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The Quiet Undoing: How Regional Electricity Market Reforms Threaten Clean Energy Goals

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The Quiet Undoing: How Regional Electricity Market Reforms Threaten State Clean Energy Goals

Danny Cullenward[†] & Shelley Welton[‡]

In a series of largely unnoticed but extremely consequential moves, two regional electricity market operators are pursuing reforms to make it more difficult for states to achieve their clean energy goals. The federal energy regulator, FERC, has already approved one such reform and ordered a second market operator to go farther in punishing state-supported clean energy resources than it had initially proposed. In this Essay, we bring to light the ways in which the intricate, technical reforms underway in regional electricity markets threaten state climate change objectives and the durability of FERC's regional market constructs. If FERC allows private market operators to impose their policy preferences on participating states—or if FERC requires pro-fossil market designs—progress in decarbonizing the electricity sector will likely slow. At the same time, the potential for greater regional cooperation in electricity markets—a critical strategy for integrating a high penetration of renewable energy onto the electricity grid—will diminish.

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I. Introduction¹

In the past year alone, the Trump Administration has announced two brazen new strategies to prop up ailing coal and nuclear power plants.² Each of these has been the subject of many headlines.³ Neither, however, has yet come to fruition—in large part because they have been opposed by the key federal agency in charge of wholesale electricity markets, the Federal Energy Regulatory Commission (FERC).⁴ FERC’s commissioners have all spoken out against any strategies that would undo the decades of progress that the agency has made in crafting robust, well-functioning regional energy markets.⁵ At the same time, in a series of lawsuits challenging state support for nuclear power, FERC has encouraged the federal courts to defer to FERC’s decisions about how best to

1. We are grateful for comments and feedback from Steve Weissman, Ari Peskoe, Justin Gundlach, Michael Panfil, Robbie Orvis, and Miles Farmer. Any errors and all opinions are ours alone.

2. Department of Energy Grid Resiliency Pricing Rule, 82 Fed. Reg. 46,940 (Oct. 10, 2017) (proposing a rule to FERC that would require ISOs and RTOs to compensate coal and nuclear power plants for their full costs, independent of market prices); White House, Statement from the Press Secretary on Fuel-Secure Power Facilities (June 1, 2018), <https://www.whitehouse.gov/briefings-statements/statement-press-secretary-fuel-secure-power-facilities/> [<https://perma.cc/M7TX-666A>] (directing Secretary of Energy Rick Perry “to prepare immediate steps to stop the loss of” fuel-secure resources); Letter from FirstEnergy Solutions Corp. to Department of Energy Secretary James Richard Perry (Mar. 29, 2018), <https://statepowerproject.files.wordpress.com/2018/03/fes-202c-application.pdf> [<https://perma.cc/D2GN-H89S>] (requesting an emergency order to require cost recovery for FirstEnergy’s coal and nuclear power plants in PJM, pursuant to Section 202(c) of the Federal Power Act).

3. See, e.g., Steven Mufson, *Trump Orders Energy Secretary Perry to Halt Shutdown of Coal and Nuclear Plants*, WASH. POST (June 1, 2018), https://www.washingtonpost.com/business/economy/trump-officials-preparing-to-use-cold-war-emergency-powers-to-protect-coal-and-nuclear-plants/2018/06/01/230f0778-65a9-11e8-a69c-b944de66d9e7_story.html?utm_term=.cc80aaa8e373 [<https://perma.cc/63QZ-W7PB>]; Brad Plumer, *Trump Orders a Lifeline for Struggling Coal and Nuclear Plants*, N.Y. TIMES (June 1, 2018), <https://www.nytimes.com/2018/06/01/climate/trump-coal-nuclear-power.html> [<https://perma.cc/LNY6-46VH>]; Timothy Puko, *Energy Department Urges Pricing Shift that Could Bolster Coal, Nuclear*, WALL ST. J. (Sept. 29, 2017), <https://www.wsj.com/articles/energy-department-urges-pricing-shift-that-could-bolster-coal-nuclear-1506698449> [<https://perma.cc/3WG3-TKR8>].

4. FERC, Grid Reliability and Resilience Pricing, 162 FERC ¶ 61,012 (2018) (denying Sec. Perry’s proposed rule and opening a new proceeding to consider grid resiliency issues).

5. *Id.*; see also U.S. Senate Committee on Energy and Natural Resources, Full Committee Oversight Hearing of the Federal Energy Regulatory Commission (June 12, 2018), <https://www.energy.senate.gov/public/index.cfm/2018/6/full-committee-oversight-hearing-of-the-federal-energy-regulatory-commission> [<https://perma.cc/6P3K-QMJH>] (featuring testimony from all five FERC Commissioners).

manage the intersection of state clean energy goals and federally overseen electricity markets.⁶

FERC's stance in these debates might seem to provide some comfort that the agency will refuse political efforts to stymie the clean energy transition by propping up fossil fuel resources. But in fact, in a pair of a deeply divided and technically dense decisions, the Commission has recently approved two extraordinary market reforms that threaten to undermine state clean energy goals.⁷ These decisions, we submit, present a "quiet undoing" of state progress in tackling climate change, and although they are less blatant than President Trump's dramatic proposals, they are pernicious in their own right.

FERC's reforms have gotten little attention due to their maddeningly technocratic veneer.⁸ In this Essay, we describe the Commission's aggressive interventions to bring to light the ways in which its recent reforms present a serious threat to states' autonomy over their energy mix—at the same time that state clean energy policies are shaping up to be the only progress forward on climate change under the Trump Administration.

II. The Battles in Eastern Markets

In this Part, we begin by describing the basic structure of regional energy markets. Next, we turn to the role that state financial support plays in determining market outcomes, which leads to tension between different kinds of generators. Finally, we describe the reforms undertaken by two East Coast market operators, which are pursuing market designs that aim to "correct" for state policy choices, and in so doing, frustrate state clean energy policy goals.

A. *Energy and Capacity Market Basics*

At the dawn of the U.S. electricity industry in the late nineteenth century, energy regulation was a matter left exclusively to the states. Over time, however,

6. Brief for the United States and the Federal Energy Regulatory Commission as Amici Curiae in Support of Defendants-Respondents and Affirmance at 10, *Vill. of Old Mill Creek v. Star*, Nos. 17-2433 & 17-2445 (consolidated) (7th Cir. May 29, 2018); *see also* Danny Cullenward & Shelley Welton, *Will FERC Uphold State Support for Clean Energy?*, *UTILITY DIVE* (June 4, 2018), <https://www.utilitydive.com/news/will-ferc-uphold-state-support-for-clean-energy/524819/> [<https://perma.cc/4YLR-UUWY>]. The Second and Seventh Circuits subsequently adopted FERC's position, declining to preempt state subsidies for nuclear energy while also indicating that FERC retains the authority to impose punitive wholesale electricity market designs. *Elec. Power Supply Ass'n v. Star*, Nos. 17-2433 & 17-2445, slip op. at *7 (7th Cir. Sept. 13, 2018); *Coal. Competitive Elec. v. Zibelman*, No. 17-2654cv, slip op. at *6 (2d Cir. Sept. 27, 2018).

7. *See infra* Section II.C.

8. For two important exceptions, see Miles Farmer & Bruce Ho, *Federal Power Rules Threaten New England Renewable Energy*, NAT'L RES. DEFENSE COUNCIL BLOG (Apr. 10, 2018), <https://www.nrdc.org/experts/bruce-ho/federal-power-rules-threaten-new-england-renewable-energy> [<https://perma.cc/6EPQ-2RE9>]; and David Roberts, *Trump's Crude Bailout of Dirty Power Plants Failed, but A Subtler Bailout Is Underway*, *VOX* (Mar. 23, 2018), <https://www.vox.com/energy-and-environment/2018/3/23/17146028/ferc-coal-natural-gas-bailout-mopr> [<https://perma.cc/J5H7-HSKT>].

the creation and integration of federal authority has altered the regulatory landscape.⁹ The Federal Power Act of 1935 created the enduring divide between federal and state authority in the electricity sector that applies today: the federal government oversees interstate “wholesale” electricity sales, whereas states retain control over “retail” sales and “facilities used for the generation of electric energy.”¹⁰ States have long relied on the Federal Power Act’s reservation of state control over generation as an explicit sanction of states’ authority to control their own resource mix.¹¹ And state control over generation has persisted, even as federal regulators have increasingly ushered market-based competition into the industry under their authority to ensure “just and reasonable” interstate wholesale rates.¹²

The modern FERC was created in 1977 and began in the late 1990s to encourage (but not require) federally regulated electricity markets, which now serve two-thirds of national electricity demand.¹³ These markets sought to replace the previous system of vertically integrated utilities and bilateral transactions with a more robust and transparent market mechanism for facilitating the exchange of power among utilities.¹⁴ Through a series of orders, FERC asked utilities to voluntarily join regional market constructs known as Independent System Operators (ISOs) and Regional Transmission Organizations (RTOs), subject to the approval of their home states.¹⁵ (For convenience, we will refer only to RTOs in this essay, although our analysis applies equally to ISOs as well.¹⁶)

9. For an overview, see SCOTT HEMPLING, *REGULATING PUBLIC UTILITY PERFORMANCE: THE LAW OF MARKET STRUCTURE, PRICING AND JURISDICTION* § 3.A.1 (2013). *See generally* RICHARD F. HIRSH, *POWER LOSS: THE ORIGINS OF DEREGULATION AND RESTRUCTURING IN THE AMERICAN ELECTRICITY UTILITY SYSTEM* (1999) (charting the course of electricity law in the twentieth century).

