

From Attleboro to EPSA: The Pace of Change and Evolving Jurisdictional Frameworks in the Electricity Sector

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ABSTRACT

This Article compares the pattern of fundamental change, legal and regulatory response, and judicial adaptation underlying the electricity sector's twentieth century beginnings to its current and ongoing rapid transition. This comparison is then used as a basis to examine and contextualize the collaborative federalism jurisdictional framework that the Supreme Court employs when adjudicating modern-day jurisdictional disputes in the sector.

The early 1900s saw a period of rapid industry expansion, with the electricity sector progressing from small intrastate utilities to a sprawling interstate grid. The expanding grid rapidly outgrew the state-led regulatory framework that had organically developed. In turn, Congress responded by passing the Federal Power Act to fill what is now known as the Attleboro gap. Courts in turn needed to resolve consequent jurisdictional tensions that arose under the new federal and state balance of authority. The courts employed a bright-line jurisdictional framework that divided authority on the basis of location, adjudicating disputes by determining where the contested action took place. This line-drawing split federal authority on one side of the juridical line—such as wholesale sales and interstate activities—and state authority on the other, such as retail sales and intrastate activities.

Just as the interstate expansion of the grid disrupted industry and regulatory structure in the 1900s, modern rapid change is once again creating new benefits and interests through foundational sector disruption. This disruption has similarly placed pressure upon the electricity sector and its regulation. This Article analyzes three foundational changes to the electricity sector that are spurring energy transition and grid modernization: opening the industry to competitive market forces; technological advances making a multidirectional grid possible; and evolving state policy preferences and priorities that seek to combat climate change.

The foundational change underway in the electricity sector has spurred a legal and regulatory response in order to create new connections between longstanding statutory mandate and sector change. Congress, the Federal Energy Regulatory Commission (FERC), and states have responded with laws and regulations that acknowledge a sector that now resists simple, bright-line

jurisdictional division. These responses have invited increasingly frequent court review. In adjudicating disputes in the electricity sector, the courts have turned to and fully embraced a functionalist, ‘collaborative federalism’ jurisdictional framework. This jurisdictional framework considers an issue’s intent, target, and effect rather than an issue’s location. It best enables courts to adjudicate disputes in the context of changes occurring within the modern electricity sector.

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INTRODUCTION

The United States electricity sector is undergoing fundamental change. Increasing competition, technological innovation, and environmental policy imperatives are reshaping the electricity sector. This change holds enormous promise; sector modernization drives more affordable and reliable electricity. Rapid change has also spurred policy makers and regulators to reexamine the elemental legal structures underpinning the sector. This reaction is significant; incumbent actors have challenged regulatory and legal response in court at every turn.¹

Such litigation is predictable given the industry's monopolistic roots, historically tight regulation, and the transition's scale and scope. Indeed, the pattern of change, reaction, and resolution is not unique; a similar history led to the passage of the Federal Power Act (FPA) in 1935. The circumstances surrounding the FPA's passage—changing technology, a legal and regulatory response, and symptomatic jurisdictional tension—is instructive. The way industry actors, governmental regulators, and courts acted during that period of rapid transition provides a template upon which current actions can be understood and framed. This Article explores that prior context and compares it to the sector's current transition. It then examines how current trends are spurring a legal and regulatory response, which in turn prompts courts to adjust the jurisdictional frameworks to better adjudicate disputes. This Article proceeds in four Parts.

Part I introduces the past: traditional electricity sector regulation from inception to around the 1970s. This Part pays particular attention to the ways in which advancing technology strained the prior regulatory regime, the development of new law to harmonize the disjointed sector, and the judicial interpretation of that new law based on the grid's physical characteristics.

Part II describes present changes underway in the sector: restructuring, technological innovation, and evolving state environmental policy priorities and preferences. This Part explores how these changes create new pressures upon longstanding regulatory and legal structures created to oversee the sector as described in Part I.

Part III discusses the legal and regulatory response to the foundational change described in Part II. Just as Congress responded to technological changes with the FPA in the 1930s, legislators and regulators have crafted

1. *E.g.*, *FERC v. Elec. Power Supply Ass'n*, 136 S. Ct. 760 (2016) (challenging FERC's authority over demand response resource participation); *New York v. FERC*, 535 U.S. 1 (2002) (challenging FERC's authority to issue Order No. 888, requiring public utilities to promote competition by providing nondiscriminatory access to electric transmission); *S.C. Pub. Serv. Auth. v. FERC*, 762 F.3d 41 (D.C. Cir. 2014) (challenging FERC's authority to issue Order No. 1000 regarding allocation of costs of new transmission facilities); *Me. Pub. Utils. Comm'n v. FERC*, 520 F.3d 464 (D.C. Cir. 2009) (challenging FERC's approval of ISO-NE's Forward Capacity Market); *Calpine Corp. v. PJM Interconnection, L.L.C.*, 163 FERC ¶ 61,236 (2018) (challenging PJM capacity repricing model and MOPR-Ex).

responsive policies and actions to realign FERC's foundational mandate in light of sector change.

Part IV explains how the legal and regulatory response to sector transition has spurred jurisdictional tension between federal and state actors. Here, this Article describes how courts have adopted a collaborative federalism jurisdictional framework in the face of the sector transition, and legal and regulatory response as described in Parts II and III.

This Article reaches several conclusions. First, it finds that current sector trends closely resemble the transition that unfolded at the beginning of the twentieth century. That is, the fundamental sector change that led to the *Attleboro* gap, the FPA, and the adoption of a 'bright-line' jurisdictional framework mirrors the impact of current foundational change. Modern changes have led to a legal and regulatory response and the adoption of the 'collaborative federalism' jurisdictional framework. Second, this Article asserts that this pattern is instructive in understanding today's sector evolution. Three fundamental changes—restructuring, technological innovation, and evolving state policy preferences—have driven legal and regulatory response. In turn, a jurisdictional framework has taken shape that equips judges with the tools needed to resolve disputes with legal and regulatory responses to foundational sector change. The adoption of a 'collaborative federalism' jurisdictional framework enables courts to resolve disputes regarding the FPA's division of authority through a lens that best fits the changes occurring in the sector today.²

I. TRADITIONAL ENERGY SECTOR REGULATION

A. *Foundational Change: Growth of the Grid and the Attleboro Gap*

Edison helped spark a new industry with the invention of the first practical light bulb in 1879.³ The first centralized generation was installed three years later, on Pearl Street in New York City.⁴ Scores of electric companies would sprout up over the next decade.⁵ Regulatory oversight followed soon after,

2. This Article employs the term 'collaborative federalism' to refer to the current jurisdictional framework employed by the court in interpreting FPA jurisdictional considerations. See *Hughes v. Talen Energy Mktg., LLC*, 136 S. Ct. 1288, 1300 (2016) (Sotomayor, J., concurring) (describing the FPA as a "collaborative federalism statute[]"). Other articles have designated this framework as 'concurrent jurisdiction.' E.g., Daniel Lyons, *Protecting States in the New World of Energy Federalism*, 67 EMORY L.J. 921 (2018); Joel B. Eisen, *Dual Electricity Federalism is Dead, But How Dead, and What Replaces It?*, 8 GEO. WASH. J. ENERGY & ENVTL. L. 3 (2017); Jim Rossi, *The Brave New Path of Energy Federalism*, 95 TEX. L. REV. 399 (2016). This Article considers the contours of the theories outlined in these articles to be broadly similar, regardless of the specific term used.

3. Richard F. Hirsh, *Emergence of Electrical Utilities in America*, NAT'L MUS. OF AM. HIST., <http://americanhistory.si.edu/powering/past/h1main.htm> [<https://perma.cc/VC4P-MCZS>] (last visited Nov. 21, 2019).

4. *Id.*

5. *Id.*

with state legislation first enacted in 1907.⁶ By 1914, a total of forty-three more states had followed suit.⁷

State regulation in this early era made practical sense; the sector took the form and function of natural monopolies best suited for careful oversight to prevent anticapitalist ills associated with an absence of competition.⁸ Similarly, the timing of state regulation made sense; in a span of less than thirty years, the United States had moved from single light bulb to entire electric grids, owned and operated by electric utility companies. Regulatory oversight sprang up with commensurate speed. States, rather than the federal government, first regulated the sector—an organic result that mirrored an industry of generally small, isolated, and individual electricity grids.⁹ Yet this was changing rapidly, with systems growing increasingly larger in scale.

The growth of the electricity grid, enabled by technological change and a heavily regulated monopolistic industry created important benefits. An interconnected grid provided a larger balancing area, which supported reliability.¹⁰ It also allowed for pooling of resources and improved economies of scale, and reduced the cost to the end consumer.¹¹ Close regulatory oversight and regulated rate of return based upon volume incited electric utilities to build, in turn expanding the grid to new population centers.¹² For these reasons, the buildout of the electricity grid was an important and positive development.

6. Wisconsin and New York can both claim credit. *Id.*

7. *Id.*

8. *Id.* But see GRETCHEN BAKKE, *THE GRID: THE FRAYING WIRES BETWEEN AMERICANS AND OUR ENERGY FUTURE* xxv–xxx (2016) (discussing the chaotic and haphazard evolution of the United States’ electric grid).

9. Even before states, “[l]ocal authorities granted private companies monopoly franchises in exchange for regulating their rates and services.” Devin Hartman, *Federal Power Act and Organized Electricity Markets*, R STREET: ELEC. IOI SERIES, at 1 (Aug. 2, 2016), <http://www.rstreet.org/wp-content/uploads/2016/08/electricity1.pdf> [<https://perma.cc/YG8J-TQZD>].

10. J. DUNCAN GLOVER ET AL., *POWER SYSTEM: ANALYSIS & DESIGN* 17 (5th ed. 2012) (“An interconnected utility can draw upon another’s rotating generator reserves during a time of need (such as a sudden generator outage or load increase), thereby maintaining continuity of service, increasing reliability, and reducing the total number of generators that need to be kept running under no-load conditions. Also, interconnected utilities can 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.”).

11. FERC, *ENERGY PRIMER: A HANDBOOK OF ENERGY MARKET BASICS* 36 (2015) [hereinafter *FERC Energy Primer*], <https://www.ferc.gov/market-assessments/guide/energy-primer.pdf> [<https://perma.cc/B7D5-N7ZB>].

12. See generally Stephen Tully, *The Human Right to Access Electricity*, 19 *ELEC. J.* 30 (2006) (explaining the necessity of a human right to access and the existing human rights framework for such a right).

However, it strained a legal and regulatory structure not designed for interstate oversight.

An early interstate transmission contract ultimately pushed the sector's regulatory structure to its limit. In 1917, Narragansett Electric Lighting Company, a Rhode Island company, agreed to sell power at a specified rate for twenty years to Attleboro Steam & Electric Company, a Massachusetts company. Attleboro planned to use that power to supply customers in and around the City of Attleboro.¹³ The electricity was to be delivered "by the Narragansett Company at the state line between Rhode Island and Massachusetts and carried over connecting transmission lines to the station of the Attleboro Company in Massachusetts, where it was to be metered."¹⁴ The Narragansett Company filed the contract with the Rhode Island Public Utility Commission (PUC), which approved the matter.¹⁵

All proceeded smoothly for several years. However, a conflict emerged in 1924, when the Narragansett Company sought to increase the rate for Attleboro Steam & Electric. It filed a new contract with the Rhode Island PUC "purporting to cancel the original schedule and establish an increased rate for electric current supplied, in specified minimum quantities, to electric lighting companies for their own use or sale to their customers and delivered either in Rhode Island or at the [s]tate line."¹⁶ The new contract only applied to the Attleboro Company, which led the Rhode Island PUC to institute an investigation involving both companies.¹⁷ Based upon its review, the PUC found the original contract rate was unreasonable and approved the Narragansett Company's new contract.¹⁸ The Attleboro Company quickly appealed the decision, finding relief before the Supreme Court of Rhode Island, which held that "the order of the Commission imposed a direct burden on interstate commerce and was invalid because of conflict with the commerce clause of the Constitution."¹⁹

On appeal, the U.S. Supreme Court agreed with the state supreme court that "the sale of electric current by the Narragansett Company to the Attleboro Company is a transaction in interstate commerce, notwithstanding the fact that the current is delivered at the [s]tate line."²⁰ Therefore, the Court reasoned, "[t]he rate is . . . not subject to regulation by either of the two states in the guise of protection to their respective local interests."²¹ But, the Court also acknowledged the lack of any federal regulator with authority over the rate: "[I]f such regulation is required it can only be attained by the exercise of the

13. Pub. Utils. Comm'n of R.I. v. Attleboro Steam & Elec. Co., 273 U.S. 83, 84 (1927).

14. *Id.*

15. *Id.*

16. *Id.* at 85.

