflect their actual costs.¹²⁶ Agreeing with the natural gas company, FERC ordered PJM to “mitigate” the effect of all PJM-state REC and ZEC subsidies in the interstate electricity market through a “minimum offer price rule” (MOPR),

122. *Id.*

123. See Renewable Energy Portfolio Standards Act, DEL. CODE ANN. tit. 26, §§ 351–364 (2019); D.C. CODE §§ 34-1431 to -1440 (2020); Illinois Power Agency Act, 20 ILL. COMP. STAT. ANN. 3855/1-1 to 99-99 (West 2019); Voluntary Clean Energy Portfolio Standard Program, IND. CODE ANN. §§ 8-1-37-1 to -14 (West 2019); Renewable Energy Portfolio Standard, MD. CODE ANN., Pub. Util. §§ 7-701 to -714 (LexisNexis 2019); Clean and Renewable Energy and Energy Waste Reduction Act, MICH. COMP. LAWS ANN. §§ 460.1001–1211 (West 2019); N.J. STAT. ANN. § 48:3-87 (West 2020); Renewable Energy and Energy Efficiency Portfolio Standard, N.C. GEN. STAT. § 62-133.8 (2020); OHIO REV. CODE ANN. § 4928.64 (LexisNexis 2020); Alternative Energy Portfolio Standards Act, 73 PA. STAT. AND CONS. STAT. ANN. §§ 1648.1–8 (West 2019); VA. CODE ANN. § 56-585.2 (repealed 2020). The other three states in PJM Interconnection—Kentucky, Tennessee, and West Virginia—have not passed RPS legislation. *Renewable Portfolio Standards*, DATABASE OF ST. INCENTIVES FOR RENEWABLES & EFFICIENCY, <https://s3.amazonaws.com/ncsolarcen-prod/wp-content/uploads/2019/07/RPS-CES-June2019.pdf>.

124. *Calpine*, 163 FERC at 4 (Glick, Comm'r, dissenting).

125. *Id.* at 3 & n.1.

126. *Id.* at 3–5, 22, 29, 53.

placing a price floor for RPS-eligible generation companies to bid into RTO wholesale auctions.¹²⁷

In *ISO-NE*, New England's ISO ("ISO-NE") operated wholesale capacity markets similar to those in *Calpine*, in which electricity generation suppliers competed to provide future electricity generation to the New England region by submitting bids in competitive capacity market auctions.¹²⁸ Like the PJM member states in *Calpine*, each of the six states whose policies were the focus of *ISO-NE* sought to reduce GHG emissions and meet climate goals by adopting renewable energy targets and providing "out-of-market revenue" to certain renewable energy resources.¹²⁹ Fearing these subsidies would suppress clearing prices in its wholesale capacity market auctions and threaten grid reliability by cornering out incumbent fossil-fuel-based power generators, ISO-NE submitted a filing seeking FERC's approval for ISO-NE's proposed two-stage auction, referred to as the Competitive Auctions with Sponsored Policy Resources (CASPR).¹³⁰

In the first stage of CASPR, resources receiving state sponsorship must bid in wholesale capacity market auctions at an administratively-determined MOPR.¹³¹ As a result, CASPR's first stage effectively guaranteed that few to no state-sponsored resources could clear the initial wholesale auction.¹³² During the second stage of CASPR, fossil-fuel- and nuclear-based generation resources seeking to retire were allowed to set a price at which they would be willing to sell their capacity market commitments to state-supported renewable energy

127. *See id.* at 34, 69 (requiring PJM to use its MOPR to mitigate state RPS subsidies). FERC originally developed the MOPR to prevent holding companies owning distribution utilities and natural gas power plants from offering artificially low capacity bids (thereby suppressing prices) to secure contracts knowing they could recoup those losses by buying their own cheap generation capacity. *See Miles Farmer, Clean Energy Groups Urge FERC to Reconsider PJM Order*, NAT. RESOURCES DEF. COUNCIL (Aug. 2, 2018), <https://www.nrdc.org/experts/miles-farmer/clean-energy-groups-urge-ferc-reconsider-pjm-order> [<https://perma.cc/AE8X-XZ7M>].

128. *ISO New England, Inc.*, 162 FERC ¶ 61,205, para. 2 (2018).

129. *Id.* para. 3–4 & n.6; *see* CONN. GEN. STAT. ANN. § 16-245a (West 2020); ME. REV. STAT. ANN. tit. 35-a, § 3210 (2020); MASS GEN. LAWS ANN. ch. 25A, § 11F (West 2020); N.H. REV. STAT. ANN. §§ 362-F:1 to :15 (2020); 39 R.I. GEN. LAWS §§ 39-26-1 to -10 (2020); VT. STAT. ANN. tit. 30, §§ 8001–8010 (2020).