10. 16 U.S.C. § 824(b) (2018).

11. *See Hughes v. Talen Energy Marketing, LLC*, 136 S. Ct. 1288, 1299 (2016) (holding that states act within their traditional domain by “encouraging production of new or clean generation” so long as they do not condition programs on federal wholesale market participation); *Elec. Power Supply Ass’n v. Star*, slip op. at *6 (affirming “state authority over power generation” in upholding state support for nuclear power against a federal preemption challenge).

12. *See* David Spence, *Can Law Manage Competitive Energy Markets?*, 93 CORNELL L. REV. 765, 772-75 (2008) (describing the U.S. transition to electricity markets).

13. FERC, *ENERGY PRIMER: A HANDBOOK OF ENERGY MARKET BASICS* 1, 40 (2015).

14. *See* Spence, *supra* note 12, at 770-72.

15. Order No. 888, *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); Order No. 2000, *Regional Transmission Organizations*, 89 FERC ¶ 61,285 (1999). RTOs are very similar to ISOs; for the purposes of this Essay, we will refer to RTOs to mean either RTOs or ISOs, leaving aside the subtle differences in their legal and historical origins.

16. FERC first created ISOs with Order 888, which established open-access interstate transmission policy. FERC later refined these concepts with Order 2000, which created RTOs more specifically. Some market operators qualify as both an ISO and an RTO; the names currently in use typically reflect the initial origin of the operators’ formation (i.e., in response to Order 888 or Order 2000), rather than any particular legal or organizational function.

Unlike FERC and its state counterparts, these market operators are private, non-profit organizations charged with developing electricity markets that ensure open access to the transmission systems they operate. Market operators develop and reform market rules via complex stakeholder processes; some use weighted sector voting by RTO members (predominantly utilities and generators) to advance proposals.¹⁷ Although state governments and civil society can participate as stakeholders in these processes, market operators' independent governing boards make the ultimate decisions about what gets filed with FERC.¹⁸

RTOs operate two broad categories of federally regulated electricity markets: energy and capacity markets.¹⁹ Energy markets are the more intuitive of the two. RTOs operate real-time and day-ahead energy markets for electricity, matching supply and demand based on customer load, power plant generators' bids, and the physical constraints of the transmission network they operate. RTOs select the lowest-cost bids (expressed as dollars per megawatt-hour (\$/MWh) of electrical energy) capable of serving customer loads; all generators whose bids are accepted receive the market-clearing price, which is set by the highest accepted bid necessary to meet demand.

Capacity markets address a different issue. Not only must electrical energy be available at the instant it is demanded, but regulators must also ensure that sufficient generation capacity will be available to meet future projected demand. Some foresight is needed because power plant construction and permitting take years, not seconds. Many areas of the country rely on state- or utility-level "resource adequacy" obligations that achieve this outcome by requiring utilities to own or contract for future electricity supply adequate to meet their anticipated customer demand.²⁰ But in several of the RTOs—located predominantly in the eastern part of the country—market operators have instead decided to ensure adequate future electricity supply through running separate, centralized capacity markets.²¹

17. See generally Kyungjin Yoo & Seth Blumsack, *Can Capacity Markets Be Designed by Democracy?*, 53 J. REG. ECON. 127 (2018) (breaking down PJM's voting members into categories).

18. See, e.g., Stephanie Lenhart, Natalie Nelson-Marsh, Elizabeth J. Wilson & David Solan, *Electricity Governance and the Western Energy Imbalance Market in the United States: The Necessity of Interorganizational Collaboration*, 19 ENERGY RES. & SOC. SCI. 94 (2016); see also Benjamin A. Stafford & Elizabeth J. Wilson, *Winds of Change in Energy Systems: Policy Implementation, Technology Deployment, and Regional Transmission Organizations*, 21 ENERGY RES. & SOC. SCI. 222 (2016).

19. Astute readers might add a third category: ancillary services markets, which procure a highly technical set of resources that help ensure grid load balancing at the speed of light. Although critically important, ancillary services are not implicated in this Essay's focus on jurisdictional tension.

20. For a more in-depth discussion, see James Bushnell, Michaela Flagg & Erin Mansur, *Capacity Markets at a Crossroads* § 2 (Energy Institute at Haas Working Paper No. 278, 2017).

21. Four of the nation's seven wholesale electricity markets have a centralized capacity market: the Midcontinent Independent System Operator (MISO), the New York Independent System Operator (NYISO), PJM Interconnection (PJM), and the Independent System Operator of New England (ISO-NE). Three do not: the California Independent System Operator (CAISO), the Southwest Power

In centralized capacity markets, the regional market operator first determines the amount of future generation capacity the region needs throughout its footprint, typically three years in the future. Then, the RTO accepts bids from power plant owners that reflect the price at which they would commit to have future generation available when called upon.²² Just as with energy markets, the market-clearing price for capacity markets (typically expressed as dollar per megawatt (\$/MW) of capacity) is based on the amount necessary to compensate a sufficient number of generators with the necessary capacity. However, the economics of capacity markets are significantly more complex, due to the variety of market designs, the bidding strategies of market participants, and the presence of state and federal subsidies.²³

B. A Brief Overview of Prominent Subsidies

Like all energy markets, electric energy and capacity markets include market participants that receive a wide range of subsidies.²⁴ Fossil fuel generators receive an implicit subsidy because most are not forced to internalize the costs of environmental pollution, including greenhouse gas emissions.²⁵ Although significant, these externalized social costs are less visible than the explicit financial subsidies that many resources also receive. As one FERC commissioner has noted, “[s]ince 1950, the federal government has provided roughly a trillion dollars in energy subsidies, of which 65 percent has gone to fossil fuel technologies.”²⁶ Clean energy has increasingly received explicit subsidies, in forms including federal tax credits for wind energy (provided on a \$/MWh basis),²⁷ state renewable portfolio standards (which require utilities to procure a certain share of their total resource mix from qualified renewables,

Pool (SPP), and the Electricity Reliability Council of Texas (ERCOT). Most areas of the western and southeastern United States lack wholesale markets of any kind. *Id.*

22. Companies that reduce electricity demand may also bid in to provide “demand response” services and energy efficiency, in lieu of power plant generation capacity. For an overview, see generally Yingqi Liu, *Demand Response and Energy Efficiency in the Capacity Resource Procurement: Case Studies of Forward Capacity Markets in ISO New England, PJM and Great Britain*, 100 ENERGY POL’Y 271 (2017).

23. See generally Bushnell et al., *supra* note 20.

24. We use the term “subsidy” for convenience and not to express judgment as to the merits of a particular policy.

25. NATIONAL ACADEMIES OF SCIENCE, HIDDEN COSTS OF ENERGY: UNPRICED CONSEQUENCES OF ENERGY PRODUCTION AND USE § 3 (2009).

26. *Calpine Corp. v. PJM Interconnection, L.L.C.*, Order Rejecting Proposed Tariff Revisions, Granting in Part and Denying in Part Complaint, and Instituting Proceeding under Section 206 of the Federal Power Act, 163 FERC ¶ 61,236, at pp. 92-93 (2018) [hereinafter “PJM Order”] (Glick, Comm’r, dissenting) (citations omitted).

27. North Carolina Clean Energy Technology Center, DSIRE Database, *Renewable Energy Production Tax Credit (PTC)* (Feb. 28, 2018), <http://programs.dsireusa.org/system/program/detail/734> [https://perma.cc/4EHF-EN99].

often through the purchase of environmental attributes called RECs),²⁸ and state support to keep nuclear power plants in operation.²⁹

Each of these policies affects capacity market outcomes. To take just one example, consider the case of a wind farm that receives financial support from the state and federal governments. In this case, the wind farm will be able to bid less than its “true” costs because the power plant’s owner does not need to recover this full amount from the capacity market as a result of the subsidies she receives. This will have two effects. First, the wind farm is more likely to produce a winning bid, which would make it eligible to receive the capacity market’s clearing price. Second, by bidding in at a lower price, the wind farm may decrease the overall market-clearing price, reducing the compensation all successful bidders receive.

What should one make of these consequences? Given the breadth of subsidies that permeate energy markets, there is no obvious way to parse which subsidies should or should not be allowed to influence markets.³⁰ Historically, RTOs have hesitated to make any value judgments in this regard, identifying themselves as neutral technocrats charged with developing efficient market designs within the policy confines imposed on them by state and federal policymakers—even when those policies work at competing ends from a theoretical economic perspective.³¹ Consequently, market operators that follow this philosophy have generally attempted to accommodate the heterogeneous policy preferences of their member states.

As the ambition of many states’ clean energy policies grows and diverges with respect to that of their neighbors, however—and as U.S. electricity markets find themselves with excess capacity—market operators are increasingly viewing heterogeneous state policies as a threat to economically efficient markets. From the perspective of a non-renewable power plant, the lower market

28. See generally GALEN BARBOSE, U.S. RENEWABLE PORTFOLIO STANDARDS, 2017 ANNUAL STATUS REPORT, LBNL REPORT NO. 2001031, 1, 8 (July 2017). Renewable Energy Certificates (RECs) are created by state law to represent the environmental attribute of pollution-free energy that may be “bundled” with renewable energy generation or sold separately as a tradable commodity. See generally WSPF Inc., Order Conditionally Accepting Service Schedule R, 139 FERC ¶ 61,061 (2012) (discussing the legal structure of RECs and disclaiming federal jurisdiction over unbundled RECs).