17. *Id.*

18. *Id.* at 85–86.

19. *Id.* at 86.

20. *Id.*

21. *Id.* at 90.

power vested in Congress.”²² The decision’s immediate impact was to leave state PUCs powerless in matters involving interstate electricity transactions. Yet even more farreaching, the decision effectively made regulation of interstate electricity transactions impossible, as no federal regulatory entity existed to provide the needed oversight. The result was the so-called *Attleboro* gap—a space in which state entities were barred from exercising regulatory authority and federal entities were conspicuously absent.

B. *The Legal Response: Passage of the Federal Power Act*

The *Attleboro* gap was a symptom of natural industry evolution and growth. Within a few decades a sector was created out of whole cloth: from unconnected light bulb to generating station; from generating station to small utility; from small utility to consolidated monopoly. Yet, despite such rapid technological advances across the industry, the regulatory structure stood still. Without federal law or a federal regulator, congressional action was the only remedy available to harmonize a now disjointed sector.²³ In 1935, Congress took this step by enacting the FPA.²⁴ This legislative action was an explicit response to the *Attleboro* gap,²⁵ closing the regulatory no-man’s land by vesting a federal authority (originally the Federal Power Commission (FPC),²⁶ now FERC) with power over “the sale of electric energy at wholesale in interstate commerce” and “the transmission of electric energy in interstate commerce.”²⁷

The FPA restored harmony in the electricity sector by extending state-level public interest motivations and protections to interstate transactions.²⁸ The law’s passage and the timing of that passage were responsive to rapid sector growth, with the FPA establishing a regulatory structure reflective of and responsive to the sector’s physical characteristics.²⁹ Courts likewise responded, adopting a jurisdictional framework suited to adjudicating disputes following the FPA’s passage.

C. *Traditional Judicial Interpretation of the FPA’s Jurisdictional Framework*

Judicial review, like law and regulation, necessarily evolved in response to the sector’s growth and change. The passage of the FPA closed the *Attleboro* gap by establishing a federal regulator, but also ensured states retained

22. *Id.*

23. *Id.*

24. Federal Power Act, Pub. L. No. 74–333, 49 Stat. 803 (1935).

25. See Rossi, *supra* note 2, at 409 n.47.

26. The FPC was originally created in 1920 but was solely responsible for hydroelectric projects prior to the FPA. Hartman, *supra* note 9, at 1.

27. 16 U.S.C. § 824(b)(1) (2012).

28. *Id.* § 824(a) (declaring that the sale and distribution of energy is “affected with a public interest,” and therefore that regulation of wholesale and interstate transactions is “necessary in the public interest”).

29. Rossi, *supra* note 2, at 409–10.

regulatory authority over intrastate aspects of the electricity grid.³⁰ In doing so, the FPA ensured a “steady flow” of jurisdictional cases.³¹ In the years following the law’s passage, the Court reviewed such cases with a ‘bright-line’ jurisdictional framework. As the Court stated in *Federal Power Commission v. Southern California Edison*, “Congress meant to draw a bright line easily ascertained between state and federal jurisdiction.”³²

Bright-line jurisdiction was well-suited to the general contours of the mid-twentieth century electric grid. This framework required the dividing of activity into inter- and intrastate jurisdictional spheres, with the federal government responsible for the former and state government responsible for the latter.³³ The judicial application of this framework split actions and assets into either the federal or state sphere of authority, including divisions along “transaction and customer type (wholesale v. retail), facility type (generation v. transmission v. distribution), geography (interstate commerce v. intrastate commerce), and regulatory action (e.g., rate regulation v. facility permitting).”³⁴ Judges used bright-line jurisdiction because of the legal and regulatory structures, physical grid characteristics, and policy considerations that existed during this time period.³⁵

The legal and regulatory structures that developed in the aftermath of the FPA’s passage assumed a monopolistic electric sector.³⁶ Vertically integrated utilities owned all assets from generation to customer meters.³⁷ Merchant generators, Independent System Operators, and market-based rates would not exist for another sixty years.³⁸ Instead, utility companies received a regulated rate of

30. “The Commission shall have jurisdiction over all facilities for such transmission or sale of electric energy, but 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.” 16 U.S.C. § 824(b)(1) (2012).

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

32. 376 U.S. 205, 215 (1964).

33. Eisen, *supra* note 2, at 5 (“This bright line was typical of the early twentieth century’s dual federalism, which posited that federal and state regulatory authority could be separated neatly into exclusive spheres.”).

34. JEFFERY S. DENNIS ET AL., *FEDERAL/STATE JURISDICTIONAL SPLIT: IMPLICATIONS FOR EMERGING ELECTRICITY TECHNOLOGIES* 4 (2016), <https://www.energy.gov/sites/prod/files/2017/01/f34/Federal%20State%20Jurisdictional%20Split-Implications%20for%20Emerging%20Electricity%20Technologies.pdf>.

35. Eisen, *supra* note 2, at 4–5 (describing bright-line jurisdiction as a product of its time, while highlighting the significant changes to the physical and regulatory structures of the grid since the 1930s that render bright-line jurisdiction increasingly untenable).

36. Hirsh, *supra* note 3; FRANCISCO FLORES-ESPINO ET AL., *COMPETITIVE ELECTRICITY MARKET REGULATION IN THE UNITED STATES: A PRIMER* 9 (2016) (noting that approximately two-thirds of electricity consumers are now served by ISOs and RTOs rather than vertically integrated utilities).

37. FLORES-ESPINO ET AL., *supra* note 36, at 8.

38. See generally *Our History*, ISO NEW ENGLAND, <https://www.iso-ne.com/about/what-we-do/history> [<https://perma.cc/8XUC-YS54>] (last visited Nov. 21, 2019) (providing a timeline of major events in energy sector regulation and ISO New England’s history).

return. Regulation developed in response to the FPA's statutory mandates at this time focused upon the reasonableness of a utility's proposed specific rate of return, and relied upon FERC's regulatory review of those filed rates rather than competitive forces to prescribe a just and reasonable rate.³⁹ Monopolies, by definition, prevent multiple asset owners, which prevents competition. Without such competition, FERC's review was confined; the Commission could not give economic preference to favored assets when competition between assets did not exist.⁴⁰ As such, the line between retail and wholesale rate regulation and between state and federal interests was fairly delineated and could be adjudicated under a bright-line jurisdictional framework.⁴¹

The physical infrastructure of the grid likewise lent itself well to a bright-line jurisdictional framework, particularly given the clear physical separation between transmission and distribution. During this time the grid was structured as a one-way machine. Large power plants generated electricity, which was then dispatched across transmission lines. The electricity was ramped down at substations, and was finally provided to end-users through distribution lines.⁴² Although the electricity grid was increasing in size and scale, the technology it relied upon was wholly unidirectional.⁴³ Customers were treated as purchasers of electricity (that is, the "demand" matched against generation "supply") and did not have colocated supply.⁴⁴ Conversely, supplantside generation assets were treated as the only assets available.⁴⁵ The resource mix consisted of fairly uniform, dispatchable assets, with a set of well-understood—although not explicitly recognized—capabilities, physics, services, and features.⁴⁶ Suppliers treated demand as predictable. Grid planners considered year-over-year

39. *Id.* Note that this should not be read to suggest that FERC's regulatory role is diminished now that it more heavily relies upon competition to prescribe just and reasonable rates. Rather, FERC's regulatory role has changed and evolved in response to competitive forces, as described in more detail below.

40. 16 U.S.C. § 824d(b) (2012).

41. *New York v. FERC*, 535 U.S. 1, 12, 16–18 (2002) (recognizing that "the landscape of the electric industry has changed since the enactment of the FPA," but agreeing with FERC's conclusion that when a retail transaction is separated into two products sold separately (i.e., unbundled) the states "clearly retain[] jurisdiction over the sale of power" but the "transmission transaction falls within the Federal sphere of regulation").

42. DENNIS ET AL., *supra* note 34, at 7 (citing QUADRENNIAL ENERGY REVIEW: ENERGY TRANSMISSION, STORAGE, AND DISTRIBUTION INFRASTRUCTURE 3–3 (2015), http://energy.gov/sites/prod/files/2015/07/f24/QUER%20Full%20Report_TS%26D%20April%202015_0.pdf).

43. *Id.*

44. One needs to look no further than a solar array colocated on a homeowner's rooftop to witness how dramatically this previous assumption has changed.

45. *Id.* at 8 ("[A]lmost no generation resources were owned by non-utilities.").

46. See *Energy Sources Have Changed Throughout the History of the United States*, U.S. ENERGY INFORMATION ADMINISTRATION: TODAY IN ENERGY (July 3, 2013), <https://www.eia.gov/todayinenergy/detail.php?id=11951> [<https://perma.cc/Q4P6-D8XG>] ("The three major fossil fuels—petroleum, natural gas, and coal . . . have dominated the U.S. fuel mix for well over 100 years.").

growth in demand to be constant, and in need of a corresponding supply. Such clear segmentation of the physical grid enabled courts to make distinct jurisdictional divisions between transmission and distribution, and thus between federal and state regulators.⁴⁷

Lastly, bright-line jurisdiction provided judges with a tool to consider an array of energy policy considerations at both the state and federal level. States took actions that were within their FPA-guaranteed jurisdiction, from directing in-state generation portfolios to providing primarily fossil-fuel interests large subsidies to retail ratemaking.⁴⁸ Courts, in turn, generally upheld the broad authority and discretion of states to act in furtherance of their citizens' welfare and wellbeing.⁴⁹

The pattern that emerges is instructive. Changes to the characteristics of the electricity grid and energy sector acted as an initiating force, creating pressure upon the legal and regulatory structures designed for an increasingly outdated set of assumptions and expectations. Lawmakers responded by passing the FPA to close the *Attleboro* gap, and regulation, such as through FERC and state PUC activity. The courts responded in turn, employing a bright-line jurisdictional framework to resolve disputes stemming from the jurisdictional interplay the newly crafted law and regulation created. As described in greater detail below, a similar pattern has emerged today; it begins with foundational changes in the electricity sector and ends with a new jurisdictional framework in light of those changes.

II. FOUNDATIONAL CHANGE UNDERWAY IN THE ELECTRICITY SECTOR

The electricity sector is often characterized as resistant to change and progress.⁵⁰ This stagnation is juxtaposed against a recently-brewing "storm of

47. DENNIS ET AL., *supra* note 34, at 8.

48. See generally NANCY PFUND & BEN HEALEY, DBL INVESTORS, WHAT WOULD JEFFERSON DO? THE HISTORICAL ROLE OF FEDERAL SUBSIDIES IN SHAPING AMERICA'S ENERGY FUTURE (2011), https://wedocs.unep.org/bitstream/handle/20.500.11822/20094/pfund_what.pdf.

49. States, through their "police powers," generally maintain control over, and can regulate in relation to, matters that are related to the promotion and maintenance of the health, safety and general welfare of the public. See, e.g., *Barnes v. Glen Theatre*, 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.").

50. This trope is often represented as "a tired truism that Edison would have little trouble recognizing today's power grid." Peter Kelly-Detwiler, *The Economist: Innovation Almost Dead. Perhaps Not So in Electricity*, FORBES (Jan. 23, 2013), <http://www.forbes.com/sites/peterdetwiler/2013/01/23/the-economist-innovation-almost-dead-perhaps-not-so-in-energy/#51ce9e725427> [<https://perma.cc/SD53-DRXD>]. Or other times as a statement detailing how "the system has essentially remained the same for the past 100 years." *Grid Edge 20: The Top Companies Disrupting the US Electric Market*, GTM (Apr. 23, 2015), <https://www.greentechmedia.com/articles/read/Grid-Edge-20-The-Top-Companies-Disrupting-The-U.S.-Electric-Market> [<https://perma.cc/9HUG-4QLG>]. But see Eisen, *supra* note 2, at 4 ("The FPA's drafters would have considerable difficulty recognizing today's grid.").

new innovation and technology deployment which may well radically change the power grid forever.”⁵¹ On the surface, recent innovation in the sector appears to resemble more of an abrupt and drastic revolution, rather than an evolution. However, the sector has been steadily changing for years, moving from a “traditional” to a “modern” era. This evolution has not been uniform. The electricity grid is now a patchwork of technologies, resources, and regulatory regimes that belie unifying description,⁵² and yet trends have emerged. Beginning in the 1990s, structural changes in the electricity system have been taking root in large swaths of the United States and in turn necessitated a legal and regulatory response.⁵³ Cumulatively, these changes created new pressures upon the sector that are reminiscent of those witnessed during the sector’s evolution in the years leading up to *Attleboro* and the FPA.