130. *ISO New England*, 162 FERC para. 1.

131. *Id.* para. 2. ISO-NE's tariff defines a "[s]ponsored" resource as one that is renewable or clean and receives an "out-of-market" revenue source. *Id.* paras. 3, 4 n.6.

132. *See* Partial Protest and Comments of the Massachusetts Attorney General, *ISO New England, Inc.*, FERC No. ER18-619-000, at 2 (Jan. 29, 2018).

resources.¹³³ Concluding that this construct would provide for “robust competition” in capacity markets and that suppressing the impact of state policy preferences for low emissions electricity would “yield just and reasonable rates,” FERC ultimately approved the CASPR auction model.¹³⁴

II. ANALYSIS

The FPA expressly preserves significant authority for states to regulate in-state generation facilities and retail electricity sales.¹³⁵ Both the Supreme Court and FERC have repeatedly acknowledged that this authority includes the power to subsidize their preferred power generation alternatives.¹³⁶ Applying the FPA’s modern collaborative federalism jurisdictional framework, this allocation of authority does not mean that FERC must refrain from taking actions that may incidentally affect generation facilities under state authority.¹³⁷ However, in the context of today’s interconnected electricity markets, the FPA’s express allocation of state authority can only have meaning if FERC acts in a manner “that accommodates states’ regulation of generation facilities, even where [FERC] could arguably take on a greater role.”¹³⁸ By

133. See Transmittal Letter re: Revisions to ISO New England Transmission, Markets and Services Tariff Related to Competitive Auctions with Sponsored Policy Resources, ISO New England, Inc., Docket No. ER18-619-000, at 6 (Jan. 8, 2018).

134. *ISO New England*, 162 FERC at paras. 20–21, 24–25.

135. 16 U.S.C. § 824(b)(1) (2018) (prohibiting FERC’s jurisdiction over facilities used for the generation of electrical energy, used in local distribution, or used only to transmit electrical energy in intrastate commerce).

136. See *Hughes v. Talen Energy Mktg., LLC*, 136 S. Ct. 1288, 1299 (2016) (“Nothing in this opinion should be read to foreclose Maryland and other States from encouraging production of new or clean generation through measures ‘untethered to a generator’s wholesale market participation.’”); *New York v. FERC*, 535 U.S. 1, 22 (2002) (“[T]he legislative history [of the FPA] is replete with statements describing Congress’ intent to preserve state jurisdiction over local [generation] facilities.”); *New England States Comm. on Elec. v. ISO New England, Inc.*, 142 FERC ¶ 61,108, at 1–2 (2013) (LaFleur, Comm’r, concurring in part) (“[S]tates have the unquestioned right to make policy choices through the subsidization of capacity.”).

137. *FERC v. Elec. Power Supply Ass’n*, 136 S. Ct. 760, 773, 776 (2016) (averring that in today’s “inextricably linked” wholesale and retail electricity markets, mere incidental impacts of FERC wholesale market regulations on retail markets are of “no legal consequence”).

138. See Glick & Christiansen, *supra* note 14, at 15 n.63, 32 (stating that some of FERC’s “most prominent orders, including Order No. 888 and Order No. 745, have contained measures designed to preserve state policymaking discretion, even where [FERC] arguably had jurisdiction and a policy rationale for acting more aggressively”).

negating state renewable energy policies that are constitutionally valid exercises of the historic state police power as well as consistent with the *Hughes* “tethering” test, FERC’s *Calpine* and *ISO-NE* rulings impermissibly violate collaborative federalism principles at a time when state-led action to combat climate change by reducing energy-related GHG emissions is essential.

A. *The RPS Policies Are Constitutionally Valid Exercises of State Police Power*

State-led action to reduce GHG emissions from in-state electricity generation facilities is a prime candidate for FERC accommodation under the FPA’s collaborative federalism framework. States hold longstanding authority to act in furtherance of their citizens’ health and welfare pursuant to the “traditional police power.”¹³⁹ Exercise of that police power to protect citizens from the adverse effects of climate change¹⁴⁰ evidently formed the foundation for the out-of-market payments for renewable and nuclear energy generators at issue in *Calpine*¹⁴¹ and *ISO-NE*.¹⁴² As neither the Supremacy Clause nor the Commerce Clause precludes