29. See, e.g., Joel B. Eisen, *The New(Clear?) Electricity Federalism: Federal Preemption of States’ “Zero Emissions Credit” Programs*, ECOLOGY L. CURRENTS 149 (2018) (arguing that states’ use of ZEC subsidies that reference wholesale prices are preempted); Ari Peskoe, *State Clean Energy Policies at Risk: Courts Should Not Preempt Zero Emissions Credits for Nuclear Plants*, ECOLOGY L. CURRENTS 172 (2018) (arguing that such policies should not be preempted).

30. See PJM Order, *supra* note 26, at pp. 92-95 (Glick, Comm’r, dissenting); N.Y. Pub. Serv. Comm’n v. N.Y. Indep. Sys. Operator, Inc., 158 FERC ¶ 61,137, at p. 19 (2017) (Bay, Comm’r, concurring) (“The fact of the matter is that all energy resources receive federal subsidies, and some resources have received subsidies for decades.” (citing U.S. Energy Info. Admin., *Direct Federal Financial Interventions and Subsidies in Energy in Fiscal Year 2016* (Apr. 2018), <https://www.eia.gov/analysis/requests/subsidy/pdf/subsidy.pdf> [<https://perma.cc/GAM7-L4DW>])).

31. See Stafford & Wilson, *supra* note 18, at 229 (quoting RTO staffer explaining: “We are a taker of policy not a maker of policy We don’t create policy. We attempt to interpret policy as handed to us.”); see also ISO New England Inc., 162 FERC ¶ 61,205, at P. 26 (2018) (FERC insisting that the agency remains resource neutral) [hereinafter “ISO-NE Order”].

prices to which state clean energy subsidies contribute translate into lower revenues. These price impacts become more relevant as renewable energy resources make up a growing share of capacity additions in federally regulated energy markets. Whereas most new generation capacity in the 2000s came from non-renewable resources, more than half of the nameplate capacity added since 2010 comes from renewable facilities.³² But there is no free lunch: the full costs of these facilities are paid by a combination of capacity market participants (with costs ultimately borne by utility customers) and taxpayers. Critically, renewables do not impose direct costs on legacy fossil generators, although they may capture market share and therefore reduce fossil generators' revenues. Moreover, however they are financed, these additions to the grid help to satisfy the region's needs for additional capacity.³³

The substantial impact of these policies, then, is to redistribute power plant compensation levels through state support for certain resources—largely away from one set of resources (fossil fuel generators) and towards another (new renewable energy generation).³⁴ One could view this result as a problem undermining theoretically ideal markets—or, as we prefer, simply as the inevitable consequence of hard-won state progress toward decarbonization in the absence of a federal price on carbon. Below, we describe the view taken by certain market operators and recently endorsed by FERC, before explaining why we think it is a blinkered approach to the long-term challenges confronting electricity markets and electricity federalism.

C. Case Studies

Two regional markets stand out for having gone the furthest in restructuring their capacity markets in response to state clean energy policies: New England (ISO-NE) and the mid-Atlantic (PJM). A divided FERC accepted New England's reforms earlier this year. More recently, the Commission held that PJM's proposals do not go far enough in insulating markets from state clean energy policies, leading FERC to demand even more stringent reforms from PJM. Here, we summarize these intricate reforms in plain English to help a

32. Bushnell et al., *supra* note 20, at 42-43.

33. Renewable capacity presents additional technical grid integration challenges due to the fact that grid operators often cannot dispatch it at will and therefore individual facilities require backup resources to ensure system reliability. *Id.* at 42-46; *see generally* JOACHIM SEEL, ANDREW D. MILLS & RYAN H. WISER, IMPACTS OF HIGH VARIABLE RENEWABLE ENERGY FUTURES ON WHOLESALE ELECTRICITY PRICES, AND ON ELECTRIC-SECTOR DECISION MAKING, LBNL REP. NO. 2001163 (MAY 2018). But RTOs are not currently asserting challenges with integrating renewables as a basis for their proposed reforms, and so we consider these challenges to be beyond the scope of this Essay.

34. Existing nuclear energy power plants are also affected by low capacity prices and the rise of state-subsidized renewables. In many cases, however, states with large nuclear fleets have created state policies to support these resources using compensation mechanisms called Zero Emission Credits (ZECs) that mirror the REC's awarded to renewable generators. *See generally* Eisen, *supra* note 29; Peskoe, *supra* note 29.

broad set of readers understand why these changes portend a troubling turn for energy federalism and clean energy politics.

1. ISO-NE

New England is the first region to have adopted a substantial re-design of its capacity market to respond to state renewable energy policies. In January 2018, ISO-NE responded to low capacity market prices and the expected surge in regional clean energy by proposing a novel two-stage capacity auction, which FERC approved two months later.³⁵ In the first stage, resources receiving state “sponsorship”³⁶ must bid in at an administratively determined “minimum offer price” (also called a “MOPR”)—thus eliminating the possibility that state-supported renewable resources might suppress capacity market prices by submitting lower bids that factor in their state support.³⁷ In practice, this structure means that few state-sponsored resources will clear the first-stage capacity auction.³⁸

A second stage then attempts to shift capacity commitments from near-end-of-life generation to state-sponsored (typically renewable) resources by allowing older resources to name a price at which they would be willing to transfer their capacity commitments to state-supported renewables and retire.³⁹ In essence, this design means that state-sponsored renewables may only enter the market after ratepayers first buy out old fossil fuel or nuclear generators, which then receive a severance payment equal to the difference between the first (higher) and second (lower) capacity auction prices.⁴⁰ Under this market design, renewable and other state-supported resources receive less revenue from the capacity market than their fossil-fuel counterparts. ISO-NE celebrates this design for “closely coordinating the entry (of sponsored) and exit (of retiring) capacity resources.”⁴¹

Although FERC approved this design in March 2018, three of five commissioners wrote separately to express reservations⁴² and a fourth

35. See generally ISO-NE Order, *supra* note 31.

36. ISO-NE’s tariff defines a “Sponsored Policy Resource” as one that is renewable or clean and receives “an out-of-market” revenue source. Tariff § 1.2.2 (quoted in ISO-NE Order, *supra* note 31, at P. 3 n.6).

37. See ISO New England, Transmittal Letter re: Revisions to ISO New England Transmission, Markets and Services Tariff Related to Competitive Auctions with Sponsored Policy Resources, Docket No. ER18-619-000, at 5-6 (Jan. 8, 2018) [hereinafter “ISO-NE Transmittal Letter”].

38. See Partial Protest and Comments of the Mass. Attorney General, ISO New England, FERC Docket No. ER-18-000, at 2 (Jan. 29, 2018).

39. The second stage is conducted through a sealed-bid auction, where near-end-of-life generators’ bids are matched with bids from renewable resources. ISO-NE Transmittal Letter, *supra* note 37, at 6.

40. *Id.* at 21 (calling these “severance payments”); ISO-NE Order, *supra* note 31, at 5.

41. ISO-NE Transmittal Letter, *supra* note 37, at 6.

42. See ISO-NE Order, *supra* note 31 at p. 57 (LaFleur, Comm’r, concurring in part); *id.* at p. 60 (Powelson, Comm’r, dissenting); *id.* at p. 65 (Glick, Comm’r, dissenting in part and concurring in part). However, much of the debate centered on one particular paragraph discussing FERC’s intended “standard solution.” See *id.* at P. 22. We note that these concerns were expressed by the Commission’s

subsequently expressed agreement with some of these concerns.⁴³ It is thus unsurprising that several petitions for rehearing are pending.⁴⁴ We turn below to our arguments as to why FERC should reconsider its approval of these reforms, after exploring the second regional capacity market transformation currently underway.

2. PJM

PJM took a different tack than ISO-NE in its capacity market reforms, largely due to fierce infighting within the region as to their necessity and advisability. Unable to reach stakeholder agreement on a single path forward, PJM filed two alternative proposals with FERC in April 2018, expressing its preference for one but leaving the ultimate choice to the Commission.⁴⁵ Each proposal suggests a different way to deal with what PJM calls “subsidized resources.”⁴⁶

Under PJM’s preferred option, “Capacity Repricing,” the market operator would run the market one time with “subsidized resources” included at their self-determined bid price, to figure out which resources receive capacity obligations.⁴⁷ Then, the market would be run a second time, with subsidized bids “repriced to a competitive level” in order to set higher compensation levels to be paid to all resources that cleared the first market.⁴⁸ Alternatively, PJM proposed extending its “minimum offer price rule extension” (or MOPR-Ex)—which currently requires some resources to submit mandated minimum bids—to state-supported resources, with the possible exception of resources needed specifically

two Democratic members (LaFleur and Glick) as well as one Republican (Powelson), who subsequently retired from the Commission well ahead of the end of his term. Rod Kuckro & Sam Mintz, *Powelson Upends FERC with His Departure*, ENERGYWIRE (June 29, 2018), <https://www.eenews.net/stories/1060087361> [<https://perma.cc/7ZTE-B666>] (highlighting Commissioner Powelson’s previous experience as a state utility regulator and his opposition to the Trump Administration’s most aggressive attempts to bail out coal and nuclear power plants).