This Part explores the recent and ongoing fundamental changes underway in the United States’ electricity sector, namely: (1) restructuring, and the advent of Regional Transmission Organizations and Independent System Operators; (2) technological innovation; and (3) evolving state policy preferences and priorities.

A. *Restructuring, and the Advent of the Regional Transmission Organization and Independent System Operator*

In the aftermath of FPA passage, regulatory oversight assumed the regulated party was a single entity responsible for production, transmission, distribution, and the direct sale of electricity.⁵⁴ That is, the drafters of the legal and regulatory system premised the system upon the assumption that a single entity owned and operated the entire enterprise, from power plant to end meter. This assumption began to shift in the 1970s and 1980s, when new economic and political rationales drove an “impulse to restructure.”⁵⁵ Restructuring was premised upon a view that not all facets of the energy sector may lend themselves as well to a monopolistic industry as was previously believed.

51. Kelly-Detwiler, *supra* note 50.

52. See William Boyd & Ann Carlson, *Accidents of Federalism: Ratemaking and Policy Innovation in Public Utility Law*, 63 UCLA L. REV. 810, 816 (2016). Competitive wholesale power markets serve one example of the patchwork nature of the grid, with roughly two-thirds of demand in the country falling within an ISO footprint and roughly one-third remaining in traditionally regulated structures. See ARGONNE NATIONAL LABORATORY, ANL/ESD-16/1, SURVEY OF U.S. ANCILLARY SERVICES MARKETS 2 (2016).

53. See FLORES-ESPINO ET AL., *supra* note 36, at 9 (describing state led restructuring that required utilities to divest their generation assets).

54. See Philip L. Cantelon, *The Regulatory Dilemma of the Federal Power Commission, 1920–1977*, 4 FED. HIST. J. 61, 69 (2012) (highlighting a Federal Power Commission statement from 1940 that its job was to “fully protect the public” against the monopoly power of the utility industry).

55. David B. Spence, *Can Law Manage Competitive Energy Markets*, 93 CORNELL L. REV. 756, 770 (2008).

Energy service might be a natural monopoly if the production and delivery of energy were necessarily one bundled product; but they are not. Rather, the production and delivery of energy are two separate products. Delivery—transmission and distribution service—is a structure which lends itself to monopolistic enterprise. The construction of multiple delivery networks between two points is often inefficient. The production (and sale) of energy, however, is not a natural monopoly. As such, one can *unbundle* production (and sales) from distribution, in turn allowing buyers in wholesale and retail markets to choose their energy supplier even if they must take delivery service from a monopoly provider. Competition in energy production should weed out producers that cannot provide a reliable service at competitive prices. Accordingly, consumers—broadly defined to include all customer classes—should benefit from the cost discipline that competition brings.⁵⁶

Advocates of restructuring thus argued that competition could be introduced to determine wholesale rates. To do so, restructuring required the decoupling of energy production and the delivery of that energy so they could be sold as distinct commodities with the former subject to competition and the latter remaining a monopoly service.⁵⁷

FERC, with the support of Congress, encouraged restructuring in the 1980s and 1990s.⁵⁸ However, the result was not uniform and “three basic models of electricity regulation emerg[ed] across the country: a fully restructured model that combines competition at wholesale and retail levels; a traditional model that continues to employ the basic cost-of-service approach . . . ; and a hybrid model that combines competitive wholesale markets with regulated retail service.”⁵⁹ Twenty states retained the traditional model; sixteen states and Washington, D.C. adopted a fully restructured model; and twelve states adopted a hybrid model.⁶⁰ The grid is a patchwork of regulatory, design, and technology alternatives, with each variation having its own set of rationales, thus, it resists simple grading.⁶¹

56. *Id.* at 771–72.

57. Whether restructuring has accomplished its goal is beyond the scope of this Article and a subject of debate. *See, e.g.*, Severin Borenstein & James Bushnell, *The U.S. Industry After 20 Years of Restructuring* (Energy Inst. at Haas, Working Paper No. 252, 2015), <https://ei.haas.berkeley.edu/research/papers/WP252.pdf>.

58. *See* Energy Policy Act of 1992, Pub. L. No. 102–486, 106 Stat. 2776, 2915 (1992) (codified at 16 U.S.C. § 824(a)) (enabling FERC to require transmitting utilities to provide electric transmission to generators that are not part of the transmitters monopoly provider); Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services By Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, 75 FERC ¶ 61,080 (1996) [hereinafter Order No. 888]; *see also* Boyd & Carlson, *supra* note 52, at 831.

59. Boyd & Carlson, *supra* note 52, at 814.

60. *Id.* at 836–38.

61. *See generally id.* (finding that the regulatory diversity throughout the United States may ultimately be beneficial).

In fully restructured and hybrid areas of the United States, the creation of a new entity to organize and oversee market structures became necessary. Multiple merchant generators, competing to provide supply, replaced a single vertically integrated utility. Consequently, market administrators were needed to identify and select the most cost-effective competitors. FERC encouraged the creation of such entities through new regulations, Order Nos. 888 and 2000, which ushered in “Regional Transmission Organizations” and “Independent System Operators” (RTO and ISO, respectively).⁶² These interstate, nonprofit, and private entities now cover roughly two-thirds of the United States.⁶³ ISOs act as the market administrator, running wholesale market auctions that set wholesale prices.

RTO market operations encompass multiple services that are needed to provide reliable and economically efficient electric service to customers. Each of these services has its own parameters and pricing. The RTOs use markets to determine the provider(s) and prices for many of these services. These markets include the day-ahead energy market (sometimes called a Day 2 market), real-time energy market (sometimes called a Day 1 or balancing market), capacity markets (designed to ensure enough generation is available to reliably meet peak power demands), ancillary services markets, financial transmission rights (contracts for hedging the cost of limited transmission capability), and virtual trading (financial instruments to create price convergence in the day-ahead and real-time markets).⁶⁴

Restructuring provided the impetus and the ability for competition to take root in a once wholly monopolistic sector, while ISOs provided the platform for that competition to flourish. These wholesale, interstate entities spurred competition, and “[a]s these markets took shape, a new class of independent power producers or merchant generators entered to compete with incumbent utilities.”⁶⁵

The transition from monopoly to competition has been significant not only for its impact upon rates, but also for its impact upon FERC’s regulatory role. FERC was previously tasked primarily with considering the cost-based rate sought by the filing utility.⁶⁶ By unlocking competitive forces, FERC’s review changed; it focused upon the market-based rate determined by ISO auctions instead of the return sought by individual assets.⁶⁷ FERC’s market-based rate review fundamentally changed not only its role as regulator, but

62. See Order No. 888, *supra* note 58; Regional Transmission Organizations, Order No. 2000, 89 FERC ¶ 61,285 (1999) [hereinafter Order No. 2000]. For the purposes of this Article, ISO is used to refer to both ISOs and RTOs.

63. FERC ENERGY PRIMER, *supra* note 11, at 40.

64. *Id.* at 59.

65. Boyd & Carlson, *supra* note 52, at 832.

66. Joel B. Eisen, *FERC’s Expansive Authority to Transform the Electric Grid*, 49 U.C. DAVIS L. REV. 1783, 1806–07 (2016).

67. *Id.* at 1792–93.

the industry itself. FERC's just and reasonableness standard morphed from a charge to consider an asset's *cost* to a charge to consider an asset's *competitiveness*. This mandate, effectuated through wholesale markets, created a new FERC policy preference. Because wholesale markets necessarily favor least-cost resources, competition introduced a federal "preference" for more economic, lower cost assets over less economic, higher cost assets in a way that did not previously exist.⁶⁸

Restructuring and the advent of ISOs has fundamentally changed the electricity sector. Market participants have increased, FERC's role has changed, and state regulators must now interact with a newly created entity in ISOs. As an economic theory has taken hold that emphasizes restructuring and encourages competitive markets, regulators have reexamined the FPA's language and traditional structure, particularly in light of the technological advances described in the Part below.

B. *Technological Advances*

The electric sector can be subdivided into four parts: generation, transmission, distribution, and load.⁶⁹ Generation refers to the production of electricity, which takes place at individual power plants. It then moves through transmission lines, which transport high-voltage energy over long distances from generators to population centers. Energy, decreased to a lower voltage, is next transported via distribution lines to end-users. Lastly, end-users consume the energy. Load refers to the total amount of consumption by end-users in a given area.⁷⁰ In contrast, information has traditionally flowed in the opposite direction. Customer energy-use data is collected by electricity meters and meter readers, assembled by utility companies, and used to inform a host of decisions, from whether to build new transmission and generation to what the correct price to bill each end-user should be.⁷¹

The traditional electric sector infrastructure and available technology was only capable of allowing energy to flow in one direction, from power plant to end-user, and information to flow in the other direction, from end-user to utility. This structure lent itself well to the law and regulation put in place around the FPA's passage. With the *Attleboro* gap closed, FERC could regulate the initial portions of the flow: interstate sales of wholesale generation

68. Jody Freeman, *The Uncomfortable Convergence of Energy and Environmental Law*, 41 HARV. ENVTL. L. REV. 339, 359 (2017) (describing how FERC market rules "determine the order in which different types of energy, such as coal, natural gas, and wind power, will be dispatched to satisfy demand").

69. *Electricity is Delivered to Consumers Through a Complex Network*, U.S. ENERGY INFO. ADMIN.: ELECTRICITY EXPLAINED (last updated Oct. 11, 2019), https://www.eia.gov/energyexplained/index.php?page=electricity_delivery [<https://perma.cc/AM6F-ZKD6>].

70. Boyd & Carlson, *supra* note 52, at 820–22 (describing the electric power system components and how energy travels from generator to end user).

71. *Electric Meters*, DEP'T OF ENERGY, <https://energy.gov/energysaver/electric-meters> [<https://perma.cc/AR69-QVUQ>] (last visited Nov. 4, 2019).

and transmission. State PUC regulatory oversight applied to intrastate activity, taking hold once electricity was reduced to a lower voltage and transported through distribution lines.⁷²

Sector technology is fundamentally changing. The sector remains home to familiar figures such as power plants, transmission lines, and load. It is also home to wholly new machinery: solar rooftops, smart homes, and electric vehicles. These resources differ significantly from those depicted in a traditional electricity grid, not only because of the resource *types* but also because of the resource *locations*. Solar rooftops sit on the end-user's property, injecting power back into the grid.⁷³ Distributed energy resources can be installed by companies other than a monopoly utility.⁷⁴ Technology-enabled energy resources like demand response and energy efficiency provide end-users with greater transparency and control over their consumption.⁷⁵ Energy storage allows end-users to control when they need to draw electricity from the grid, thereby unlocking the potential for greater consumer responsiveness to the market rate and a significantly reduced peak demand.⁷⁶

This locational shift is a fundamental departure from the traditional utility and industry model because energy and information have a multidirectional flow. Electricity now flows from the end-user to the electricity grid, a pathway previously unavailable. At the same time, information can now flow in multiple directions. Automated Metering Infrastructure and smart meters allow for end-users to better understand and control their energy usage.⁷⁷ That electricity prices vary throughout the day was previously an unleveraged fact; today, it is information that consumers can utilize through real-time pricing and demand response programs.⁷⁸

Multidirectional information and energy flows afford multiple benefits: end-users can save money, customers have more flexibility and choice, and environmental benefits flow from reduced energy waste.⁷⁹ Multidirec-

72. DENNIS ET AL., *supra* note 34, at 8.

73. PETER FOX-PENNER, SMART POWER: CLIMATE CHANGE, THE SMART GRID, & THE FUTURE OF ELECTRIC UTILITIES 105–06 (2014).

74. See, e.g., *Solar Initiatives*, WASHINGTON, D.C. DEP'T OF ENERGY & ENVIRONMENT, <https://doe.dc.gov/service/solar-initiatives> [<https://perma.cc/3Z6F-J4KT>] (last visited Nov. 4, 2019) (describing how to add solar panels to the home, including links to installation companies).

75. FOX-PENNER, *supra* note 73, at 39–49.

76. *Id.* at 36–37.