139. See *supra* note 106 and accompanying text.

140. See *supra* notes 18–20 and accompanying text.

141. See, e.g., N.J. STAT. ANN. § 48:3-50 (West 2020) (enacting New Jersey’s Electric Discount and Energy Competition Act to “[p]revent any adverse impacts on environmental quality in this State as a result of the introduction of competition in retail power markets in this State”); S.B. 516, 2019 Leg., Reg. Sess. (Md. 2019) (recognizing that “the benefits of electricity from [Maryland’s Renewable Portfolio Standard], including long-term decreased emissions [and] a healthier environment . . . accrue to the public at large”); S.B. 2814, 99th Gen. Assemb. (Ill. 2016) (providing nuclear energy ZECs to “reduce the adverse impact of emitted air pollutants on the health and welfare of the State’s citizens,” minimize the “significant adverse health effects” that emissions from fossil-fuel-based generation have on persons exposed to it, and combat “climate change trends that could significantly adversely impact Illinois”); S.B. 438, 98th Leg., Reg. Sess. (Mich. 2016) (enacting Michigan’s Renewable Portfolio Standard to “provide improved air quality and other benefits to energy consumers and citizens of [the] state”); S.B. 3, 2007 Gen. Assemb. (N.C. 2007) (creating North Carolina’s Renewable Energy and Energy Efficiency Portfolio Standard to “[p]rovide improved air quality and other benefits to energy consumers and citizens of the State”); S.B. 74, 143d Gen. Assemb. (Del. 2005) (enacting Delaware’s Renewable Energy Portfolio Standards Act to ensure “improved regional and local air quality [and] improved public health”).

142. See, e.g., N.H. REV. STAT. ANN. § 362-F:1 (2020) (enacting New Hampshire’s Renewable Portfolio Standard to “reduce the amount of greenhouse gases, nitrogen oxides, and particulate matter emissions transported into New Hampshire and also generated in the state, thereby improving air quality and public health, and mitigating

states' exercise of their police power to protect against environmental threats,¹⁴³ the RPS Policies that *Calpine* and *ISO-NE* examined are constitutional.

On its own, the fact that legitimate state policy interests motivated these regulations does not mean that the federal government cannot preempt state authority by passing legislation regulating electricity sector emissions to protect citizens from the adverse effects of climate change.¹⁴⁴ Indeed, certain interstate market regulators are already considering proposals to incorporate the costs of electricity sector GHG emissions into wholesale market ratemaking.¹⁴⁵ However, given that FERC has expressly disclaimed environmental considerations when acting pursuant to its wholesale ratemaking authority under the FPA,¹⁴⁶ any argument for federal preemption of state RPS programs on the basis of protecting U.S. citizens from adverse effects of climate change is relatively weak.¹⁴⁷

Congress's intent that FERC should accommodate states' exercise of the traditional police power over intrastate electricity generation facilities is especially apparent when comparing the FPA to federal

against the risks of climate change"); 39 R.I. GEN. LAWS § 39-26-1 (2020) (enacting Rhode Island's Renewable Energy Standard to "reduce air pollutants, including carbon dioxide emissions, that adversely affect public health and contribute to global warming"); VT. STAT. ANN. tit. 30, § 8001 (2020) ("[I]t [is] in the interest of the people of [Vermont] to promote the State energy policy . . . by [p]rotecting and promoting air and water quality in the State and region through the displacement of those fuels, including fossil fuels, which are known to emit or discharge pollutants.").

143. See *infra* notes 144–73 and accompanying text.

144. See TODD AAGAARD ET AL., PRACTICING ENVIRONMENTAL LAW 119 (2017) (citing U.S. Const. art. VI, § 2) (explaining that, pursuant to the Supremacy Clause of the U.S. Constitution, Congress can preempt state regulation if it wants to, even when that regulation does not conflict with federal requirements).

145. See, e.g., Cal. Indep. Sys. Operator Corp. (CAISO), 141 FERC ¶ 61,237 para. 29 (2012) (accepting CAISO's proposal to incorporate the price of GHG emissions allowance in its wholesale market). Some scholars argue that a federally administered RPS policy, with a national marketplace for trading RECs, would be more effective at increasing the share of electricity generated from renewable energy resources in the United States. See Christopher Cooper, *A National Renewable Portfolio Standard: Politically Correct or Just Plain Correct?*, 21 ELECTRICITY J. 9, 9–10 (2008); Robin J. Lunt, *Recharging U.S. Energy Policy: Advocating for a National Renewable Portfolio Standard*, 25 UCLA J. ENVT'L. L. & POL'Y 371, 402–03 (2007).

146. *Grand Council of the Crees v. FERC*, 198 F.3d 950, 956, 957 (D.C. Cir. 2000).