43. Gavin Bade, *Chatterjee Opposes MOPR as ‘Standard Solution’ for State Policies*, UTILITY DIVE (Apr. 19, 2018), <https://www.utilitydive.com/news/chatterjee-opposes-mopr-as-standard-solution-for-state-policies/521731/> [<https://perma.cc/8R97-9ZHF>] (reporting Commissioner Chatterjee’s reservations about a paragraph in the decision that suggested the MOPR reforms should be a standard response to state clean energy subsidies).

44. See FERC, Order Granting Rehearings for Further Consideration, ISO New England Docket No. ER18-619-001 (May 7, 2018).

45. See PJM Interconnection, L.L.C., Transmittal Letter re: Capacity Repricing or in the Alternative MOPR-Ex Proposal: Tariff Revisions to Address Impacts of State Public Policies on the PJM Capacity Market, FERC Docket No. ER18-1314-000, at 17 (Apr. 9, 2018) (hereinafter “PJM Transmittal Letter”) (“After a lengthy PJM stakeholder process on this challenging issue, two alternatives emerged, but neither could gain the two-thirds affirmative sector vote needed for endorsement.”).

46. See *id.*, Attachment A: Revisions to the PJM Open Access Transmission Tariff, Option A, § 5.14(j); *id.*, Attachment C: Revisions to the PJM Open Access Transmission Tariff, Option B, § 5.14(h) (setting forth PJM’s complex proposed definitions for “actionable subsidy”).

47. *Id.* at p. 42.

48. *Id.* at pp. 42-43, 51.

to meet state renewable portfolio standards.⁴⁹ In this model, covered renewables would only clear the capacity market if they were cost-competitive with other resource types after factoring out any state support.⁵⁰

In a move that stunned many, FERC rejected both of these proposals in a 3-2 decision issued June 29, 2018—but *not* because it thought they intruded too deeply into states' sovereignty over their own resource mix. Instead, the essence of FERC's order was that neither went far enough in insulating markets from state policy choices.⁵¹ For this reason, the Commission decided to declare PJM's existing capacity market rules "unjust and unreasonable," and to initiate its own "paper hearing" to consider yet a third alternative capacity market reform.⁵²

The Commission's preferred approach would expand the MOPR to *all* resources that "receive out-of-market payments," while allowing state-supported renewable resources to choose to remove themselves from the capacity market "along with a commensurate amount of load, for some period of time."⁵³ It analogized this structure to PJM's existing "Fixed Resource Requirement" (FRR) option, which allows a utility to elect to secure its capacity obligations via bilateral contracts made outside the region's centralized capacity market.⁵⁴ The majority admitted in its order that this proposal leaves many questions unanswered about how the FRR construct should apply to renewable resources.⁵⁵ For this reason, it requested interested parties to file comments on FERC's proposal within 60 days.⁵⁶

Two FERC commissioners—as it happens, the two Democratic Commissioners whose appointments are required by statute to maintain ideological balance on the five-member Commission⁵⁷—offered vigorous dissents. One decried the majority's procedural choices, arguing that the Commission's decision to open a paper hearing focused on a modified FRR constituted a rush-job end-run around the region's stakeholder processes and mechanisms of state engagement.⁵⁸ The other focused on the substantive reasoning underpinning the majority's FRR proposal, arguing that the

49. *Id.* at p. 1; *see also id.* at p. 15 (describing how its proposals create certain "non-actionable" subsidies).

50. *Id.* at 43.

51. FERC found "Capacity Repricing" to be too generous to renewable resources, since this approach would have awarded renewable resources a higher capacity price in addition to their state support. PJM Order, *supra* note 26, at ¶¶ 63-68. Regarding the "MOPR-Ex" proposal, FERC found PJM's proposed exception for resources necessary to meet state renewable portfolio standards to be unsupportable. *Id.* at ¶¶ 100-06.

52. The Commission instituted this paper hearing under the authority provided to it in Section 206 of the Federal Power Act, which allows it to void utility rates found to be unjust and unreasonable. *See* 16 U.S.C. § 824e (2018); PJM Order, *supra* note 26, at ¶ 149.

53. PJM Order, *supra* note 26, at ¶¶ 8, 160.

54. *Id.*

55. *Id.* at ¶¶ 164-71.

56. *Id.* at ¶ 172.

57. 42 U.S.C. § 7171(b)(1) (2018).

58. PJM Order, *supra* note 26, at pp. 82-84 (LaFleur, Comm'r, dissenting).

Commission fundamentally misconstrues the relationship between federally overseen markets and state energy policies in deciding that the goal of market design is to “‘mitigate’ state efforts to shape the generation mix.”⁵⁹ Below, we explain why we find this second critique particularly compelling, before turning to discuss the broader implications of FERC’s rulings on ISO-NE’s and PJM’s proposed reforms.

III. A Dangerous Transformation in the Role of RTOs

For readers not steeped in energy market theory, it is tempting to view these capacity market reform debates as arcane and technocratic squabbles. But construing these changes as nothing more than inside baseball would be a major mistake. In this section, we describe how capacity market debates highlight a growing tension between state clean energy goals and federal electricity markets—one that threatens to undermine the delicate balance at the heart of U.S. energy law. In the next Part, we explain the larger federalism and clean energy implications of FERC’s and certain RTOs’ apparent disdain for state policy objectives.

A. *The Contested Hierarchy of State Policies and Federal Market Prices*

Although ISO-NE and PJM have responded with different capacity market modifications, their proposed reforms—and FERC’s responses—are driven by similar concerns. All paint these reforms as striking a balance that resolves the fundamental tension between “investor confidence” as the touchstone of capacity markets’ “integrity,” on the one hand, and concededly legitimate state policy goals, on the other.⁶⁰ When allegedly impossible to reconcile, FERC and the market operators have “favored the preservation of competitively-based capacity pricing” over accommodation of state clean energy goals.⁶¹

This favoritism inverts the proper relationship between state public policy objectives and the oblique aim of “investor confidence” in capacity markets. The Federal Power Act explicitly reserves authority over generation resources to the states.⁶² As the Supreme Court recently reaffirmed,⁶³ the Act allows states broad control over the type of resources they prefer, including the ability to “limit new

59. *Id.* at p. 87 (Glick, Comm’r, dissenting).

60. ISO-NE Order, *supra* note 31, at ¶ 29; PJM Order, *supra* note 26, at ¶¶ 1, 150. *But see id.* at p. 90 (Glick, Comm’r, dissenting) (criticizing FERC for focusing on “investor confidence” as the critical issue in the ISO-NE Order and then shifting, without explanation or serious mention of “investor confidence,” to a new market “integrity” standard in the PJM Order).

61. ISO-NE Transmittal Letter, *supra* note 37, at 5; ISO-NE Order, *supra* note 31, at ¶ 72 (endorsing this decision); PJM Order, *supra* note 26, at ¶¶ 150-56.

62. See 16 U.S.C. § 824(b)(1) (2018) (providing that the Commission “shall not have jurisdiction . . . over facilities used for the generation of electric energy”).

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

construction to more expensive, environmentally-friendly units.”⁶⁴ The policies that FERC is now targeting as “interferences” that threaten the “integrity” of its otherwise “perfect” markets are in fact perfectly legitimate state efforts to reward and promote different (and worthy) objectives: healthy citizens and a stable climate.⁶⁵ What the Federal Power Act gives, FERC and the RTOs should not be allowed to take away through policies that subserviate state goals to investor earnings.⁶⁶

Indeed, “investor confidence” and the ill-defined concept of “market integrity” are not—and should not be—end goals for capacity markets.⁶⁷ Although these concepts are worthwhile in the abstract, they are not self-obvious, sacrosanct objectives that can justify a transfer of economic wealth made in retaliation against legitimate state policy decisions. For one thing, we see no reason to focus exclusively on the confidence of those who invested in legacy fossil resources, while destabilizing the investment environment for those who invest in new clean energy resources—we would assert that this hardly comprises a market with true “integrity.”

Nor is investor confidence itself an absolute virtue. As FERC explained in approving ISO-NE’s market redesign, the goal of these markets is “to ensure resource adequacy at just and reasonable rates”—in other words, to provide reliable electricity as affordably as possible over time.⁶⁸ Investor confidence is a means to ensuring this end, but only under certain conditions. If a region is substantially over-supplied with generation capacity, the market should *not* give investors confidence that they will recover their investment costs—otherwise, the region will end up with more generation than it needs, paid for by customers, in contravention of FERC’s obligations to protect consumers.⁶⁹

As it happens, electricity markets in both New England and the mid-Atlantic have substantially more generation than they need for reliability purposes.⁷⁰ For this reason, these RTOs should be celebrating lower prices in

64. See *Connecticut Dep’t of Pub. Util. Control v. FERC*, 569 F.3d 477, 481 (D.C. Cir. 2009).

65. See PJM Order, *supra* note 26, at p. 91 (Glick, Comm’r, dissenting).

66. On the impacts that capacity market reforms are likely to have on state clean energy policies, see *infra* Part IV.

67. See ISO-NE Order, *supra* note 31, at p. 68 (Glick, Comm’r, dissenting in part and concurring in part) (questioning the aim of “investor confidence”); PJM Order, *supra* note 26, at p. 92 (Glick, Comm’r, dissenting) (observing that the majority order never defines market “integrity”).

68. *Id.* at ¶ 9.