77. *Smart Meters and a Smarter Grid*, DEP'T OF ENERGY (May 16, 2011), <https://www.energy.gov/energysaver/articles/smart-meters-and-smarter-grid> [<https://perma.cc/XK7D-QUMX>].

78. *Demand Response*, DEP'T OF ENERGY, <https://www.energy.gov/oe/activities-technology-development/grid-modernization-and-smart-grid/demand-response> [<https://perma.cc/34VY-ZA5V>] (last visited Nov. 4, 2019).

79. E.g., NAT'L ENERGY TECH. LAB., UNDERSTANDING THE BENEFITS OF THE SMART GRID 1–2 (2010), https://www.netl.doe.gov/sites/default/files/Smartgrid/06-18-2010_Understanding-Smart-Grid-Benefits.pdf.

tional flows support FERC's mandate to ensure just and reasonable rates as well as reliable service, as novel sources of technology and information provide opportunity to reduce the cost of electricity in new ways.⁸⁰ Evolutions in technology thus further the same goal that has always undergirded regulation of the industry: affordable electricity rates in furtherance of the public interest, albeit in an entirely different manner than how the industry had previously accomplished this task.

However, changing the pathway has created stress upon a regulatory regime designed for a one-directional grid.⁸¹ Location was an important assumption to the legal and regulatory structures developed to close the *Attleboro* gap. The language of the FPA itself alludes to such, with jurisdiction described on the basis of where along the energy pathway the transaction was made and whether the transaction was inter- or intrastate.⁸² Location likewise informed the jurisdictional analysis in the aftermath of the FPA's passage and served as a rationale for bright-line jurisdiction.⁸³ However, these foundational assumptions have changed. Location, by itself, cannot be a sufficient marker for whether an action is wholly state or federal in nature.⁸⁴ New technologies even blur the lines between wholesale and retail, another foundational assumption for the bright-line jurisdictional analysis.⁸⁵ Like restructuring, innovation and technology has created symptomatic stress upon the traditional regulatory structures. Another foundational change has further catalyzed this symptomatic stress: evolving state policy priority towards climate action and preference for resources and technology that can advance that priority.

80. See, e.g., *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators*, 162 FERC ¶ 61,127 (2018) [hereinafter *Order No. 841*] (allowing new resources, like energy storage, to participate in markets will ensure just and reasonable rates by increasing competition).

81. DENNIS ET AL., *supra* note 34, at 8 (“These operational characteristics of new and emerging energy technologies do not fit as neatly into the FPA’s jurisdictional divisions. With two-way power flow, there is not the same conceptual ‘hand off’ of jurisdiction from federal to state regulation as power flows . . . from generation through delivery to ultimate consumption.”).

82. 16 U.S.C. § 824(b)(1) (2012).

83. E.g., *Fed. Power Comm’n v. S. Cal. Edison Co.*, 376 U.S. 205, 215–16 (1964) (“Congress meant to draw a bright line easily ascertained, between state and federal jurisdiction . . . making FPC jurisdiction plenary and extending it to all wholesale sales in interstate commerce except those which Congress has made explicitly subject to regulation by the States.”); *Elec. Power Supply Ass’n v. FERC*, 753 F.3d 216, 221 (D.C. Cir. 2014) (seeking to fashion a bright-line in which “[s]tates retain exclusive authority to regulate the retail market”).

84. DENNIS ET AL., *supra* note 34, 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).”).

85. *Id.* (“[A]dvanced technologies . . . can provide services in both wholesale and retail markets.”).

C. *Evolving State Policy Preferences and Priorities*

States have longstanding and traditional authority to craft law and policy in furtherance of their citizens' welfare and wellbeing.⁸⁶ This authority cuts across sectors and industries, and is the basis for actions that have intended and unintended impacts upon energy. In response to incontrovertible "evidence that anthropogenic climate change is an existential threat," with "potentially catastrophic consequences to human health and well-being," states have used their authority to craft critical climate laws and policies.⁸⁷ The National Climate Assessment's findings highlighted the urgent need for climate action, with the most recent report stating that that if emissions continued at their current rate climate change would result in hundreds of billions of dollars in economic losses,⁸⁸ threaten public infrastructure;⁸⁹ degrade water quality for drinking, agriculture, and industrial use;⁹⁰ endanger food security;⁹¹ detrimentally impact ecosystems, ecosystem services, oceans and coasts,⁹² and much more. Faced with these potentially "irreversible" consequences,⁹³ states are utilizing longstanding traditional authority, including the authority retained under the FPA to implement strong decarbonization goals.⁹⁴ The impact of this evolving policy priority is significant: twenty-nine states and the District of Columbia have adopted renewable portfolio standards, and seven states and over one hundred cities have committed to 100 percent clean energy.⁹⁵

86. *See supra* note 49; *see also* Elec. Power Supply Ass'n v. Star, 904 F.3d 518, 524–25 (7th Cir. 2018) (quoting General Motors Corp. v. Tracy, 519 U.S. 278, 306 (1997)) ("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.'").

87. Rich Glick & Matthew Christiansen, *FERC and Climate Change*, 40 ENERGY L.J. 1, 2–3 (2019).

88. U.S. GLOBAL CHANGE RESEARCH PROGRAM, FOURTH NATIONAL CLIMATE ASSESSMENT 26 (2018), https://nca2018.globalchange.gov/downloads/NCA4_2018_FullReport.pdf.

89. *Id.* at 30.

90. *Id.* at 27.

91. *Id.* at 29.

92. *Id.* at 29, 31.

93. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, GLOBAL WARMING OF 1.5 °C 5–7 (2018), <http://www.ipcc.ch/report/sr15> (discussing the impacts of warming beyond 1.5 °C).

94. *E.g.*, Order Adopting a Clean Energy Standard, CASE 15-E-0302, (N.Y. Pub. Service Comm'n, Aug. 1, 2016) [hereinafter NY Clean Energy Standard Order] (compensating nuclear generation for the carbon free generation it provided in order to "preserve existing zero-emissions nuclear generation resources as a bridge to the clean energy future," and "prevent backsliding" on state decarbonization mandates).

95. *100% Commitments in Cities, Counties, & States*, SIERRA CLUB, <https://www.sierraclub.org/ready-for-100/commitments> [<https://perma.cc/8FXM-LZNC>] (last visited Nov. 21, 2019); *Updated Renewable Portfolio Standards Will Lead to More Renewable Electricity Generation*, U.S. Energy Info. Admin.: Today In Energy (Feb. 27, 2019), <https://www.eia.gov/todayinenergy/detail.php?id=38492> [<https://perma.cc/WB5B-CPJL>].

Current state action is structured to address citizens' welfare and well-being through environmental preference and climate priority.⁹⁶ While this specific focus is new, state expression of a policy preference and priority is not new. The electricity grid has relied upon multibillion dollar support from states and the federal government since its inception.⁹⁷ These subsidies and incentives, many of which remain in effect, have primarily been directed to fossil-fuel resource owners.⁹⁸ The relative merit of subsidies, historic and present, is beyond the scope of this Article. Relevant here, is that while the *type* of policy preference and priority has evolved to focus on climate benefits, the *existence* of policy preference in the electricity sector is not new.

The evolution in policy priority and preference to support urgent climate action has important implications for the power sector. To meet state requirements, the system has, and must continue to, become cleaner. This necessity will prioritize particular resource and planning decisions. Like restructuring and new technologies, this evolution holds critical promise: a cleaner grid is necessary to respond to devastating threats of climate change. Likewise, this evolution creates symptomatic stress upon a system designed for different policy preferences and priorities.⁹⁹

III. LEGAL AND REGULATORY RESPONSE TO ENERGY TRANSITION

FERC, Congress, and states have remade law and regulation in response to changes altering the energy sector landscape. This response mirrors the legal and regulatory response around *Attleboro*. Foundational sector change—today in the form of restructuring, technological innovation, and evolving policy preferences—required rapid updating to applicable law and regulation. Equally significant is how the legal and regulatory response departs from the context of *Attleboro*.

Congressional action closed the *Attleboro* gap. Commensurate congressional activity has not occurred in the wake of current foundational changes in the electric sector. Rather, the FPA's core provisions—carving out state authority, ensuring just and reasonable rates, and prohibiting undue discrimination

96. However, states are by design not uniform in policy intent, approach, or goal. While many states have assumed leadership roles in response to the growing threat created by climate change, others remain more committed to fossil fuel resources.

97. *Calpine Corp. v. PJM Interconnection, L.L.C.*, 163 FERC ¶ 61,236, at *52 (2018) (Glick, Comm'r, dissenting) (“Since 1916, federal taxpayers have supported domestic exploration, drilling, and production activities for our nation’s fossil fuel industry. And since 1950, the federal government has provided roughly a trillion dollars in energy subsidies, of which 65 percent has gone to fossil fuel technologies.”).

98. OVERSEES DEV. INST., US G7 FOSSIL FUEL SUBSIDY SCORECARD 2 (2018), <https://www.odi.org/sites/odi.org.uk/files/resource-documents/12217.pdf> [<https://perma.cc/F7S8-KSLV>].

99. Order No. 841, *supra* note 80, at 9582 (“[B]arriers to the participation of new technologies, such as many types of electric storage resources, in the RTO/ISO markets can emerge when the rules governing participation in those markets are designed for traditional resources . . .”).

and preference—remain unchanged. Federal legislation has been relatively limited and has worked to complement rather than supplant the FPA and FERC’s core authority. In place of broad congressional action, regulatory reform has served as the federal government’s primary mechanism to respond to sector modernization.

The primarily regulatory response reflects the major distinction between *Attleboro* and today. Rather than a regulatory *gap* due to a rapidly expanding grid, today’s foundational changes—increasing competition, new technologies, and evolving policy preferences—have spurred a regulatory *overlap*. Today’s foundational changes have necessitated a regulatory response that has led to state and federal regulators having increasingly interrelated and interconnected authority. This mix of regulatory activity and complementary legislation without change to core FPA text has been sufficient and well-suited to realigning the sector’s legal and regulatory regime to the sector’s evolving economic, engineering, and policy structures.¹⁰⁰

A. *Restructuring and ISOs*

Restructuring, and the formation of ISOs required significant FERC leadership. FERC set the stage for the formation of ISOs in Order No. 888, which “required mandatory open transmission access by all transmitting utilities” and promoted ISOs as the facilitators of this new open-access transmission.¹⁰¹ Order No. 888 also contemplated that ISOs “would operate the transmission system independently of and foster competition for electricity generation among wholesale market participants.”¹⁰² Three years later, FERC issued Order No. 2000, which encouraged “utilities to join regional transmission organizations . . . that, like an ISO, would operate the transmission systems and develop innovative procedures to manage transmission equitably.”¹⁰³ Order No. 2000 set ISOs’ minimum characteristics, like independence and short-term reliability, and functions; like tariff administration, design, and

100. This Part provides a description of the legal and regulatory responses that is one of sector trends, *not* uniform and unwavering progression. Progress has been uneven and non-linear: FERC, states, and sector actors have deviated course in ways that is contrary to core FPA principles, undermines rather than harmonizes with state authority, and that supports anticompetitive and inefficient activity through market and quasimarket structures. See Michael Panfil & Rama Zakaria, *Uncovering Wholesale Electricity Market Principles*, 8 MICH. J. ENVTL. & ADMIN. L. (forthcoming 2019); *Calpine Corp. v. PJM Interconnection, L.L.C.*, 163 FERC ¶ 61,236 (2018) (Glick, Comm’r, dissenting); *ISO New England, Inc.*, 162 FERC ¶ 61,205 (2018) (Glick, Comm’r, dissenting in part and concurring in part). It is unlikely, however, that such deviations will stem the general trends described above. Although uneven, legal and regulatory structures continue to update in reflection of sector modernization. Indeed, increasing familiarity with competitive market structures, new technologies and entrants, and evolving policy preferences only further supports this forward march.

101. FERC ENERGY PRIMER, *supra* note 11, at 39–40.

102. *Id.* at 40.