147. *Hughes v. Talen Energy Mktg., LLC*, 136 S. Ct. 1288, 1300 (2016) (Sotomayor, J., concurring) ("[W]here coordinate state and federal efforts exist within a complementary administrative framework, and in the pursuit of common purposes, the case for federal pre-emption becomes a less persuasive one." (internal quotations omitted)).

statutes with an electricity generation nexus. Under the auspices of the Clean Air Act, the EPA, a federal entity, has express and potentially exclusive authority to regulate environmental aspects of electricity generation facilities, such as carbon pollution.¹⁴⁸ This allocation of *federal* authority is notable because regulations addressing environmental externalities form a core component of the *states'* historical police powers.¹⁴⁹ Congress has allowed state environmental agencies and local air quality regulators to assume responsibility for implementing Clean Air Act permitting programs, but the EPA must explicitly delegate this responsibility to the states.¹⁵⁰ Similarly, other federal statutes addressing environmental concerns also allow states to assume delegated regulatory authority originally vested in the federal government.¹⁵¹ Unlike these laws, the FPA directly vests states with regulatory authority over in-state generation facilities, and the states need not rely on delegated authority from FERC to enact regulations on that subject.¹⁵² Congress has therefore implied that, absent any clear indication otherwise, the states may continue to exercise their traditional police powers over in-state generation facilities. Accordingly, FERC should seek to accommodate, rather than suppress, state policy efforts to combat GHG emissions in the electricity sector.

The RPS Policies are also likely not susceptible to preemption under a Commerce Clause challenge.¹⁵³ The Commerce Clause includes an implicit corollary, known as the dormant Commerce Clause, which precludes states from passing laws that affect interstate commerce in ways that are facially discriminatory or discriminatory in purpose and effect.¹⁵⁴ Further, in the environmental regulation context, state laws that

148. See *Massachusetts v. EPA*, 549 U.S. 497, 528–29, 532 (2007) (finding § 202(a)(1) of the Clean Air Act authorizes the EPA to regulate GHG emissions from new motor vehicles if it determines such emissions contribute to climate change).

149. See *supra* notes 106, 139 and accompanying text.

150. AAGAARD ET AL., *supra* note 144, at 173.

151. See Clean Water Act, 33 U.S.C. § 1342(b) (2018) (allowing states to assume delegated authority from the EPA to issue and enforce National Pollutant Discharge Elimination System permits); Resource Conservation and Recovery Act, 42 U.S.C. § 6926(b) (2012) (granting states delegated authority from the federal government “to carry out such [hazardous waste] program[s] in lieu of the Federal program”).

152. 16 U.S.C. § 824(b)(1) (2018).

153. See U.S. CONST. art. I, § 8, cl. 3 (giving Congress the power “[t]o regulate Commerce . . . among the several States”).

154. See, e.g., *Hughes v. Oklahoma*, 441 U.S. 322, 336–37 (1979) (holding that an Oklahoma law that forbids the transportation of minnows out of the state for sale violates the Commerce Clause because it “overtly blocks the flow of interstate

only incidentally affect interstate commerce and lack a discriminatory purpose or effect may still violate the Commerce Clause if they impose a burden on interstate commerce that is “clearly excessive” in relation to its local benefits; this test is the *Pike* Standard.¹⁵⁵

Fossil fuel electricity generators challenged RPS programs in federal courts under the dormant Commerce Clause in *Zibelman*¹⁵⁶ and *Star*.¹⁵⁷ In *Zibelman*, fossil fuel electricity generators challenged New York’s policy of awarding ZECs to in-state nuclear power plants, claiming that, because ZECs only benefitted nuclear power plants in New York and allowed those power plants to underbid out-of-state power plants in wholesale electricity markets, the policy discriminated against interstate commerce.¹⁵⁸ The Second Circuit dismissed this claim before even reaching its merits, concluding that the plaintiffs lacked Article III standing because their alleged injury was not traceable to New York’s alleged discrimination against out-of-state commerce.¹⁵⁹ The court noted that, even if New York awarded ZECs in a non-discriminatory manner to nuclear plants located outside New York, there would be no abatement of the plaintiffs’ alleged injury from the “general market-distorting effects of the ZEC program.”¹⁶⁰ Instead, the plaintiffs alleged injury arose from their decision to produce energy using fuels that New York disfavored.¹⁶¹

commerce at [the] State’s borders’ . . . a fatal defect, regardless of the State’s purpose”); *North Dakota v. Heydinger*, 15 F. Supp. 3d 891, 897, 910–11 (D. Minn. 2014) (finding that Minnesota’s Next Generation Energy Act, which prohibited the importation into Minnesota of fossil-fuel-based electricity from out-of-state facilities, was unlawful because it affected commerce outside of the state), *aff’d*, 825 F.3d 912 (8th Cir. 2016).