69. FERC has previously explained the goal of market design reform as “ensur[ing] that capacity prices will reflect the price needed to elicit new entry *when new capacity is needed*.” PJM Interconnection, L.L.C., 119 FERC ¶ 61,318 at P. 165 (2007) (quoting Devon Power LLC, 115 FERC ¶ 61,340, at P. 113 (2006)) (emphasis added) (internal quotation marks omitted); see also Order on Rehearing, 158 FERC ¶ 61,138, at P. 11 (2017) (describing the ideal capacity price as one that “provide[s] an incentive to develop and retain a sufficient level of capacity *to ensure reliability*” while “protecting customers from overpaying for that capacity” (emphasis added)).

70. See North American Electricity Reliability Corporation, 2018 Summer Reliability Assessment (May 30, 2018) at 20 (finding that ISO-NE has more than sufficient capacity reserve margins that protect against reliability concerns), <https://www.nerc.com/pa/RAPA/ra/Pages/default.aspx>

their capacity markets, rather than resisting them.⁷¹ If and when resource adequacy again presents a challenge for these markets, prices in the markets should accordingly rise, even with the unfettered participation of state-sponsored renewables.⁷²

Ignoring these dynamics, RTOs have decided that protection of investor interests—in other words, the assurance of certain levels of profit for fossil fuel generators that might have prevailed in the absence of state preferences for clean energy—trumps respect for democratically determined state requirements for clean air and climate safety. This posture is particularly galling given the strange institutional position that RTOs occupy as private entities, whose members are predominantly for-profit companies in the electricity industry and whose decision-making processes are generally not subject to the administrative law requirements that apply to state and federal regulators.⁷³ No longer neutral grid facilitators, a majority of FERC commissioners and the RTOs in the examples discussed here appear to be taking the side of legacy corporations, working against the public health and welfare.

B. The Ongoing Duty to Ensure Just and Reasonable Rates

Although states control which power plants get built in their territories, RTOs are not without tools to manage the markets that affect the costs of competing choices. The Federal Power Act gives FERC authority over “rates and practices” that “directly affect” federal markets,⁷⁴ allowing RTOs and the

[<https://perma.cc/46A4-JQNU>]; ISO-NE Transmittal Letter, *supra* note 37, at 11 (“[T]he region now has significant excess capacity . . .”); PJM Transmittal Letter, *supra* note 45, at 36 (“[C]apacity commitments in PJM are well above the installed reserve margin . . .”); *id.* at 24 (reporting PJM’s reserve margin at 32.8%, more than double the reference margin of 16.1%). Reserve margins represent the extra generation capacity available above and beyond the forecasted peak capacity demand in a given year and reference margins are the levels needed to ensure resource adequacy. U.S. Energy Information Administration, *NERC’s Summer Reliability Assessment Highlights Seasonal Electric Reliability Issues* (June 29, 2018), <https://www.eia.gov/todayinenergy/detail.php?id=36592> [<https://perma.cc/3PNJ-T8LL>].

71. See Comments of the Organization of PJM States, Inc., FERC Docket No. ER18-1314-000, at 6 (May 7, 2018) (urging FERC to reject both options) (“Rather than rising, there is significant data that shows capacity prices should be falling.”).

72. See SYLWIA BIALEK & BURCIN UNEL, CAPACITY MARKETS AND EXTERNALITIES: AVOIDING UNNECESSARY AND PROBLEMATIC REFORMS, INSTITUTE FOR POL’Y INTEGRITY 18 (2018) [hereinafter IPI REPORT] (arguing that capacity markets that include state-supported resources will still “self-correct” in the event of an actual resource adequacy challenge). In fact, PJM’s capacity market prices did rise substantially in the region’s most recent auction, without their proposed reforms in place. See PJM, 2021/2022 RPM Base Residual Auction Results, at 6 (May 2018), <http://www.pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2021-2022/2021-2022-base-residual-auction-report.ashx> [<https://perma.cc/4X5Y-MCGN>].

73. See CHRISTINA SIMEONE, KLEINMAN CTR. FOR ENERGY POL’Y, PJM GOVERNANCE: CAN REFORMS IMPROVE OUTCOMES? 1, 22 (2017); Michael H. Dworkin & Rachel Aslin Goldwasser, *Ensuring Consideration of the Public Interest in the Governance and Accountability of Regional Transmission Organizations*, 28 ENERGY L.J. 543, 553 (2007); Shelley Welton, *Electricity Markets & the Social Project of Decarbonization*, 118 COLUM. L. REV. 1067 (2018).

74. Fed. Energy Regulatory Comm’n v. Electric Power Supply Ass’n, 136 S. Ct. 760, 774 (2016); see also Order on Rehearing, 158 FERC ¶ 61,138, at P. 7 (2017) (“The Commission has

Commission to refine market rules to respond to state policy changes that render market rates unjust or unreasonable. But on this score, it is unclear that either ISO-NE's approved reform, or the Commission's new FRR proposal in PJM, is a just and reasonable solution.⁷⁵

The ISO-NE capacity market reforms will raise rates by billions of dollars for consumers, as PJM's proposed reforms also would have.⁷⁶ The precise impacts of FERC's PJM proposal are not yet known, but these reforms are also designed to raise capacity prices and thus the expense to customers in the region.⁷⁷ In exchange for what? It remains unclear: neither FERC nor the RTOs have identified any problem that the proposals are designed to solve, beyond increasing capacity payments to non-clean energy resources.⁷⁸ But since neither region's market is currently having trouble attracting the investment it needs to ensure reliability, it is hard to understand how increasing these payments is just or reasonable.

As Commissioner Glick observed in his partial dissent to FERC's approval of ISO-NE's reforms: "the fact that state policies are affecting matters within the Commission's jurisdiction is not necessarily a problem for the Commission to 'solve,' but rather the natural consequence of Congressional intent."⁷⁹ And as he further pointed out in dissenting from FERC's curious PJM decision, the Commission continues to act upon nothing but a hunch that capacity markets could theoretically be harmed, sometime in the future, by an influx of state-supported resources.⁸⁰ As of yet, however, no concrete evidence of actual challenges to the grid's long-term reliability has been adduced.⁸¹ If FERC and its RTOs believe that state policies create concrete resource adequacy concerns

acknowledged the right of states to pursue their own policy interests but must be mindful of state regulatory actions that impinge on FERC-jurisdictional market mechanisms to set price.").

75. See *NRG Power Mktg., LLC v. Fed. Energy Regulatory Comm'n*, 862 F.3d 108, 113 (D.C. Cir. 2017) (interpreting the roles of RTOs and FERC under FPA Section 205 filings); *see also* 16 U.S.C. § 824d (2018) (establishing the Commission's "just and reasonable" standard).

76. One expert estimates that PJM's proposals will cost somewhere between \$9.1 billion and \$24.6 billion *annually*. *See* Protest of Clean Energy Advocates, FERC Docket No. ER18-1314, at 7 (May 7, 2018).

77. See PJM Order, *supra* note 26, at ¶ 2 (describing one key impetus for its reforms as "lower auction clearing prices," thus implying that the goal is to raise auction clearing prices).

78. *Id.* at p. 92 (Glick, Comm'r, dissenting) (arguing that FERC's order inappropriately stymies state climate change policies, illegally "deploy[ing] the FPA to make it ever more difficult for states to address this existential threat"); *see also* IPI Report, *supra* note 72, at i (finding "no conclusive evidence that capacity markets are under threat"). To the extent that FERC has previously endorsed generalized balancing efforts absent showing a particular market challenge, *see*, for example, *New England States Committee on Electricity v. ISO New England Inc.*, 142 FERC ¶ 61,108, at P. 35 (2013), *reh'g denied*, 151 FERC ¶ 61,056 (2015), we would urge the Commission to reconsider this precedent in light of the growing tension it creates for states within regional markets.

79. See ISO-NE Order, *supra* note 31, at p. 66 (Glick, Comm'r, dissenting in part and concurring in part).

80. See PJM Order, *supra* note 26, at pp. 95-96 (Glick, Comm'r, dissenting).

81. *Id.* ("Today's order is all the more troubling because there is not substantial evidence in the record to support a finding that there is a resource adequacy problem in PJM or that the capacity market is otherwise unjust and unreasonable or unduly discriminatory or preferential.").

that have not yet been voiced, then they should explicitly identify these challenges and look for targeted solutions. Otherwise, the reforms on the table appear to be an exceedingly complex and misguided effort to shield certain market players from the impacts of personally disfavored but utterly legitimate state policy goals.

IV. Beyond Capacity Markets: The Risks of FERC Accepting RTOs' Expanded Role

The big-picture implications of accepting RTOs' reforms have largely been sidelined in the tussles over critical market design details. In this final Part, we call attention to the ways in which these changes are likely to reduce the growth of clean energy and threaten the delicate cooperative balance that FERC has established with its state counterparts in the energy sector.