103. *Id.*

market monitoring.¹⁰⁴ Both Orders were intended to “enhance the benefits of competitive electricity markets” through encouragement of independent transmission grid operators.¹⁰⁵

FERC has only further imbued competition into its foundation since Order Nos. 888 and 2000. The Commission’s precedent is clear, and concludes that competition is the most efficient means to ensuring just and reasonable rates.¹⁰⁶ In ISO regions, FERC generally allows for market-based rates and disfavors cost-based rates, with the latter only permitted in narrow, time-limited instances and only as a “last resort.”¹⁰⁷ ISOs reflect this competitive foundation; their filed tariffs and mission statements express an obligation to “create and sustain open, non-discriminatory, competitive, unbundled markets.”¹⁰⁸ Capacity markets were developed to provide a new revenue stream to supplement competitive wholesale energy markets. Although many view capacity markets as failure in practice, their underlying theory was premised upon an interest in encouraging investment in new generation capacity through a market-based mechanism.¹⁰⁹ FERC required their markets to use a locational marginal price to support “optimal investment in resources” and to provide compensation that would incentivize capacity growth (and therefore competition) in areas of congestion.¹¹⁰ This preference not only supports restructuring and compe-

104. Order No. 2000, *supra* note 62, at 811.

105. *E.g., id.*

106. *See, e.g.*, N.Y. Indep. Sys. Operator, 150 FERC ¶ 61,116, ¶ 61,118 (2015); ISO New England, Inc., 148 FERC ¶ 61,179, ¶ 61,222 (2014); ISO New England, Inc., 151 FERC ¶ 61,052 (2014); PJM Interconnection LLC, 110 FERC ¶ 61,053, ¶ 61,084 (2005); Midwest Indep. Transmission Sys. Operator, Inc., 108 FERC ¶ 61,163, ¶ 61,466 n.226 (2004); *see also* Panfil & Zakaria, *supra* note 100.

107. Specifically, the Commission has consistently made clear that reliability-must-run (RMR) agreements must be used only as a last resort. Devon Power LLC, 103 FERC ¶ 61,082, ¶ 61,113 (2003); *see also* Bridgeport Energy, LLC, 118 FERC ¶ 61,243, ¶ 61,284 (2007); Berkshire Power Co., 112 FERC ¶ 61,253, ¶ 61,275 (2005); Devon Power LLC, 110 FERC ¶ 61,315, ¶ 61,350 (2005). RMR agreements were rejected “out of concern about the effect widespread use of such contracts could have on the competitive market.” Devon Power LLC, 115 FERC ¶ 61,340, ¶ 61,347 (2006).

108. ISO NEW ENGLAND, TRANSMISSION, MARKETS, & SERVICES TARIFF ¶ I.1.3(b) (2019); *see also* PJM’s *Mission & Vision*, PJM, <https://www.pjm.com/about-pjm/who-we-are/mission-vision.aspx> [<https://perma.cc/K6TE-M8LT>] (last visited Nov. 21, 2019) (“Create and operate robust, competitive, and non-discriminatory electric power markets.”); N.Y. INDEP. SYS. OPERATOR, 2018–2022 STRATEGIC PLAN 8 (2017), <https://www.nyiso.com/documents/20142/225883/2018+NYISO+Strategic+Plan.pdf/89d8a887-1b70-b163-99d0-0a91cfa6d497> [<https://perma.cc/BE2D-GX89>] (“Operating a fair and competitive electric wholesale markets.”).

109. *See* FLORES-ESPINO ET AL., *supra* note 36, at 16; Rob Gramlich & Michael Goggin, *Too Much of the Wrong Thing: The Need for Capacity Market Replacement or Reform*, GRID STRATEGIES LLC (2019), <https://gridprogress.files.wordpress.com/2019/11/too-much-of-the-wrong-thing-the-need-for-capacity-market-replacement-or-reform.pdf> [<https://perma.cc/2HRP-FSE6>] (critiquing current wholesale capacity market structures).

110. *See* Devon Power LLC, 115 FERC ¶ 61,340, ¶ 61,346–47, ¶ 61,405 (quoting New England Power Pool and ISO New England, Inc., 100 FERC ¶ 61,287, ¶ 61,388 (2002)).

tion, but also supports ISOs as the mechanism to house that competition. FERC has, for example, long provided membership incentives to transmission owners when they join an ISO.¹¹¹ FERC recently emphatically rejected proposals to explicitly favor certain resources and affirmed its commitment to competition as a foundational agency principle.¹¹²

Congressional support benefited restructuring, competition, and the development of ISOs.¹¹³ First, in 1978, Congress passed the Public Utility Regulatory Policy Act (PURPA).¹¹⁴ This legislation encouraged competition in the energy sector by providing incentives to small scale generating facilities that met the requirements of “qualifying facilities.”¹¹⁵ States set the price to be paid to these qualifying generators, which, depending on price, could spur rapid growth of renewables.¹¹⁶ Heralded by some as “the most effective single measure in promoting renewable energy,”¹¹⁷ PURPA was able to unlock new

111. See 16 U.S.C. § 824s(c) (2012) (“[T]he Commission shall . . . provide for incentives to each transmitting utility or electric utility that joins a Transmission Organization.”); Promoting Transmission Investment Through Price Reform, 116 FERC ¶ 61,057, ¶ 61,383 (2006) [hereinafter Order No. 679] (providing a return-on-equity incentive for public utilities that join or continue to be a member of an ISO).

112. FERC’s foundational preference for competition, ISOs, and market structures has been tested most recently by a Department of Energy (DOE) Federal Power Act section 403 proposal, which requested the Commission grant coal and nuclear generators guaranteed cost-based rates in place of competitive market-based rates. See Grid Resiliency Pricing Rule, 82 Fed. Reg. 46,940 (Oct. 10, 2017) (to be codified at 18 C.F.R. pt. 35); Grid Reliability and Resilience Pricing, 162 FERC ¶ 61,012, ¶ 61,014 (2018) [hereinafter 403 Denial Order]. The Commission denied DOE’s proposal in a 5–0 decision, emphasizing that its preference for competitive market structures is premised upon the core statutory responsibility to ensure just and reasonable rates. See *id.* ¶¶ 61,012–21. FERC made clear that cost-bate rate structures were best left to the ash heap of history and that it would continue to use the markets it had overseen development of for the last two decades, noting that its “support of competitive wholesale electricity markets has been grounded in the substantial and well-documented economic benefits that these markets provide to consumers.” *Id.* ¶ 61,023. The Commission also noted that in Order No. 890 it had relied on a “DOE study that found that competition had reduced consumers’ bills by billions of dollars a year.” *Id.* (citing Preventing Undue Discrimination and Preference in Transmission Service, Order No. 890, FERC Stats. & Regs. ¶ 31,241, ¶ 31,301 (2007) and DEP’T OF ENERGY, NATIONAL TRANSMISSION GRID STUDY (2002)).

113. See Lyons, *supra* note 2, at 931–36 (providing further details on the role of PURPA and the Energy Policy Act of 1992 in opening the grid to competition and ultimately rendering the jurisdictional bright line obsolete).

114. Public Utility Regulatory Policy Act, 16 U.S.C. §§ 2601–2645 (1978).

115. FERC ENERGY PRIMER, *supra* note 11, at 39.

116. See *id.* (noting that while some states set the price too low, others set high rates and were “overwhelmed with QF capacity”).

117. *Public Utility Regulatory Policy Act (PURPA)*, UNION OF CONCERNED SCIENTISTS (July 15, 2002), https://www.ucsusa.org/clean_energy/smart-energy-solutions/strengthen-policy/public-utility-regulatory.html [<https://perma.cc/3N79-SW9L>] (also arguing that it is the “only existing federal law that requires competition in the utility industry and the only law that encourages renewables”).

competition in the energy sector.¹¹⁸ The Energy Policy Act of 1992 encouraged further competition by providing FERC with the authority to grant transmission access on request.¹¹⁹ This ensured that FERC could provide for open-access, which would lead to greater competition by expanding markets for independent power producers.¹²⁰

States have also been active in efforts to restructure the electricity sector. At the same time FERC began promoting competitive markets, states began requiring utilities within their jurisdiction to divest their generation assets, breaking up longstanding vertically integrated companies.¹²¹ States also facilitated restructuring by permitting their utilities to join ISOs and participate in the competitive markets.¹²² Furthermore, as of 2017, thirteen states and Washington, D.C., have restructured their retail markets.¹²³

Taken together, the legal and regulatory response to sector change exhibits clear preference for competitive market mechanisms. This preference expressed itself in response to the modernizing elements described above, with economic theory emphasizing restructuring ultimately successful in pushing competition over monopolistic industry structures and outcomes. This new-found preference and FERC's corresponding regulatory response has raised tension on jurisdictional issues and increased litigation concerning how to divvy responsibility in the wake of ISOs and competition.¹²⁴

118. See RICHARD J. CAMPBELL, CONG. RESEARCH SERV., R42923, ELECTRICAL POWER: OVERVIEW OF CONGRESSIONAL ISSUES 1 (2013).

119. FERC ENERGY PRIMER, *supra* note 11, at 39.

120. FLORES-ESPINO ET AL., *supra* note 36, at 8.

121. *Id.* at 9.

122. See, e.g., BENTHAM PAULOS, A REGIONAL POWER MARKET FOR THE WEST 15, 21 (2018) (noting that regionalization of CAISO was not likely to receive the needed approval from states outside of California, and also describing opposition to California state laws that would allow for regionalization).

123. NAT'L RENEWABLE ENERGY LAB., AN INTRODUCTION TO RETAIL ELECTRICITY CHOICE IN THE UNITED STATES (2017), <https://www.nrel.gov/docs/fy18osti/68993.pdf> [<https://perma.cc/73KP-24WE>].

124. This is primarily an issue in the two-thirds of the country where ISOs have established market-based rate regimes. In traditionally regulated states, where ISOs and wholesale competition does not exist, electricity sector regulation remains primarily in the control of state authorities, and that authority is "at its maximum." Boyd & Carlson, *supra* note 52, at 836. That one-third of the country remains traditionally regulated is an important difference between the legal and regulatory response today and that after *Attleboro*. The congressional response to *Attleboro*, passage of the FPA, necessarily applied with equal force throughout the United States. The current legal and regulatory response, however, has adopted a decidedly patchwork approach. This outcome was not purposeful: ISOs and regional variability arose from the ashes of standard market design. *Id.* at 832–33. Yet emphasis on respecting regional diversity and differences has taken hold, both in practice and design. E.g., *New England Power Generators Ass'n, Inc. v. ISO New England*, 150 FERC ¶ 61,064, ¶ 61,083 (2015) ("[M]arket design and rules need not be identical among the regions to be just and reasonable."); *PJM Interconnection, L.L.C.*, 119 FERC ¶ 61,063, ¶ 61,102 (2007) ("[T]he Commission has permitted different just and reasonable rate designs reflective of particular

B. *Technological Advances*

Like restructuring, new technology and entrants have created pressure upon the traditional legal and regulatory structures undergirding the power sector. FERC, Congress, and states have responded by crafting new law, regulation, and policy to encourage the development of new technologies and entrants, in pursuit of the benefits they could provide.

FERC has taken concrete steps to actively support innovation and technological advances, through its own action and by approving ISO market proposals.¹²⁵ Like the regulatory actions described in the Part above, the scope of FERC's and ISO's actions are unified by the same direction and statutory goal: to provide reliable electric service at just and reasonable rates, and through not unduly discriminatory or preferential means. While technological innovation has changed the pathway, this goal remains the same.

FERC Order Nos. 719, 745, and 841 are emblematic of this evolving pathway. Order Nos. 719 and 745, which allowed demand response participation in wholesale energy markets, and Order No. 841, which allowed energy storage participation in wholesale power markets, gave technology-enabled resources commensurate access to market structures previously available to only traditional generating stations.¹²⁶ The Orders, premised on the Commission's statutory obligation to ensure just and reasonable rates, concluded that allowing demand response and energy storage to participate enabled more affordable electricity.¹²⁷

Demand response and energy storage resources are representative of the technological innovation that is fundamentally changing the energy sector, particularly the multidirectional nature of the grid. Both demand response and energy storage can be located on the distribution system or

system characteristics and stakeholder input. In this regard, we have stated our deference to regional preferences a number of times, for instance in Order No. 2000, and in PJM Interconnection, L.L.C., 96 FERC ¶ 61,060, ¶ 61,220 (2001), as well as in our approval of rate designs for different regional markets.”; N.Y. Indep. Sys. Operator, Inc., 126 FERC ¶ 61,320, ¶ 61,360 (2009) (“[T]here can be more than one just and reasonable planning process and RTOs and ISOs [Independent System Operators] are not required to have identical planning processes . . .”). The modern electricity sector resists simple categorization, and even ISOs are far from uniform: one-third of the United States remain outside an ISO-footprint; four of the seven ISOs run wholesale capacity markets; one of those four is voluntary.