155. See *Rocky Mountain Farmers Union v. Corey*, 730 F.3d 1070, 1078 (9th Cir. 2013) (quoting *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 142 (1970)). Under this standard, the Ninth Circuit has upheld transportation fuel standards that indirectly disadvantage out-of-state ethanol producers. See *Rocky Mountain Farmers Union v. Corey*, 913 F.3d 940, 953, 957–58 (9th Cir. 2019) (upholding California’s Low Carbon Fuel Standard, “a classic exercise of police power,” despite the fact it disadvantages out-of-state ethanol producers, because “it will help ease California’s climate risks” (quoting *Rocky Mountain Farmers Union*, 730 F.3d at 1107)).

156. See *Coal. for Competitive Elec. v. Zibelman*, 906 F.3d 41, 45–46 (2d Cir. 2018).

157. See *Elec. Power Supply Ass’n v. Star*, 904 F.3d 518, 522 (7th Cir. 2018).

158. *Zibelman*, 906 F.3d at 45, 48, 58.

159. *Id.* at 57–58.

160. *Id.* at 58.

161. *Id.*

In *Star*, an association of interstate electricity producers challenged Illinois's policy of awarding ZECs to in-state nuclear power plants, claiming that the ZECs violated the dormant Commerce Clause because they were "bound to help some Illinois firms" and thereby condemn the interstate producers.¹⁶² Instead of dismissing the plaintiffs' complaint on standing grounds like the Second Circuit in *Zibelman*, the Seventh Circuit dismissed the *Star* plaintiffs' dormant Commerce Clause challenge on its merits.¹⁶³ The court noted that, following the plaintiffs' reasoning, any state policy that might increase or reduce the state's aggregate generation capacity or affect the price of energy would be invalid under the Commerce Clause.¹⁶⁴ Because this conclusion would entirely negate the FPA's express allocation of authority over in-state generation facilities to the states, the court rejected the plaintiffs' dormant Commerce Clause challenge.¹⁶⁵ Reconciling the FPA's collaborative federalism framework with the Commerce Clause, the court concluded that, so long as a state policy does not authorize express discrimination against interstate commerce, the *Pike* Standard does not apply to a state's regulation of intrastate electricity generators or cross subsidies between carbon-emitting and carbon-free electricity generation.¹⁶⁶

Because the RPS Policies at issue in *Calpine* and *ISO-NE* are motivated by a desire to protect in-state citizens from environmental effects of GHG emissions, they are not facially discriminatory or discriminatory in purpose and effect.¹⁶⁷ Additionally, unlike the ZECs in *Zibelman*, the RPS Policies offer credits to out-of-state renewable and zero emission electricity generators, so long as those generators are capable of furnishing retail electricity sales within the state offering the credits.¹⁶⁸ Accordingly, any loss of business to out-of-state electricity generators resulting from the RPS Policies would not be fairly traceable to any alleged discrimination against interstate commerce but rather their own decision to produce electricity using fuels the states' disfavor.¹⁶⁹

162. See *Star*, 904 F.3d at 524.

163. *Id.* at 525.

164. *Id.* at 524.

165. See *id.* at 524–25 (“The Commerce Clause does not ‘cut the States off from legislating on all subjects relating to the health, life, and safety of their citizens, [just because] the legislation might indirectly affect the commerce of the country.’”).

166. *Id.* at 525.

167. See *supra* notes 141–42 and accompanying text.

168. See *Coal. for Competitive Elec. v. Zibelman*, 906 F.3d 41, 48, 58 (2d Cir. 2018); *infra* note 182.

169. See *supra* notes 159–61 and accompanying text.

Furthermore, the RPS Policies remain narrowly tailored to electricity generators falling under the purview of the states' traditional police power because they only apply to electricity generators capable of serving in-state residents.¹⁷⁰ Finally, applying the Seventh Circuit's approach to reconciling the FPA and the Commerce Clause, indirect burdens on interstate commerce otherwise relevant to applying the *Pike* Standard are no bar to the RPS Policies.¹⁷¹ Giving meaning to the FPA's express allocation of authority over in-state generation facilities to the states¹⁷² requires courts to accommodate state policies that are not expressly discriminatory and that create cross subsidies between carbon-emitting and carbon-free electricity generation.¹⁷³ Accordingly, the RPS Policies are constitutionally valid exercises of the police power.