A. *Slowing Down the Clean Energy Transition*

In their reform proposals, both ISO-NE and PJM suggest that one of the primary consequences of capacity market reforms will be to raise prices for consumers forced to over-purchase capacity, because states are *not* likely to eliminate their clean energy goals.⁸² In the short-to-medium term, this assumption probably holds. PJM, though, nods to potential longer-term consequences, noting that some proponents of its minimum-offer-price reform “hope that it will work to dis-incent states from providing subsidies in the first instance.”⁸³

We fear that PJM has the long-term diagnosis correct—and that all the proposals on the table are likely to push in the direction of undermining state clean energy policy preferences. Ultimately, to stabilize the global climate, the electricity sector will need to approach *zero* emissions.⁸⁴ That's a tall task for a sector that currently produces 63% of its power from fossil fuels.⁸⁵ To date, residents of the more ambitious clean energy states have proven willing to accept some additional costs to meet these goals. But there may be a breaking point at

82. See *id.* at 49; PJM Transmittal Letter, *supra* note 45, at 56; see also Request for Rehearing of Clean Energy Advocates, FERC Docket No. ER18-619-000, at 1 (Apr. 9, 2018) (arguing that “the predictable result” of ISO-NE’s re-design is that “thousands of megawatts of clean energy will be barred from accessing the ISO-NE capacity market, and the region’s customers will be forced to spend vast sums to buy an equivalent amount of redundant capacity.”).

83. PJM Transmittal Letter, *supra* note 45, at 56 n.138.

84. INTERGOVT’L PANEL ON CLIMATE CHANGE, *Summary for Policymakers*, in CLIMATE CHANGE 2014: MITIGATION OF CLIMATE CHANGE, CONTRIBUTION OF WORKING GROUP III TO THE FIFTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 1, 20 (O. Edenhofer et al. eds., 2014) (“In the majority of low-stabilization scenarios, the share of low-carbon electricity supply . . . increases from the current share of approximately 30 percent to more than 80 percent by 2050, and fossil fuel power generation without [carbon capture and storage] is phased out almost entirely by 2100.”).

85. *Frequently Asked Questions*, ENERGY INFO. ADMIN., <https://www.eia.gov/tools/faqs/faq.php?id=427&t=3> [https://perma.cc/9ME4-QDPP].

which the pendulum of public sentiment swings the other way, should the costs of the transition rise too high—especially since some states are currently shouldering all the burden of greenhouse gas emissions cuts while their neighbors shirk. By raising the cost to ambitious states of meeting their energy goals by potentially hundreds of millions of dollars,⁸⁶ the capacity market reforms under consideration could cause a backlash against ambitious state policies. At the same time, these reforms prop up fossil fuel resources at the expense of customers in many states whose democratically elected representatives chose a different path—clean energy.

We write this Essay at a time of significant uncertainty with respect to how PJM's market reforms will play out, and therefore we must acknowledge that there is a scenario in which our concerns regarding the Commission's proposed reforms might be overblown. Some commentators have suggested that the reforms could prove a surprising boon for clean energy by allowing states more flexibility in deciding which resources should supply capacity directly to in-state utilities, and which should participate in regional capacity markets.⁸⁷ Others echo concerns similar to those expressed in this Essay, arguing for an outcome that respects state policy autonomy and more adequately compensates state-supported renewable and nuclear energy resources.⁸⁸ Currently, a utility must be either "all out," or "all in," with respect to capacity market participation; in contrast, under the next phase of FERC's PJM Order, the Commission might allow utilities to pursue clean energy capacity procurement outside the capacity market, turning to the capacity market only for whatever fraction of their capacity needs remain.⁸⁹ But this result will obtain only if FERC allows states substantial flexibility in determining how to match renewable energy supply with load in ways that allow renewable resources to make up the payments lost from the capacity market, in addition to being compensated for their renewable attributes.

Given the Commission's demonstrated antipathy to state clean energy policy and its aggressive timeline for reform, we are skeptical that the Commission will design a program that treats clean energy resources fairly in light of their full social benefits. But we strongly encourage the Commission to

86. See Protest of Clean Energy Advocates, *supra* note 76.

87. Gavin Bade, *How FERC's 'Unprecedented' PJM Order Could Unravel Capacity Markets*, UTILITY DIVE (July 3, 2018) (quoting analysts' suggestions that an opt-out "Fixed Resource Requirement" (FRR) rule could enable state-supported clean energy resources to bypass the punitive capacity market entirely), <https://www.utilitydive.com/news/how-fercs-unprecedented-pjm-order-could-unravel-capacity-markets/527053/> [<https://perma.cc/UH5J-CXDG>]; see also PJM Order, *supra* note 26, at ¶¶ 160-62 (describing how a "resource-specific FRR alternative" might operate).

88. Ann McCabe and Miles Farmer, *How FERC Can Protect Customers and Respect State Energy Policy Authority in its PJM Capacity Market Proceeding*, UTILITY DIVE (Sept. 25, 2018), available at <https://www.utilitydive.com/news/how-ferc-can-protect-customers-and-respect-state-energy-policy-authority-in/533095/> [<https://perma.cc/B9VD-NKU9>].

89. See PJM Order, *supra* note 26, at ¶ 70 (explaining that utilities may currently enter and exit the capacity market only on a "utility-wide basis," but that under the new proposal, a utility could "remove a specific resource").

prove us wrong. For example, FERC might allow states to self-determine which resources to pull from capacity markets and might then devise a collaborative scheme in which these resources could be reasonably compensated for both their capacity provisioning and environmental attributes. This flexibility would go a long way towards easing the jurisdictional tension at the heart of this Essay—although largely by facilitating a *de facto* withdrawal from regional capacity markets.⁹⁰ While this outcome might seem problematic to those who had hoped to see regional capacity markets support a robust approach to resource adequacy, in our view, shifting the responsibility of maintaining resource adequacy back to the states may be the only sensible path remaining in light of FERC’s unfortunate decision to punish state-supported resources in capacity markets.

B. Implications for RTOs Without Capacity Markets

It might be tempting to dismiss the East Coast policy debates as matters that only affect RTOs with mandatory capacity markets, in which utilities must participate to fulfill their regionally assigned resource adequacy obligations.⁹¹ (In other regions, including the Midwest and California, no such rigid construct exists; capacity markets are voluntary in the Midwest and non-existent in California, which manages resource adequacy via other mechanisms.⁹²) But this response misses the mark. The capacity market reform debates currently underway are only the latest episode in a longer battle for policy-making control between private market operators, state regulators, and FERC. If RTOs are empowered by FERC to propose market designs that punish state clean energy policies in capacity markets, what is to stop them from taking a similar approach in energy markets? In our view, the question of RTO governance should be front and center, no matter the market. To paraphrase Sinclair Lewis, those who say “it can’t happen here” fail to acknowledge that, at least as far as the governance concerns discussed in this Essay go, “it has already happened there.”

Even if the impacts of the shift in governance illustrated by the ISO-NE and PJM reforms remain limited to RTOs with mandatory capacity markets—a

90. See ISO-NE Order, *supra* note 31, at pp. 58-59 (LaFleur, Comm’r, concurring) (expressing concern that overly blunt capacity market reforms may lead to utilities exiting RTOs and states re-regulating markets); PJM Order, *supra* note 26, at p. 86 (LaFleur, Comm’r, dissenting) (same).

91. Some regions with ostensibly “mandatory” markets do offer exit options under stringent conditions, usually requiring a utility to exit the capacity market entirely for a multi-year period. See PJM, *Fixed Resource Requirement Alternative—Overview* (Sept. 17, 2017), <https://www.pjm.com/-/media/committees-groups/task-forces/ccppstf/20170817/20170817-fixed-resource-requirement-overview.ashx> [<https://perma.cc/CZ4A-44GB>]; see also Bushnell et al., *supra* note 20, at 26-27 (describing the mandatory capacity market construct and exceptions to it).

92. California currently sets its own “resource adequacy” requirements that utilities can meet through self-supply or bilateral contracting. The Midcontinental ISO runs a non-mandatory capacity market, which utilities can use as a backstop to self-supply or bilateral contracting. See *id.* at 25-26 (describing California’s and the Midwest’s capacity schemes); see also Midwest Indep. Transmission Sys. Operator, Inc., 153 FERC ¶ 61,229, at P. 46 (2015) (refusing to make MISO’s capacity market mandatory in response to a petition under Section 206 of the Federal Power Act).

containment we find implausible—this is little comfort. Capacity markets themselves are the result of market operators exerting increased control over state regulators: states whose markets now feature centralized capacity markets first joined energy-only regional markets, only gradually acceding to a construct in which the RTO also controlled resource adequacy *after* the decision to delegate their market governance to the RTO had been made. Previously, some PJM and ISO-NE states expressed serious reservations about the creation of mandatory capacity markets, which they worried would interfere with states’ historical right to choose their mix of power plants.⁹³ But states’ objections didn’t stop FERC from eventually ordering the RTOs to construct new systems that went beyond bilateral resource adequacy requirements.⁹⁴ Subsequently, FERC negotiated settlements between each RTO and its stakeholders that established centralized capacity markets in 2006.⁹⁵

As the history of capacity market formation in ISO-NE and PJM indicates, states within RTOs—whether single- or multi-state—do not have unfettered control over whether FERC might eventually decide that a centralized capacity market is required to satisfy the Federal Power Act’s “just and reasonable” ratemaking standards.⁹⁶ Because the decision of whether to require a capacity market “directly affects” wholesale rates, FERC maintains jurisdiction in this domain.⁹⁷ Certainly state wishes matter, but as PJM and ISO-NE states’ recent experiences illustrate, a majority of today’s FERC Commissioners feels free to disregard them. Thus, even where state law might ostensibly preclude participation in a centralized capacity market, an RTO—or any private party, such as an out-of-state generator in the regional market—might nevertheless propose a centralized capacity market to FERC.