125. See Wholesale Competition in Regions with Organized Electric Markets, 125 FERC ¶ 61,071 (2008) [hereinafter Order No. 719]; Demand Response Compensation in Organized Wholesale Energy Markets, 134 FERC ¶ 61,187 (2011) [hereinafter Order No. 745]; Order No. 841, *supra* note 80.

126. See *supra* note 125; see also Michael Panfil, *Demand Response and the Story of this Clean Energy Resource*, MEDIUM (Apr. 24, 2015), <https://medium.com/@EDFEnergyEX/how-the-electricity-world-has-changed-cdb4e56b9b24> (providing a detailed explanation of demand response resources and Order No. 745).

127. Order No. 719, *supra* note 125, ¶ 61,072; Order No. 745, *supra* note 125, ¶ 61,189, ¶ 61,197; Order No. 841, *supra* note 80, ¶ 61,128.

behind-the-meter, colocated with what has traditionally been considered load.¹²⁸ Demand response, while participating as a generator in wholesale markets, is not traditional “generation”; it is load reduction used to balance the grid in the same manner as a traditional generation asset.¹²⁹ Multidirectional flow of information likewise supports and is supported by these demand response and energy storage resources. Both demand response and energy storage can be aggregated by third-party entities that rely upon instantaneous and granular communication to ensure participation when called upon by grid operators.¹³⁰

FERC, through Order Nos. 719, 745, and 841, recognized the fundamental change ongoing in the electricity sector. The Commission’s response connected its foundational statutory obligations to the evolving physical structure of the electricity grid. The Orders acknowledged that these new resources “must often use existing participating models designed for traditional generation or load resources that do not recognize [their] unique physical and operational characteristics and their capability to provide capacity, energy, and ancillary services in the RTO/ISO markets.”¹³¹ FERC understood that these resources were technologically different than traditional generating resources and that the regulatory system needed to account for those differences appropriately.

Although the FPA’s core statutory text has remained unchanged, Congress has still made clear its interest in supporting new grid technologies. As discussed above, PURPA and the Energy Policy Act of 1992 both encouraged competition from new resources.¹³² In particular, PURPA provided pathways to allow new technologies, like renewables, to compete. Furthermore, through the Energy Policy Act of 2005, Congress amended PURPA to include provisions

128. Order on Rehearing and Clarification, Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators, 167 FERC ¶ 61,154, ¶ 61,193 (2019) [hereinafter Order No. 841-A] (concluding that the decision in *FERC v. EPSA* allows FERC to regulate participation of resources that are located on a distribution system or behind-the-meter); Order on Rehearing and Clarification, 137 FERC ¶ 61,215, ¶ 61,281 (2011) [hereinafter Order No. 745-A] (disagreeing that the fact that the “existence of behind the meter generation” is problematic for the validity of Order No. 745).

129. Order No. 745, *supra* note 125, ¶ 61,196 (explaining how demand response operates in the wholesale market to reduce consumption); Order No. 841-A, *supra* note 128, ¶ 61,207 (discussing the fact that demand response resources, unlike energy storage resources, do not involve a sale of electric energy, but instead involves a “reduction in the consumption of electricity”); *FERC v. Elec. Power Supply Ass’n*, 136 S. Ct. 760, 769–70 (2016) (explaining the way demand response resources contribute to the grid).

130. FERC ENERGY PRIMER, *supra* note 11, at 46 (explaining curtailment service providers). See generally *Demand Response Enabling Technology Development*, CTR. FOR BUILT ENV’T, <https://cbe.berkeley.edu/project/demand-response-enabling-technology-development> [<https://perma.cc/DVR6-PSB6>] (last visited Jan. 2, 2020).

131. Order No. 841, *supra* note 80, ¶ 61,138; see also Order No. 719, *supra* note 125, ¶ 61,089 (describing the various services that demand response resources have been capable of providing).

132. See *supra* notes 113–120 and accompanying text.

relating to, and encouraging, net metering and demand response.¹³³ There Congress also stated it was “the policy of the United States . . . that unnecessary barriers to demand response participation in energy, capacity, and ancillary service markets shall be eliminated.”¹³⁴ Similarly, the Energy Independence and Security Act of 2007 provided that it was United States policy to “support the modernization of the Nation’s electricity and transmission and distribution system . . . to achieve [a set of requirements that] together characterize a Smart Grid.”¹³⁵ The Act also required the Department of Energy to provide Congress with a Smart Grid System Report, which would include information on “the status of smart grid deployments nationwide and any regulatory or government barriers to continued deployment.”¹³⁶ In 2008, Congress also provided \$4.5 billion to DOE to modernize the electric power grid through the American Recovery and Reinvestment Act of 2009 (ARRA).¹³⁷ DOE used that funding to provide Smart Grid Investment Grants to modernization projects,¹³⁸ and by 2016 the program had supported installation of sixteen million smart meters.¹³⁹ ARRA also provided funding to help stimulate the growth of energy storage resources, which helped increase storage by 500 percent between 2012 and 2015.¹⁴⁰ Collectively, these statutes directed federal agencies to make grid modernization a priority and compelled them to act, whether it be through monetary assistance, data collection, or regulatory action.

States have likewise made important strides in enabling and recognizing evolving grid technologies. Smart meters, necessary devices in enabling multidirectional flows of information, were rapidly deployed in the early 2010’s. By 2018 there were 86.8 million smart meter installations across the country.¹⁴¹ Several states have led efforts to enable access for new technologies and

133. Energy Policy Act of 2005, Pub. L. No. 109–58, §§ 1251–1254, 119 Stat. 594, 962–71 (2005).

134. *Id.* § 1252(f).

135. Energy Independence and Security Act of 2007, Pub. L. No. 110–140, § 1301–1302, 121 Stat. 1492, 1783–84 (2007).

136. *Id.*

137. American Recovery and Reinvestment Act of 2009, Pub. L. No. 111–5, 123 Stat. 115, 138–39 (2009); *Recovery Act: Smart Grid Investment Grant (SGIG) Program*, DEP’T ENERGY, <https://www.energy.gov/oe/information-center/recovery-act-smart-grid-investment-grant-sgig-program> [<https://perma.cc/655M-NW6K>] (last visited Jan. 2, 2020).

138. *Recovery Act: Smart Grid Investment Grant (SGIG) Program*, *supra* note 136.

139. Press Release, White House, Fact Sheet: The Recovery Act Made the Largest Single Investment in Clean Energy in History, Driving the Deployment of Clean Energy, Promoting Energy Efficiency and Supporting Manufacturing (Feb. 25, 2016), <https://obamawhitehouse.archives.gov/the-press-office/2016/02/25/fact-sheet-recovery-act-made-largest-single-investment-clean-energy> [<https://perma.cc/PE55-5STEP>].

140. American Recovery and Reinvestment Act of 2009, Pub. L. No. 111–5, 123 Stat. 115, 138 (2009) (“[T]he secretary shall provide facility funding awards under this section to manufacturers of advanced battery systems and vehicle batteries . . .”); White House Press Release, *supra* note 139.

141. *Frequently Asked Questions*, ENERGY INFO. ADMIN., <https://www.eia.gov/tools/faqs/>

entrants at the retail level, with programs rolling out in 2019 and 2020, including California's default Time of Use tariff and energy storage mandate, Illinois' real time pricing pilot, and New York's Reforming the Energy Vision regulatory strategy.¹⁴²

FERC activity, congressional action, and state leadership have supported innovative technologies. The sector's continuing adoption of such technologies is premised on longstanding statutory mandates and goals. Technological innovation provides new pathways to realize those longstanding objectives, and FERC, Congress, and states have responded by crafting legal and regulatory structures well-suited for the evolving grid. However, in pursuing their goals to accommodate and encourage grid modernization and technological advancement, federal and state entities have placed tension on the traditional jurisdictional bright-line that relegated their actions to promoting and regulating technology on their respective sides.

C. *Evolving State Policy Preferences and Priorities*

Evolving policy preferences and priorities at the state level have, like restructuring and technological innovation, led to a regulatory response. This response to state policy in furtherance of climate action should be understood within the context of existing and longstanding interplay between federal and state entities in the power sector. As examined above, this interplay is a natural progression that is reflective of the manner in which the grid expanded from intra- to interstate machine and the FPA's explicit retention of state authority following *Attleboro*.¹⁴³ This explicit state role is similar in some ways to the FPA's establishment of FERC's just and reasonable and not unduly discriminatory standard: both elements are core to the statute's construction and both provide flexibility in ensuring regulatory regimes meet their foundational purpose.

faq.php?id=108&t=3 [https://perma.cc/W24Q-RWZK] (last visited Nov. 21, 2019) (providing 2018 deployment numbers); *Nearly Half of All U.S. Electricity Customers Have Smart Meters*, ENERGY INFO. ADMIN. (Dec. 6, 2017), https://www.eia.gov/todayinenergy/detail.php?id=34012 [https://perma.cc/5S9K-VKP4] (“Installations of smart meters have more than doubled since 2010.”).

142. CAL. PUB. UTIL. CODE §§ 2835–2839 (Deering 2009) (codifying California's Energy Storage Mandate); *Time of Use Rulemaking/R.15–12–012*, CAL. PUB. UTIL. COMM'N, https://www.cpuc.ca.gov/General.aspx?id=12180 [https://perma.cc/ACE2-ZUYA] (discussing California's Time of Use rulemaking); ILL. COMMERCE COMM'N, *Verified Petition for Approval of a Revision to Integrated Distribution Company Implementation Plan*, ENVTL. DEF. FUND (Nov. 16, 2018), http://blogs.edf.org/energyexchange/files/2018/11/ComEd-Verified-Petition-w-Attachment-A.pdf (Commonwealth Edison requesting approval from Illinois regulators to implement a four-year time-of-use pilot program); *REV: Reforming the Energy Vision*, N.Y. STATE ENERGY PLANNING BD. (2016), https://www.ny.gov/sites/ny.gov/files/atoms/files/WhitePaperREVMarch2016.pdf (describing New York's Reforming the Energy Vision plan).

143. 16 U.S.C. § 824(a) (2012).

As states have used their policymaking authority to drive decarbonization, FERC has considered whether traditional regulatory structures remain well-suited to connecting the FPA's careful reservation of state authority to the current realities of the sector. That is, because the *type* of state policy preference has evolved to focus on climate action in the context of a restructured wholesale energy sector, FERC has increasingly considered whether its regulatory regime effectively ensures those preferences are respected as required by the FPA.¹⁴⁴

Commission activity in this space has been fluid, uneven, and more recently, troubling. Positive steps are clearly visible; Order No. 1000, for example, required that state policies, such as renewable portfolio standards, be considered in transmission planning.¹⁴⁵ California Independent System Operator (CAISO) implemented the first and only FERC-approved multistate RTO dispatch carbon price in its Energy Imbalance Market.¹⁴⁶ Two other ISOs, New York Independent System Operator (NYISO) and PJM Interconnection (PJM), have considered integrating carbon pricing into their wholesale energy markets as a means to harmonize their markets with state climate policy.¹⁴⁷ FERC has likewise made it clear that the state—not the federal government—retains authority over the sale of environmental components of power, so long as that sale is not impermissibly “bundled” with the energy value of the resource.¹⁴⁸ Hence, FERC has responded to evolving policy preferences by better linking its FPA mandate to sector realities.

FERC's response to state public policy has been regressive in other areas.¹⁴⁹ Two 2018 Commission Orders, in response to proposals by ISO New

144. For example, in 2017 FERC held a technical conference on state public policies and their impact on wholesale markets. State Policies and Wholesale Markets Operated by ISO New England Inc., New York Independent System Operator, Inc., and PJM Interconnection, LLC; Notice of Technical Conference, 82 Fed. Reg. 13,331 (Mar. 10, 2017).

145. *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, Order No. 1000, 136 FERC ¶ 61,051 (2011) [hereinafter Order No. 1000] (codified at 18 C.F.R. § 35.28 (2019)).

146. See Cal. Indep. Sys. Operator Corp., 147 FERC ¶ 61,231 (2014).

147. See N.Y. INDEP. SYS. OPERATOR, IPPTF CARBON PRICING PROPOSAL (2018), <https://www.nyiso.com/documents/20142/2244202/IPPTF-Carbon-Pricing-Proposal.pdf>; *PJM Outlines Plan to Study Market Effects of Carbon Pricing*, PJM (May 17, 2019), <http://insidelines.pjm.com/pjm-outlines-plan-to-study-market-effects-of-carbon-pricing> [<https://perma.cc/WH6B-3G3Q>].