B. The RPS Policies Are Consistent with the FPA's Collaborative Federalism Jurisdictional Framework

Applying Supreme Court precedent interpreting the proper division of regulatory authority between the states and the federal government under the FPA's collaborative federalism jurisdictional framework, the RPS Policies are legitimate exercises of state regulatory authority that FERC should not suppress. However, even when a state implements a policy pursuant to its traditional authority over in-state electricity generation markets, a court will nonetheless overturn that policy when it disregards interstate wholesale rates FERC has deemed just and reasonable.¹⁷⁴

The Supreme Court acknowledged in *Hughes* that states may subsidize preferred electricity generation providers within their territories, irrespective of the impacts of those subsidies on interstate electricity markets, as long as those subsidies are "untethered" to the recipients participating in and clearing interstate wholesale market auctions operated by ISO/RTOs under FERC jurisdiction.¹⁷⁵ The Court identified this subsidy conditionality as the "fatal defect" of the Maryland contract-for-differences policy at issue in *Hughes* and noted that the policy "contraven[es] the FPA's division of authority between

170. See *infra* note 182 and accompanying text.

171. See *supra* note 155 and accompanying text.

172. 16 U.S.C. § 824(b)(1) (2018) (declining to give FERC jurisdiction over electrical energy generation, distribution, or transmission facilities used "in intrastate commerce").

173. See *supra* note 166 and accompanying text.

174. *Hughes v. Talen Energy Mktg., LLC*, 136 S. Ct. 1288, 1299 (2016).

175. *Id.*

state *and* federal regulators” because it “functionally sets the rate that [the subsidy recipient] receives for its sales [of electricity] in the PJM auction.”¹⁷⁶ Subsequent Circuit Court interpretations of *Hughes* have upheld state nuclear energy ZEC subsidy programs, even though the ZECs derived their value from prices at interstate wholesale auctions, precisely because eligibility for the ZECs at issue was not conditioned on subsidy recipients’ clearing the interstate wholesale auctions and because the ZECs did not set the rate that the subsidy recipient would receive for selling its electricity in the wholesale auctions.¹⁷⁷

The RPS Policies do not violate the *Hughes* “tethering” test, and therefore, FERC should accommodate them. First, the RECs and ZECs do not “functionally set[] the rate that [a subsidy recipient] receives for its sales [of electricity].”¹⁷⁸ Instead, RECs and ZECs compensate recipients for the value of emissions reductions that production of emissions-free energy creates—an environmental attribute distinct from the value of the electricity itself in wholesale markets.¹⁷⁹ As a result, unlike the contract-for-differences in *Hughes*, RECs and ZECs cannot functionally displace wholesale markets’ role in determining the economic value of electricity.¹⁸⁰

Second, unlike the contract-for-differences policy in *Hughes*, which required that subsidy recipients participate in and sell their electricity through PJM’s wholesale capacity market auction, the RPS Policies do not require in-state utilities to participate in ISO/RTOs’ wholesale capacity market auction to be eligible to receive subsidies.¹⁸¹ While they occasionally *permit* regulated entities to purchase RECs from other utilities in the interstate market, no states in PJM or ISO-NE *require* in-state utilities to sell their electricity through interstate wholesale markets to be eligible to receive RECs.¹⁸²

176. *Id.* at 1296–97, 1299 (emphasis added).

177. *See* Elec. Power Supply Ass’n v. Star, 904 F.3d 518, 523–25 (7th Cir. 2018); Coal. for Competitive Elec. v. Zibelman, 906 F.3d 41, 54–55 (2d Cir. 2018).

178. *Hughes*, 136 S. Ct. at 1296.

179. *See* Answer of the Environmental Defense Fund, Natural Resources Defense Council, and Sustainable FERC Project, Calpine Corp. v. PJM Interconnection, LLC, FERC No. EL16-49-000, at 5, 15, 17 (Jan. 30, 2017).

180. *Hughes*, 136 S. Ct. at 1294.

181. *See* Answer of the Environmental Defense Fund, Natural Resources Defense Council, and Sustainable FERC Project, *supra* note 179, at 5, 13; *infra* note 182 and accompanying text.

182. *See* CONN. GEN. STAT. ANN. § 16-245a(b)(1) (West 2020) (“An electric supplier or electric distribution company *may* satisfy the [RPS] requirements . . . by purchasing