Should such a proposal be made, the identity of the proposing party is legally significant. When an outside party petitions FERC for a change in an RTO’s rules, FERC must find the current market structure “unjust” or “unreasonable” to force a change upon an RTO under Section 206 of the Federal

93. Harvard Electricity Law Initiative, Comment of the Harvard Electricity Law Initiative to FERC re: PJM Interconnection, Revisions to Address Impacts of State Policies, FERC Docket No. ER18-1314 (May 7, 2018).

94. *Conn. Dept. of Pub. Util. Control v. FERC*, 569 F.3d 477, 480 (D.C. Cir. 2009) (dismissing state challenge to ISO-NE’s authority to determine an installed capacity requirement to drive a regional forward capacity market); *PJM Interconnection LLC*, 115 FERC ¶ 61,079, at P. 1 (2006) (concluding, in response to a filing under Section 206 of the Federal Power Act, that PJM’s previous system of bilateral resource adequacy requirements was no longer “just and reasonable”); *Devon Power LLC, et al.*, 103 FERC ¶ 61,082, at P. 29 (2003) (ordering ISO-NE to create a “market-type mechanism” as a superior method of managing regional resource adequacy).

95. *PJM Interconnection LLC*, 117 FERC ¶ 61,331, at P. 6 (2007); *Devon Power LLC*, 115 FERC ¶ 61,340, at P. 2 (2006).

96. 16 U.S.C. §§ 824d(a), 824e(a) (2018).

97. *See, e.g.*, *PJM Interconnection LLC*, 119 FERC ¶ 61,318, at P. 42 (2007) (finding that resource adequacy and resource requirements in PJM “directly affect” wholesale rates subject to the Commission’s jurisdiction); *see also supra* note 74 and accompanying text (explaining “directly affecting” jurisdiction).

Power Act.⁹⁸ In contrast, when an RTO itself petitions for a change to its market structure under section 205 of the Act, FERC need only find that the RTO’s new proposal is one among potentially many “just and reasonable” alternatives.⁹⁹ For this reason, RTO-sanctioned proposals are more likely to win FERC approval—making RTO composition and governance central to any analysis of the potential for a regional capacity market.

Already, private parties that have taken note of the capacity market reforms in the East are seeking to expand these markets’ footprint. A natural gas power plant recently petitioned FERC to declare California’s current resource adequacy regime “unjust and unreasonable” under Section 206 of the Federal Power Act and replace it with a centralized capacity market.¹⁰⁰ Although the Commission may well refuse this outside request, the filing nevertheless indicates how the Commission, not the state, has the final word on capacity market formation.¹⁰¹

At its core, the history of capacity markets indicates that no state within an RTO can insulate itself from the possibility that its RTO may ultimately pursue—or be forced to accept—market changes that FERC deems just and reasonable. Critically, the RTO’s position on proposed changes determines the legal standard under which FERC reviews market proposals. Accordingly, states wary of the recent FERC decisions regarding ISO-NE and PJM capacity markets would be wise to focus on RTO governance as an important channel for preserving and accommodating state resource preferences—a topic to which we turn in our final subsection. Yet even a governance structure that precludes an RTO from proposing a capacity market to FERC cannot prevent FERC from declaring the RTO’s approach to resource adequacy unjust or unreasonable, and possibly even ordering a capacity market in its place.

C. Implications for California and the West

Thus far, we have only considered the ways in which capacity markets—present and potential—can stymie the clean energy goals of their participating states. But the precedents that FERC has established with respect to PJM and ISO-NE capacity markets are likely to have reverberations that extend far beyond the question of capacity market design. The broader trend of regional RTOs asserting their primacy over state policy preferences—as FERC has sanctioned

98. 16 U.S.C. § 824e(a) (2018).

99. *Id.* at § 824d(a).

100. CXA La Paloma, LLC v. California Indep. Sys. Operator, Inc., FERC Docket No. EL18-177 (June 20, 2018).

101. To help resolve this uncertainty, we would encourage FERC to articulate a clear principle for whether and under what conditions the Commission might consider imposing a capacity market under Section 206 of the Federal Power Act. Ultimately, however, so long as the Commission asserts jurisdiction to review resource adequacy requirements under Section 206—as it has done in previous capacity market decisions for ISO-NE, PJM, and MISO—any such principle would be a Commission policy, not a jurisdictional limitation, and therefore subject to change.

in recent months—threatens the conditions under which states with divergent environmental policies can cooperate in regional electricity markets.

The most prominent example of expanded regional cooperation concerns California, which has a federally regulated wholesale electricity market, and the rest of the West, which does not. Currently, the California Independent System Operator (CAISO) operates an energy market that covers most of the state and a small portion of Southern Nevada.¹⁰² For several years, California policymakers have considered expanding CAISO's footprint to include other states' utilities, forming a regional energy market similar to those in place in PJM and ISO-NE.¹⁰³ Advocates of regionalization argue that a broader market will facilitate increased and more efficient renewable energy deployment by integrating the broader region's renewable resources and allowing renewables in California to sell their excess power to neighboring states.¹⁰⁴ However, it is widely understood that other states would not join a regional CAISO without a significant change in CAISO's governance structure.

Such a change would carry with it the risk of increasing regional and private-sector influence over California's clean energy trajectory, as is occurring in the ISO-NE and PJM states. Currently, each of CAISO's five Governors is appointed by the Governor of California and subject to confirmation by the California Senate—a unique arrangement that may not be possible to recreate under current FERC regulations.¹⁰⁵ What would happen if this arrangement changed is an open and critical question. The integration of state policy priorities in the management of CAISO's energy markets is among the most complex in the country, which makes the close alignment between the current CAISO governance structure and state political structure extremely relevant. CAISO also manages a voluntary regional energy market called the Energy Imbalance Market (EIM), which includes portions of Oregon, Washington, Idaho, Nevada, Arizona, Utah, and Wyoming¹⁰⁶—a list that includes several interior states that

102. Technically, CAISO is not a single-state market, although it is governed like one. Not all of California is in CAISO territory; CAISO territory also includes a small portion of southern Nevada.

103. CAL. PUB. UTIL. CODE § 359.5 (as added by Senate Bill 350, Stats. 2015, Ch. 547, § 13).

104. See, e.g., *Frequently Asked Questions, FIX THE GRID*, <https://www.fixthegridcalifornia.org/frequently-asked-questions/> [<https://perma.cc/J6ZA-2D2Y>].

105. CAL. PUB. UTIL. CODE § 337 (defining the appointment process for CAISO Governors). FERC originally disapproved of this governance structure, ordering California to replace its state-appointed Governors with representatives determined by a private governance structure. See *Order Concerning Governance of the California Independent System Operator*, 100 FERC ¶ 61,059 (2002). CAISO successfully challenged this order, which the D.C. Circuit Court of Appeals vacated two years later. See *Calif. Ind. System Operator v. FERC*, 372 F.3d 395 (D.C. Cir. 2004). Although the court left open the possibility that FERC could de-certify the current CAISO governance structure under FERC's Order 888, FERC never took any such action and CAISO continues to operate under the formerly disputed governance structure. Although the status quo approach seems workable given CAISO's track record of performance, it is an open question whether any future ISO or RTO could be structured with state-appointed governance—at least not without a change in FERC policy.

106. Governance of the CAISO EIM is shared with participating states. See Lenhart et al., *supra* note 18. But CAISO maintains exclusive control over California's core energy markets.

explicitly prefer coal, in contrast to the low-carbon preferences of their coastal neighbors.

To date, CAISO has deftly managed the challenging politics of being a regional trailblazer on climate change. Most notably, CAISO secured the first FERC-approved carbon price, integrating California’s cap-and-trade program into the EIM market tariff such that the carbon price applies to electricity voluntarily exported from the EIM territory to serve CAISO load.¹⁰⁷ After nearly two years of negotiations with the state climate regulator, CAISO has transmitted a greenhouse gas accounting mechanism for the regional EIM market to FERC, which is reviewing the petition as of this writing.¹⁰⁸ CAISO has done all of this under its power to petition FERC for market changes the Commission finds to be “just and reasonable”¹⁰⁹—a power that has worked to the good of California climate policy in a context where the RTO’s goals are aligned with those of state policymakers.

CAISO deserves enormous credit for the work that has gone into navigating the technical and legal issues that arise when trying to fully account for the net greenhouse gas emissions impacts of cross-border carbon pricing. However, it is critical to observe that this work has occurred in a context where CAISO’s entire Board of Governors is fundamentally accountable to the state political process. Would this work continue unperturbed if the control of CAISO governance shifted to appointees made by states or private parties without a longstanding commitment to clean energy and climate policy—or even a demonstrated

107. Generators located in California automatically include carbon prices in their CAISO bids because they are subject to California’s cap-and-trade program. Generators outside the state decide whether to bid to supply electricity to CAISO on a voluntary basis; they are only dispatched to serve CAISO load if they affirmatively elect to do so and submit a winning bid that includes a supplemental greenhouse gas bid adder reflecting California’s carbon price. For an overview, see Andy Coghlan & Danny Cullenward, *State Constitutional Limitations on the Future of California’s Carbon Market*, 37 ENERGY L.J. 219 (2016); see also CAISO Tariff § 29.32 (Feb. 15, 2018), <http://www.caiso.com/rules/Pages/Regulatory/Default.aspx> [https://perma.cc/FC6X-HJCN]; CAISO, *Regional Integration California Greenhouse Gas Compliance Issue Paper* (Aug. 29, 2016), <http://www.caiso.com/Documents/IssuePaper-RegionalIntegrationCaliforniaGreenHouseGasCompliance.pdf> [https://perma.cc/QWN3-XCHQ]; see also generally California Independent System Operator, Order on Rehearing, Clarification, and Compliance, 149 FERC ¶ 61,058, at PP. 56-59 (2014) (describing the voluntary nature of the “GHG Bid Adder” that out-of-state generators must include in their bids in order to be dispatched to serve CAISO load).