148. WSPP, Inc., 139 FERC ¶ 61,061, ¶ 61,425 (2012) (“[W]e conclude that unbundled REC transactions fall outside of the Commission’s jurisdiction”); American Ref-Fuel Co., 105 FERC ¶ 61,004, ¶¶ 61,027–28 (2003) (explaining that states control unbundled RECs, including “who owns the REC in the initial instance, and how they may be sold or traded”).

149. Whether the current response is a permanent shift or a short-lived deviation is beyond the scope of this Article. Regardless, the situation provides an important example of how the foundational changes in the electricity sector are prompting regulatory response and creating tensions that will need to be resolved through the ‘collaborative federalism’ framework.

England (ISO-NE) and PJM to alter their capacity market designs, serve as examples of concerns that FERC may be considering extending its authority in ways that undermine state authority.¹⁵⁰ The ISO-NE and PJM proposals—and FERC’s response—focused upon the impacts of state public policies on wholesale capacity market operation. In furtherance of state climate goals, the state policies at issue compensated clean energy generators for the zero-emission benefits they provided.¹⁵¹ FERC has asserted that these actions, while taken pursuant to states’ longstanding authority to pursue policy in furtherance of their citizens’ welfare and wellbeing and authority over generating facilities, can impact the price at which generators bid into wholesale markets, thereby indirectly impacting wholesale rates. The FERC Orders premised their action on the assumption that those impacts should be negated through changes to wholesale market design.¹⁵² More recently, FERC has taken steps that build upon these two FERC Orders in ways that signal troubling willingness to undermine, rather than nurture, jurisdictional interplay and valid exercise of state policy authority.¹⁵³ In a late 2019 Order centered on PJM’s capacity market, FERC doubled down upon the logic embedded in the two 2018 PJM and ISO-NE Orders, and chose to “zero out *any* state effort to address the externalities associated with sales of electricity” by effectively walling off wholesale capacity markets from any state-policy supported resource.¹⁵⁴ The Order’s premise, that state policy actions authorize FERC “to block any state effort to economically regulate the externalities associated with electricity generation is not a reasonable interpretation of the FPA’s balance between federal and state jurisdiction.”¹⁵⁵

150. *Calpine Corp. v. PJM Interconnection, L.L.C.*, 163 FERC ¶ 61,236, ¶ 61,244 (2018); *ISO New England, Inc.*, 162 FERC ¶ 61,205, *passim* (2018).

151. *Calpine Corp.*, 163 FERC ¶¶ 61,236–39; *ISO New England*, 162 FERC ¶ 61,209.

152. *Calpine Corp.*, 163 FERC ¶¶ 61,257–60; *ISO New England*, 162 FERC ¶ 61,209; *see also* Brief for the United States and the Federal Energy Regulatory Commission as Amici Curiae in Support of Defendants-Respondents and Affirmance at 19–22, *Elec. Power Supply Ass’n v. Star*, 904 F.3d 518 (7th Cir. 2018) (Nos. 17–2433 and 17–2445), 2018 WL 2746229 (explaining that if zero emission credit policies impermissibly affected wholesale markets, it would be considered through the administrative process).

153. *See Calpine Corp. v. PJM Interconnection, L.L.C.*, 169 FERC ¶ 61,239 (2019).

154. *Id.* at *17 (Glick, Comm’r, dissenting).

155. *Id.* For a thoughtful critique of certain FERC’s actions that undermine state climate change objectives and impose market structures designed for fossil-fuel resources, *see* Danny Cullenward & Shelley Welton, *The Quiet Undoing: How Regional Electricity Market Reforms Threaten State Clean Energy Goals*, 36 *YALE J. ON REG. BULL.* 106 (2018). This same tension is on display in NYISO, with the New York Public Service Commission and New York Energy Research and Development Authority filing a 206 complaint against the ISO in late July 2019. Complaint on Behalf of the N.Y. State Pub. Serv Comm’n and the N.Y. State Energy Research and Dev. Auth. and Request for Fast Track Processing, *N.Y. Pub. Serv. Comm’n v. N.Y. Indep. Sys. Operator*, No. EL-19–86 (FERC July, 29, 2019) [hereinafter *NYPSC Complaint*]. The New York state entities argue that the filing, which applies buyer-side mitigation measures (through an offer floor) to electric storage resources (ESR), not only violates Order 841’s requirement that market barriers to ESR participation be

Notwithstanding troubling, recent developments, the instances described above demonstrate that foundational change has led to a regulatory response, which has created jurisdictional friction.¹⁵⁶ This friction has resulted in litigation that pits federal and state authority against each other.¹⁵⁷ Significantly, this response has spurred the judiciary to move from a ‘bright-line’ jurisdictional framework, described above, to a ‘collaborative federalism’ jurisdictional framework. As described below, this interpretive framework allowed the courts to better resolve jurisdictional disputes in a manner that harmonizes the FPA’s statutory structure and division of authority with the foundational changes that have modernized the electricity sector.

IV. COLLABORATIVE FEDERALISM

As the electricity industry has modernized, and as FERC, Congress, and states have responded, case law has accumulated with increasing speed. These cases, like *Attleboro*, are symptomatic of the industry’s evolution. They likewise center upon a familiar issue: whether a particular action, sitting upon a jurisdictional fault line, is within state or federal control. As described above, this issue is not caused by a regulatory gap but a regulatory overlap. Courts have recognized that a ‘collaborative federalism’ framework is best suited to adjudicating disputes created from this regulatory overlap.

This Part examines the judiciary’s adoption of collaborative federalism due to the fundamental changes underway in the energy sector and the legal and regulatory response. Emblematic cases are highlighted and explored below, namely (1) *New York v. FERC*, in the context of Order No. 888,

removed, but also “improperly interferes with legitimate state actions that fall within the regulatory authority reserved to states under the FPA.” *Id.* at 4. The state entities argue the NYISO mitigation “would counteract State decisions and interfere with State policy objectives regarding the mix of generation resources that should be used to provide a reliable source of energy while satisfying energy and environmental policy objectives that serve the public health, safety, and welfare of state residents.” *Id.* at 32. The state entities assert that such an outcome would directly contravene the collaborative federalism framework of the FPA, where “federal authority should not be exercised in [such] a manner” and “Federal and State interests should instead be balanced.” *Id.* at 32–33.

156. Whether the 2018 and 2019 FERC Orders described above are examples of time-bound, symptomatic friction or a fundamental regulatory shift remains to be seen.

157. For example, the Zero Emission Credit program cases pit state policy preferences that provided environmental subsidies against restructuring and wholesale market rate setting authority. *Coal. for Competitive Elec. v. Zibelman*, 906 F.3d 41, 46 (2d Cir. 2018); *Elec. Power Supply Ass’n v. Star*, 904 F.3d 518, 524–25 (7th Cir. 2018). The litigation surrounding Order No. 745 and demand response resources pit all three against each other: states sought to maintain sole authority over demand response while FERC attempted to establish its own authority over this new technology by bringing it into wholesale markets. *FERC v. Elec. Power Supply Ass’n*, 136 S. Ct. 760, 763 (2016). The same will be true for the appellate litigation related to Order No. 841 and energy storage, in which no opt-out to accommodate state policies has been provided, creating an even deeper tension between state and federal authority. Order No. 841-A, *supra* note 128.

restructuring, and the advent of ISOs; (2) *FERC v. Electric Power Supply Association (EPSA)*, in the context of Order No. 745 and technological innovation; and (3) *Coalition for Competitive Electricity v. Zibelman* and *EPSA v. Star*, in the context of the Illinois Future Energy Jobs Act, the New York Clean Energy Standard, and evolving state policy preferences.

A. *Restructuring: New York v. FERC*

FERC Order No. 888, as described above, was a regulatory response to restructuring and the advent of ISOs. The order, in turn, created its own symptomatic response, with New York bringing challenge, ultimately before the Supreme Court. The case centered on whether FERC exceeded its jurisdiction in Order No. 888 by requiring a “utility to transmit competitors’ electricity over its lines on the same terms that the utility applies to its own energy transmissions” and whether FERC must also “impose that [open access] requirement on utilities that continue to offer only ‘bundled’ retail sales.”¹⁵⁸ FERC had asserted jurisdiction over unbundled, but not bundled retail transmission service.¹⁵⁹ Thus, the primary jurisdictional question raised was whether FERC had authority to regulate unbundled retail transmission service that was sold separately from the retail power service.¹⁶⁰

New York v. FERC is perhaps the first observable instance of the Supreme Court’s movement to a collaborative federalism framework.¹⁶¹ In doing so, the Court’s rationale underlying its decision holds significance far beyond the specifics of Order No. 888. At the outset of the decision, the Court frames the case in the language of change, stating that “[i]n 1935, when the FPA became law, most electricity was sold by vertically integrated utilities Competition among utilities was not prevalent.”¹⁶² The Court contrasts 1935 with the modern day: “[E]specially beginning in the 1970’s and 1980’s, the number of electricity suppliers has increased dramatically. Technological advances have made it possible to generate electricity efficiently in different ways and in smaller plants.”¹⁶³ The Court describes the legal and regulatory response, noting that Congress has supported competition in the sector through PURPA and the Energy Policy Act of 1992.¹⁶⁴ The opinion notes how Order No. 888

158. *New York v. FERC*, 535 U.S. 1, 4–5 (2002).

159. *Id.* at 26. FERC found that it was not necessary to assert jurisdiction over bundled retail transmission in order to deal with the wholesale market issue it faced, and believed that its regulation of bundled retail transmission raised jurisdictional issues that it again did not need to address in Order No. 888. *Id.* at 26–28. The Court agreed on both of these points upholding FERC’s decision to forego an assertion of jurisdiction against challenge by industry. *Id.* at 28–29.

160. *Id.* at 16–17.

161. Rossi, *supra* note 2, at 428 (describing *New York v. FERC* as “the first sign that dual sovereignty was destined to fall”).

162. *New York v. FERC*, 535 U.S. at 5.

163. *Id.* at 7.

164. *Id.* at 9.

itself was premised on an interest in promoting competition in the sector, with a foundation not upon new laws, but upon the FPA's core statutory requirement that FERC remedy "unduly discriminatory practices."¹⁶⁵

The Court recognizes in *New York v. FERC* that the energy sector has and continues to fundamentally change. The Court understands that change to be materially significant, holding that "the landscape of the electric industry has changed since the enactment of the FPA, when the electricity universe was 'neatly divided into spheres of retail versus wholesale sales.'"¹⁶⁶ The Court's movement away from a bright-line jurisdictional framework is premised upon an interest in identifying a pathway to adjudicate disputes over a swiftly changing sector that resists simple division. In doing so, the Court clarified that it is not creating new jurisdictional bounds, but instead acknowledged that the FPA can be understood and applied in novel contexts.

The Court held that Order No. 888 was consistent with the jurisdictional interplay between state and federal authorities. In so doing, it recognized that it was the sector itself that had changed, with the Court citing as evidence that "unbundled transmissions have been a recent development" and relying on FERC's explanation that "at the time that the FPA was enacted, transmissions were bundled with the energy itself, and electricity was delivered to both wholesale and retail customers as a complete, bundled package. Thus, in 1935, there was neither state nor federal regulation of what did not exist."¹⁶⁷ FERC's regulatory response was thus, one where:

[r]ather than claiming 'new' jurisdiction, the Commission is applying the same statutory framework to a business environment in which . . . retail sales and transmission service are provided in separate transactions . . . Because these types of products and transactions were not prevalent in the past, the jurisdictional issue before us did not arise and . . . the Commission cannot be viewed as 'disturbing' the jurisdiction of state regulators prior to and after the Attleboro case.¹⁶⁸

The Court in *New York v. FERC* ultimately determined the issue presented to it on the basis of FERC's authority over transmission assets and refrained from going further;¹⁶⁹ the holding did not provide the sector any additional specificity as to what framework it would employ in place of bright-line jurisdiction. This issue was instead taken up by the Supreme Court in the 2016 case, *FERC v. EPSA*.

165. *Id.* at 11.

166. *Id.* at 16.

167. *Id.* at 21.

168. *Id.* at 21 n.13 (quoting Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, Order No. 888-A, 78 FERC ¶ 61,220, ¶ 61,680 (1997)) (omissions in original).