certificates issued by the New England Power Pool Generation Information System” (emphasis added)); Renewable Energy Portfolio Standards Act, DEL. CODE ANN. tit. 26, § 354(a) (2020) (limiting resources eligible for RECs to “total *retail* sales . . . delivered to Delaware end-use customers by a *retail* electricity supplier or municipal electric company” (emphasis added)); D.C. CODE § 34-1432(a) (2020) (applying RPS requirements only “to all District of Columbia *retail* electricity sales” (emphasis added)); Voluntary Clean Energy Portfolio Standard Program, IND. CODE ANN. § 8-1-37-6(a) (West 2020) (defining electricity suppliers eligible for RECs as “public utilit[ies] that furnish[] *retail* electric service to customers in Indiana” (emphasis added)); ME. REV. STAT. ANN. tit. 35-a, § 3210(2)(B)(1) (2020) (defining resources eligible for RECs as a source of electrical generation that “[g]enerates power that *can* physically be delivered to the control region in which the New England Power Pool . . . has authority over transmission” (emphasis added)); Renewable Portfolio Standard, MD. CODE ANN., Pub. Util. § 7-703(a)(1)(i) (LexisNexis 2020) (limiting applicability of Maryland’s renewable energy portfolio standard to “all *retail* electricity sales in the State” (emphasis added)); MASS GEN. LAWS ANN. ch. 25A, § 11F(b) (West 2020) (“A renewable energy generating source *may* be located behind the customer meter within the ISO-NE . . . control area” (emphasis added)); Clean and Renewable Energy and Energy Waste Reduction Act, MICH. COMP. LAWS ANN. § 460.1005(a)(i) (West 2020) (defining eligible electricity providers to include any entity that “is regulated by the [Michigan Public Service Commission] for the purpose of selling electricity to *retail* customers in this state” (emphasis added)); N.H. REV. STAT. ANN. § 362-F:2 (IX)(a) (2020) (defining end-use customers, to whom sales of renewable electricity would generate a REC, as “any person or entity that purchases electricity supply at *retail* in New Hampshire from another person or entity,” but not including any “generating facility taking station service at *wholesale* from the regional market administered by the independent system operator (ISO-New England)” (emphasis added)); N.J. STAT. ANN. § 48:3-51 (West 2020) (defining electrical power suppliers subject to the RPS program requirements as any “entity . . . licensed . . . to provide electric generation service to *retail* customers” (emphasis added)); Renewable Energy and Energy Efficiency Portfolio Standard, N.C. GEN. STAT. § 62-133.8(a)(3) (2020) (defining electrical power suppliers subject to RPS program requirements as any “public utility . . . that sells electric power to *retail* electric power customers in the State” (emphasis added)); OHIO REV. CODE ANN. § 4928.64(B)(3)(a)–(b) (LexisNexis 2020) (classifying qualifying renewable energy resources eligible for RECs as produced *either* “[t]hrough facilities located in this state; *or* [w]ith resources that can be shown to be deliverable into this state” (emphasis added)); Alternative Energy Portfolio Standards Act, 73 PA. STAT. AND CONS. STAT. ANN. § 1648.3(a)(1) (West 2020) (limiting applicability of Pennsylvania’s Alternative Energy Portfolio Standard requirements to “electric energy sold by an electric distribution company or electric generation supplier to *retail* electric customers in this Commonwealth” (emphasis added)); 39 R.I. GEN. LAWS § 39-26-2(16) (2020) (defining obligated entities under Rhode Island’s Renewable Energy Standard to mean any “entity that sells electrical energy to *end-use* customers in Rhode Island” (emphasis added)); VT. STAT. ANN. tit. 30, § 8004(a) (2019) (limiting applicability of Vermont’s Renewable Energy Standard to “*retail* electricity provider[s]” (emphasis added)); VA. CODE ANN. § 56-585.2(A) (repealed 2020) (classifying qualifying renewable energy resources eligible for RECs as

Illinois's Quad Cities nuclear plant neatly illustrates how state RPS programs can be tailored to ensure they satisfy the *Hughes* "tethering" test. The Quad Cities plant operates in PJM territory, participates in PJM's wholesale electricity capacity market auction, and is eligible to receive ZECs through the Illinois RPS.¹⁸³ Because the Illinois RPS awards ZECs on the basis of power actually *delivered* to Illinois consumers, and not on the basis of capacity *committed* in PJM, Quad Cities plant operators are free to participate in—or not participate in—PJM's capacity market without losing their ability to obtain ZECs.¹⁸⁴ In other words, Quad Cities would be equally entitled to a ZEC for each megawatt hour of nuclear energy delivered to Illinois consumers through bilateral contracts with in-state utilities as it would be for megawatt hours delivered into PJM's wholesale capacity market.

The RPS Policies are similarly structured and require generators to actually deliver electricity to in-state retail customers to be eligible to receive credits.¹⁸⁵ In ruling that it has jurisdiction to nullify the effect of state subsidies in wholly intrastate transactions, FERC's *Calpine* and *ISO-NE* rulings diverge from its own longstanding precedent that "RECs and contracts for the sale of RECs are not themselves jurisdictional facilities subject to [FERC's] jurisdiction."¹⁸⁶ More importantly, however, these rulings disregard the Supreme Court's delicate efforts to give meaning to the FPA's collaborative federalism framework by creating the *Hughes* "tethering" test.