108. As of this writing, CAISO has submitted a concept to FERC for approval in the EIM. See CAISO, Transmittal letter re: California Independent System Operator Corporation Energy Imbalance Market, Docket No. ER18-2341-000, at 5-6 (Aug. 29, 2018), http://www.caiso.com/Documents/Aug29_2018_TariffAmendment-RegionalIntegration_EIMGHGCompliance-EIMBidAdder_ER18-2341.pdf [https://perma.cc/QWN3-XCHQ]. However, questions remain about the efficacy of the EIM design. See, e.g., William W. Hogan, *An Efficient Energy Imbalance Market with Conflicting Carbon Policies*, 30(10) ELECTRICITY J. 8 (2017). Professor Hogan’s analysis concerned an earlier version of the proposed greenhouse gas accounting mechanism, but it raises several conceptual issues that remain in CAISO’s subsequent proposal and California’s treatment of imported electricity in its cap-and-trade program for greenhouse gases.

109. See 16 U.S.C. § 824d (2018).

antipathy towards climate policy?¹¹⁰ Would a new governance structure continue to support the application of California's carbon price to imports from within the broader regional market? If not, what would prevent coal-fired generators in neighboring states from selling their power to California customers, thereby undercutting California's climate goals? And even if a regional RTO were formed with a governance structure that preserves California's interests alongside those of its neighbors, regionalization still might create greater practical risks of FERC's meddling. Given the many market rules necessary to accommodate disparate state regulatory regimes, and the enlarged pool of players in a regional RTO, a regional market has more potentially dissatisfied market participants that might petition FERC to declare the RTO's market design unjust or unreasonable.

In our view, California policymakers should acknowledge the mounting evidence that regional market operators are no longer required to be neutral "takers" of state policy preferences, as exemplified by the experiences in PJM and ISO-NE. The shift in power towards private market regulators increases the risks that a regional market operator could work to undermine the progress that CAISO and state regulators have achieved to date. Similarly, the hostility to state clean energy policies from FERC raises questions about what guarantees state law can offer in advance of FERC's review of an expanded market design proposal. Given the inability of state law to constrain FERC's review of RTO market designs—either on its own initiative, or at the petition of any market participant—many of our questions cannot be resolved through legal guarantees. Rather, their resolution would instead be contingent on the political economy of electricity markets and the policy perspectives FERC's commissioners bring to future regulatory disputes.

In our view, the potential gains of an enlarged, regional RTO are significant and should be considered alongside the governance risks outlined above. We make no judgment here about whether regionalization is worth pursuing on balance, and if so, under what conditions and institutional forms. Our aim is simply to bring to the regionalization conversation an account of the increasing risks that confront states whose policy preferences are not respected by those who participate in or govern their electricity markets.

110. Tom Lutey, *Coal States Montana and Wyoming Push Back on Washington State Proposed Carbon Tax*, BILLINGS GAZETTE (Feb. 21, 2018) (reporting that the Attorneys General of Montana and Wyoming sent a letter to Washington Governor Jay Inslee asserting that Washington's proposed carbon tax raises constitutional concerns); Brian Maffly, *Lawmakers Considering Spending Millions to Sue California and Fight the 'War on Utah Coal'*, SALT LAKE TRIB. (Feb. 18, 2018), <https://www.sltrib.com/news/environment/2018/02/16/lawmakers-considering-spending-millions-to-sue-california-and-fight-the-war-on-utah-coal/> [<https://perma.cc/LW8C-BWVJ>] (reporting that the Utah Legislature was considering a \$2M appropriation to fund a lawsuit against California's climate policies, including its application of the carbon price in the CAISO EIM); Letter from Tim Fox, Montana Attorney General, and Peter K. Michael, Wyoming Attorney General, to Governor Jay Inslee (Feb. 20, 2018), <https://media.dojmt.gov/wp-content/uploads/Letter-Re-Washington-SSB-6203-002.pdf> [<https://perma.cc/ZT9S-QDGM>].

V. The Delicate Future of Energy Federalism

Energy federalism is in flux following a string of three recent Supreme Court cases that re-considered the state-federal relationship in energy law.¹¹¹ In decades past, the Supreme Court interpreted the Federal Power Act to draw a “bright line, easily ascertained” between federal and state spheres of control.¹¹² That understanding no longer holds in the modern world of energy markets. In *Hughes*, Justice Sotomayor described the Act as a “collaborative federalism statute[], [which] envisions a federal-state relationship marked by interdependence.”¹¹³ As this jurisprudential evolution suggests, states and FERC are still finding their way in regional energy markets. This challenge is unfolding in rapidly changing conditions, as states within RTOs also happen to be some of the most ambitious supporters of clean energy.

Regional energy markets hold the potential to play an important role in states’ clean energy transitions. We count ourselves among those who view well-designed regional markets as vital tools for integrating higher quantities of variable wind and solar resources on the grid. As a further testament to RTOs’ success, most of the states involved in the recent acrimony over capacity markets have professed their desire to preserve these regional constructs, even as they oppose onerous capacity market reforms¹¹⁴—although New Jersey’s utility regulator recently expressed willingness to contemplate leaving PJM.¹¹⁵

Nevertheless, East Coast states’ faith in RTO governance has clearly been shaken.¹¹⁶ Some are frustrated that ISO-NE ignored key components of the regional compromise reached in advance of its filing with FERC.¹¹⁷ PJM more brazenly put forward two proposals to FERC that each failed to earn stakeholder

111. FERC v. Elec. Power Supply Ass’n, 136 S. Ct. 760 (2016); *Hughes v. Talen Energy Marketing, LLC*, 136 S. Ct. 1288 (2016); *OneOK, Inc. v. Learjet, Inc.*, 135 S. Ct. 1591 (2015).

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

113. *Hughes*, 136 S. Ct. at 1299 (Sotomayor, J., concurring); see also Matthew R. Christiansen, FERC v. EPSA: *Functionalism and the Electricity Industry of the Future*, 68 STAN. L. REV. ONLINE 100 (2016) (arguing that the Court’s opinion in FERC v. EPSA shifts the “bright line” from a formalist to a functionalist interpretation); Robert R. Nordhaus, *The Hazy “Bright Line”: Defining Federal and State Regulation of Today’s Electric Grid*, 36 ENERGY L.J. 203 (2014) (discussing the increasingly complex division between state and federal authority under the Federal Power Act prior cases like *Hughes* and *EPSA*).

114. See FERC Technical Conference, State Policies and Wholesale Markets Operated by ISO New England Inc., New York Independent System Operator Inc., and PJM Interconnection L.L.C., Docket No. AD17-11-000, Panel I, Remarks of State Regulators (May 1-2, 2017), <http://www.ferc.gov/EventCalendar/EventDetails.aspx?ID=8663&CalType=%20&CalendarID=116&Date=&View=Listview> [<https://perma.cc/N95K-NEWS>].

115. Rory D. Sweeney, *NJ Regulator Threatens to Exit PJM Amid States’ Complaints*, RTO INSIDER (July 2, 2018), <https://www.rtoinsider.com/pjm-joe-fiordaliso-95702/> [<https://perma.cc/EE9H-E3P2>].

116. Some independent experts have called for RTO governance reforms in PJM and across FERC-regulated markets. See, e.g., SIMEONE, *supra* note 73.

117. See Protest by the Conn. Pub. Util. Reg. Auth. et al., FERC Docket No. ER18-619, at 14-15 (Jan. 29, 2018).

or state support: in fact, a majority of stakeholders and states preferred “no action” to either of PJM’s alternatives.¹¹⁸

FERC, for its part, approved the controversial ISO-NE proposal and called for even more substantial reform of the PJM market on a timeline that will leave little space for state engagement, leading some to predict that the reforms that FERC demands within PJM may portend an “unraveling” of the region’s capacity market.¹¹⁹ With this move, the Commission is signaling more strongly than ever that participation in its markets may well come at the expense of state policy priorities. That is a message that few states are likely to want to hear—and it may upset the fundamental balance of state-federal and public-private relations that sustains energy market constructs today.

To preserve the neutral, well-functioning markets FERC has created and nourished over the past two decades, the Commission should stop pretending that regional electricity markets are a pristine construct under siege from state clean energy goals. These markets are merely a tool in the larger project of ensuring “just and reasonable” electricity rates in the United States—subject to any constraints states and other actors impose on them through legitimate legal means. Climate change is an existential problem and mustering the political will to tackle it is no small feat. FERC must not allow nebulous appeals to preserving “investor confidence” or “market integrity”—which in reality mask certain generators’ attempt to use private energy markets to end-run state political processes—to stand in the way of states’ efforts. If FERC does, states would be wise to reevaluate who *really* controls their energy mix—and whether that’s an arrangement their citizens can afford to endure.

118. See Protest of Clean Energy Advocates, *supra* note 76, at 62.

119. *Id.*