169. *Id.* at 17 (focusing on the lack of any "language in the statute limiting FERC's transmission jurisdiction to the wholesale market, although the statute does limit FERC's sale jurisdiction to that at wholesale").

B. *Technological Advances: FERC v. EPSA*

The Commission crafted FERC Order No. 745, described above, in response to technological innovation and the advent of widescale demand response. Like Order No. 888, parties quickly challenged Order No. 745; they asserted that FERC had overstepped its jurisdiction in requiring ISOs to compensate demand response resources in wholesale energy markets.¹⁷⁰ EPSA's argument was predicated upon a bright-line reading of the FPA, reasoning that FERC's action unlawfully overstepped into state jurisdiction because demand response resources stemmed from distribution-level retail customers.¹⁷¹ The Supreme Court disagreed, rejecting EPSA's location-premised jurisdictional argument, stating that "wholesale and retail markets in electricity are inextricably linked."¹⁷² The Court held that it was, "a fact of economic life that the wholesale and retail markets in electricity, as in every other known product, are not hermetically sealed from each other. To the contrary, transactions that occur on the wholesale market have natural consequences at the retail level."¹⁷³

Bright-line jurisdiction provides a court little help in adjudicating disputes when line drawing is no longer of legal significance. Rather, the *EPSA* decision used a collaborative federalism framework in evaluating jurisdictional disputes under the FPA. The Court held that when FERC takes "virtually any action respecting wholesale transactions," it has at least some effect on retail rates.¹⁷⁴ However, that effect "is of no legal consequence."¹⁷⁵ This is the case even if FERC's regulation of the wholesale market "substantially" impacts retail sales.¹⁷⁶ While the specific questions a court should consider in determining the legality of a regulation were not proffered in this case, the Court did make clear that bright-line rules were not suited to the modern grid, and replaced them with the more role-specific inquiry of collaborative federalism. Specifically, the Court in *FERC v. EPSA* enunciated a framework that upholds FERC activity when the practices "directly affect" wholesale rates of electricity.¹⁷⁷ The Court clarified why it now favors a collaborative federalism framework:

Since the FPA's passage, electricity has increasingly become a competitive interstate business, and FERC's role has evolved accordingly. Decades ago, state or local utilities controlled their own power plants, transmission lines, and delivery systems, operating as vertically integrated monopolies in confined geographic areas. That is no longer so. Independent power plants now abound, and almost all electricity flows not through "the local

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

171. *Id.* at 776–77.

172. *Id.* at 766.

173. *Id.* at 776.

174. *Id.*

175. *Id.*

176. *Id.*

177. *Id.* at 774 (adopting the "directly affect" test from the D.C. Circuit).

power networks of the past,” but instead through an interconnected “grid” of near-nationwide scope.¹⁷⁸

The Court’s decision thus recognized that the ongoing energy transition had created new pressures upon the sector. These pressures have resulted in regulatory response, here in the form of FERC Order No. 745. The Court connects longstanding FPA requirements to a modernizing sector by employing a jurisdictional framework that can respond to a sector that is no longer “hermetically sealed.”¹⁷⁹

C. *Evolving State Policy Preferences: Challenges to Zero Emission Credits*

Illinois and New York have taken leading action in responding to the threat of climate change. In 2016, both states crafted path breaking policy— Illinois through the Future Energy Jobs Act (FEJA) and New York through the Clean Energy Standard (CES)—to address climate change in furtherance of their citizens’ welfare and wellbeing.¹⁸⁰ The FEJA and CES were both reflections of a changing, climate-focused policy preference, as described above. Both worked to effectuate this policy preference through a number of implementations, including a “zero emission credit” (ZEC) meant to compensate “nuclear resources for the emissions reduction they provide, as a bridge to a clean energy future without risk of backsliding on decarbonization mandates.”¹⁸¹

Like Order Nos. 888 and 745, the FEJA and CES were quickly challenged in court. Plaintiffs in both cases challenged the ZEC, asserting it was preempted by the FPA and impermissibly interfered with FERC’s authority over wholesale rates.¹⁸² Plaintiffs argued that the ZEC provided compensation to a particular resource type, which in turn improved that resource owner’s overall profit margin.¹⁸³ Doing so, the plaintiffs maintained, encroached on FERC’s jurisdiction to craft compensation as derived from federally regulated power markets by providing those resource owners a different and additional stream of compensation.¹⁸⁴

178. *Id.* at 768.

179. *Id.* at 776.

180. Future Energy Jobs Act of 2016, 20 ILL. COMP. STAT. 3855/1–75 (2016); NY Clean Energy Standard Order, *supra* note 94.

181. Michael Panfil, *Supreme Court Declines to Hear New York and Illinois Clean Energy Cases Challenging Zero Emission Credit*, 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/MEL6-49WY]; see also NY Clean Energy Standard Order, *supra* note 94, at 1, 119.

182. *Coal. for Competitive Elec. v. Zibelman*, 906 F.3d 41, 46 (2d Cir. 2018); *Elec. Power Supply Ass’n v. Star*, 904 F.3d 518, 522 (7th Cir. 2018).

183. See *Coal. for Competitive Elec.*, 906 F.3d at 48; *EPSA v. Star*, 904 F.3d at 522.

184. See *Coal. for Competitive Elec.*, 906 F.3d at 48; *EPSA v. Star*, 904 F.3d at 522. Although the courts upheld both the New York and Illinois ZECs, state policymaking authority is not unfettered. In an earlier case, *Hughes v. Talen*, the Supreme Court held that a Maryland ‘contract for differences’ was preempted by the FPA. *Hughes v. Talen Energy Mktg., LLC*, 136 S. Ct. 1288 (2016). This case, like others described in this Part, relied upon

District and appellate courts uniformly disagreed.¹⁸⁵ The Second and Seventh Circuit Courts of Appeals (and federal district courts before them) concluded that the ZEC policies were not preempted and were instead valid exercises of state policymaking authority in furtherance of their citizen's welfare and wellbeing. In reaching this conclusion, the circuit courts framed their analysis through collaborative federalism. Both decisions echo now familiar language. The Second Circuit held that "[c]ourts must avoid mistaking the 'congressionally designed interplay between state and federal regulation for impermissible tension that requires pre-emption.'"¹⁸⁶ Likewise, although recognizing "the exercise of powers reserved to the states under [the FPA] affects interstate sales," the Seventh Circuit held "[t]hose effects do not lead to pre-emption; they are instead an inevitable consequence of a system in which power is shared between state and national governments."¹⁸⁷

The appellate decisions reflect an understanding that policy preferences have evolved, with states leading efforts to address the ills of climate change. This policy preference remains grounded, in a longstanding state goal and exercise of authority: to protect citizen's welfare and wellbeing. State policymaking to this end, will generally be upheld if the basis for litigation is solely that the state policy will impact FERC-jurisdictional wholesale markets. Under a collaborative federalism framework courts eschew jurisdiction drawn on a bright-line, and therefore such an impact is insufficient for preemption. Instead, impacts between wholesale and retail actions are expected, and collaborative federalism frames the relevant inquiry in determining state public policy interplay with federal jurisdiction as one of whether a state mandates

a collaborative federalism framework. The Court's analysis first noted the change ongoing in the energy sector, and that "FERC's role has evolved." *Id.* at 1292. FERC's role, in turn, cannot be undone by state actors: "Once FERC sets . . . a rate . . . a State may not conclude in setting retail rates that the FERC-approved wholesale rates are unreasonable." *Id.* at 1298 (quoting *Miss. Power & Light v. Mississippi*, 487 U.S. 354, 373 (1988)). This holding left significant room for states to act, with the Court cabining its holding by concluding that "[n]othing 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.'" *Id.* at 1299 (quoting Brief for Respondents at 40). Justice Sotomayor's concurrence in *Hughes* reinforces the collaborative federalism framework foundation for the judgment: "In short, the Federal Power Act, like all collaborative federalism statutes, envisions a federal-state relationship marked by interdependence." *Id.* at 1300 (Sotomayor, J., concurring). The narrow holding in *Hughes* was thus consistent with and considered through a collaborative federalism framework, which allows for both federal and state authority over a resource. Indeed, the program at issue in *Hughes* is precisely an example of the relationship gone awry, where a state action in essence "disregards" and nullifies the federal government's action.

185. Plaintiffs additionally sought *cert.*, which the Supreme Court denied. *Elec. Power Supply Ass'n v. Rhodes*, 139 S. Ct. 1547 (2019).

186. *Coal. for Competitive Elec.*, 906 F.3d at 50 (quoting *Hughes*, 136 S. Ct. at 1300) (internal quotation mark omitted).

187. *EPSA v. Star*, 904 F.3d at 524.

wholesale participation and guarantees a generator a wholesale rate different from a consequently displaced FERC wholesale price.

CONCLUSION

The cumulative effect of restructuring, and the development of ISOs; technological innovation; and changing state policy preferences is transforming the power sector. The evolution bears similarity to the movement of the industry around *Attleboro* and the growth of the grid as it extended beyond state lines. In both instances, modernizing forces created strain upon existing legal and regulatory structures designed with a different set of facts and characteristics in mind. Both instances led to legal and regulatory reform and swift court adoption of a jurisdictional framework well-suited to adjudicate sector disputes. The current regulatory overlap does not, however, require new foundational legal authority, like the *Attleboro* gap did. Instead, it requires new application of already existing law. Congress, FERC, and states have responded to foundational change with action based upon existing core statutory authorities, applying them in new ways to new technologies. Their legal and regulatory responses have caused new jurisdictional tensions to arise, which increased litigation around the FPA's espoused division of authority.

The judiciary has responded to rising jurisdictional tension as it did before, doing so at present by adopting a functionalist interpretation of the FPA that employs a role-specific inquiry in recognition of the changing electricity sector. Recent case law adopting a collaborative federalism framework as the Court's favored approach to adjudicating jurisdictional tension between the states and FERC has clarified the contours of the relevant analysis, but pressing concerns remain unresolved. In coming years, consistent application of a collaborative federalism framework will be critical as the energy sector continues to change and evolve. Many nascent actions already exist that are emblematic of the call and response of foundational change and legal and regulatory reaction, and will provide a basis for the courts to employ a collaborative federalism framework to resolving current jurisdictional conflict.

First, a coalition of industry and state regulatory associations recently challenged FERC Order No. 841, which provides energy storage resources access to wholesale power markets. The petitioners argue that FERC's failure to provide states the ability to keep their energy storage resources out of the wholesale market and "opt-out" of the order violates the FPA's jurisdictional division of authority.¹⁸⁸ The way in which collaborative federalism is applied will require the judiciary to build upon its previous opinions to determine whether FERC's order explicitly aims at something other than that within its jurisdiction and whether it directly usurps state authority over the distribution system.

188. Consolidated Petition for Review, No. 19-1142 (D.C. Cir. Dec. 30, 2019).

Similarly, courts will likely be asked to consider recent FERC orders in response to ISO-NE and PJM proposed capacity market changes. FERC approved an ISO-NE capacity market proposal that relegated state-supported renewable resources to a secondary market¹⁸⁹ and found PJM's entire capacity market structure to be unjust and unreasonable on the basis that it did not adequately mitigate state-supported resources.¹⁹⁰ FERC's Orders explicitly target state laws implementing state clean energy priorities.¹⁹¹ Any court review of FERC's Orders would center upon the validity of federal action taken with the explicit aim of counteracting state policies and usurping states' ability to influence generation mix under a collaborative federalism framework.¹⁹²

These examples are among expected near-term actions that will require the judiciary to build upon current enunciations of collaborative federalism. The courts will apply the framework against the backdrop of a grid that is rapidly transitioning, a recently restructured sector, and state preferences that are evolving to prioritize climate action. As it has before, foundational change in the energy sector will provide the basis for the judiciary's adjudication of the interwoven authority of federal and state governments, and collaborative federalism will provide it with the framework to resolve the consequent jurisdictional overlap in the way most consistent with the characteristics of the modern electricity sector.

189. ISO New England, Inc., 162 FERC ¶ 61,205 (2018).

190. Calpine Corp. v. PJM Interconnection, L.L.C., 163 FERC ¶ 61,236 (2018).

191. Calpine Corp. v. PJM Interconnection, L.L.C., 169 FERC ¶ 61,239, at *12 (2019) (Glick, Comm'r, dissenting).

192. The first petition for review was filed on December 23, 2019 by the Illinois Commerce Commission. *See* Petition for Review, Ill. Commerce Comm'n v. FERC (7th Cir. Dec. 23, 2019).