CONCLUSION

FERC's *Calpine* and *ISO-NE* rulings fail to accommodate legitimate exercises of state power as the FPA and Supreme Court precedent require. The RPS Policies are a lawful exercise of states' longstanding authority to act on behalf of their citizens' health and welfare, pursuant to the states' traditional police power. Furthermore, the RPS Policies do not impermissibly violate FERC's exclusive jurisdiction under the

"generated in the Commonwealth *or* in the interconnection region of the regional transmission entity of which the participating utility is a member" (emphasis added)).

183. See Opposition and Comments of the People of the State of Illinois to the Amended Complaint and Support of the Motion to Dismiss Filed by Dayton Power and Light et al., *Calpine Corp. v. PJM Interconnection, LLC*, FERC No. EL16-49, at 4 (Jan. 30, 2017).

184. *Id.*

185. See *supra* note 182.

186. *WSPP, Inc.*, 139 FERC ¶ 61,061, para. 21 (2012).

FPA. For these reasons, FERC should accommodate state subsidy support for in-state renewable electricity generation.

Setting aside the legal issues with FERC's rulings, the rulings also break from FERC's gradual recognition of the transition towards competition that is underway in U.S. electricity generation markets.¹⁸⁷ By suppressing state policies that compensate electricity generators for the positive environmental attributes of their electricity, FERC is artificially propping up fundamentally uneconomic fossil-fuel-based electricity generation.¹⁸⁸ Indeed, after FERC's *ISO-NE* ruling, an aging coal-fired power plant explicitly targeted for retirement under CASPR cleared ISO-NE's wholesale electricity market auction, guaranteeing years of GHG emissions.¹⁸⁹ These results run against the core principles of the FPA by inflating consumer electricity costs and creating discriminatory barriers to market entry for renewable-based electricity generators.

Aside from effectively guaranteeing that fewer state-sponsored renewable energy resources will be able to participate in wholesale markets, the practical implications of FERC's *Calpine* and *ISO-NE* rulings for states seeking to take action on climate change are significant.¹⁹⁰ By discarding limitations on its regulatory authority, FERC has opened the

187. See *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators*, Order No. 841, 162 FERC ¶ 61,127, at paras. 10–12 (2018) (observing that ISO/RTOs' capacity market bidding parameters preclude electrical storage resources from participating to their full potential and impedes their ability to charge effectively using electricity purchased in the wholesale market); *Demand Response Competition in Organized Wholesale Energy Markets*, Order No. 745, 134 FERC ¶ 61,187, at paras. 57, 59, 119 (2011) (explaining that price parity would break down barriers to competition by helping demand response resources participate meaningfully in the wholesale market); *Wholesale Competition in Regions with Organized Electric Markets*, Order No. 719, 125 FERC ¶ 61,071, at paras. 16, 18–19 (2008) (“Demand response can provide competitive pressure to reduce wholesale power prices; increases awareness of energy usage; provides for more efficient operation of markets; mitigates market power; enhances reliability; and in combination with certain new technologies, can support the use of renewable energy resources, distributed generation, and advanced metering.”).

188. *Calpine Corp. v. PJM Interconnection, LLC*, 163 FERC ¶ 61,236, at 5 (2018) (Glick, Comm'r, dissenting).

189. Catherine Morehouse, *Largest New England Coal Plant Clears ISO-NE Capacity Auction, Will Stay Online Until 2024*, UTILITYDIVE (Feb. 20, 2020), <https://www.utilitydive.com/news/largest-new-england-coal-plant-clears-iso-ne-capacity-auction-will-stay-on/572603> [<https://perma.cc/PLV9-HTQT>].

190. See *Partial Protest and Comments of the Massachusetts Attorney General, ISO New England, Inc.*, FERC No. ER18-619-000, at 2 (Jan. 29, 2018); *Calpine*, 163 FERC at 8–9 (Glick, Comm'r, dissenting).

door to barring next-generation energy resources from participating in wholesale energy markets—“all in the name of ‘remedying’ price suppression.”¹⁹¹ This rationale is just as applicable to battery storage and demand response technologies as it is to solar panels and wind turbines. Instead of erecting these discriminatory barriers to competition, FERC should accommodate and encourage states’ legitimate interests in combatting climate change.

191. Request for Rehearing and Clarification of the New Jersey Board of Public Utilities, *Calpine Corp. v. PJM Interconnection, LLC*, FERC No. EL16-49-000, at 14 (Jan. 21, 2020).