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An Economic Case Against Uneconomic Coal: Antitrust Concerns in the Deregulated and Competitive Electricity Market

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I. Introduction

Since 2015, inefficient and expensive coal-fired plants have gamed electrical markets, resulting in national electric utilities charging ratepayers nearly two billion dollars in excess costs.[1] The problem starts in antitrust law. In the 1990s, the deregulatory trend responsible for the restructuring of the American airline, telecommunications, and finance industries shifted focus to the electricity market. After nearly one hundred years where electricity markets existed as functional monopolies, utilities became exposed to competitive, independent generators, while electric power markets were handed to neutral system operators for oversight and operation. Today's system descended from these reforms. But antitrust law did not.

In theory, modern wholesale electricity markets operate according to a merit order system that allocates energy resources based on priority from lowest to highest cost. Functionally, electricity generators submit bids for electricity supply based on their marginal cost. Each generators' resources are used to provide the requisite amount of electricity to meet the grid demand. Each electricity supplier is paid the price offered by the last supplying generator to clear the market, which theoretically ensures that consumers receive electricity at the lowest cost and suppliers are paid in line with production costs.

Reality pans out a bit differently, and merit order dispatch often operates *without* merit. Market rules permit electricity generators to "self-commit" electricity resources, or send electricity to the grid, even when that generators' production costs are above the market price. There are justifiable reasons for self-committing energy resources but self-commitment also offers utility generators a loophole to cut the priority line and supply electricity without regard to pricing. For vertically integrated utilities that remain rate-regulated—meaning they have rate-based cost recovery through state ratemaking proceedings—rate recovery allows them to recapture lost revenue from uneconomic supply

1. *Utility Transition Hub Economic Dispatch Dashboard*, RMI (last visited Mar. 26, 2025), https://utilitytransitionhub.rmi.org/economic-dispatch/ [https://perma.cc/78MM-ZUZT].

and pass the costs on to consumers. Therefore, the loss of using uneconomic energy resources is not reflected on corporate balance sheet; the cost, instead, is borne by ratepayers. Conservative estimates place the cost of uneconomically self-committed energy resources at approximately one to two billion in higher rates.[2]

Chief among the line-cutters is the coal industry. Coal makes up a majority of self-commits and uneconomic dispatches on many regional grids.[3] Further, a majority percentage of coal is self-committed on the most coal-heavy markets, with a non-significant percentage uneconomically dispatched.[4] These practices have a substantial impact on everyday ratepayers, and ongoing data indicates nearly three billion in gross customer losses in 2023 as a result.[5] The problem is not going away, as the non-economic dispatch of coal plants increased in 2023.[6] Excess consumer costs are just one of the myriad problems of self-commitment: the practice also artificially subsidizes a fleet of inefficient and increasingly dangerous coal plants and crowds out cheaper, often renewable, sources of electricity, as well as more efficient fossil fuels like natural gas. In turn, the incentives for nonrenewable coal production have a thumb on the scale of an allegedly competitive market.

In a normal market, this paradigm might be an antitrust problem with a potential legal remedy based in anti-monopolization or market manipulation laws. Consumer prices are the dominant metric for assessing competition

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2. *See, e.g.*, Joe Daniel, *How Utilities Can Save Customers Billions of Dollars*, RMI (Jan. 16, 2023), https://rmi.org/how-utilities-can-save-customers-billions-of-dollars/ [https://perma.cc/GPW6-7NV7] ("RMI research looking at the hourly operation of power plants during 2020 shows that there was a huge opportunity for even further reduced reliance on coal, a move that would also have driven $2.5 billion in consumer savings in the first year of the pandemic alone. In fact, since 2012, utilities could have driven $1–2 billion in savings per year to customers by turning down coal and relying on lower-cost, less polluting resources."); Fisher et al., *Playing With Other People's Money: How Non-Economic Coal Operations Distort Energy Markets*, Sierra Club, at 15 (Oct. 2019), https://www.sierraclub.org/sites/default/files/Other%20Peoples%20Money%20Non- Economic%20Dispatch%20Paper%20Oct%202019.pdf. (Study estimates that captive ratepayers of regulated utility plants lost $3.5 billion from 2015 to 2017 alone due to non-economic dispatch).

3. *See, e.g.*, Southwest Power Pool, Inc., Self-Committing in SPP Markets: Overview, Impacts, and Recommendations 18 (Dec. 2019), https://spp.org/documents/61118/spp%20mmu%20self-commit%20whitepaper.pdf [https://perma.cc/SZ4J-4JQG].

4. *See, e.g.*, Joe Daniel, Sandra Sattler, Ashtin Massie & Mike Jacobs, *Used, But How Useful?*, Union of Concerned Scientists, at 10 (May 2020), www.ucsusa.org/resources/used-how-useful [https://perma.cc/E4MY-44JF] (eighty-eight percent of coal is self-committed on MISO market); Catherine Morehouse, *MISO: Majority of Coal is Self-Committed, 12% Was Uneconomic Over 3- Year Period*, Utility Dive (May 7, 2020), https://www.utilitydive.com/news/miso-majority-of-coal-is-self-committed-12-was-uneconomic-over-3-year-pe/577508/ [https://perma.cc/X9KA-GR93] (reporting that a majority of coal was self-committed in MISO from 2017 to 2019, with twelve percent dispatched uneconomically).

5. *Utility Transition Hub*, *supra* note 1.

6. *Id.*

in antitrust doctrine,[7] and the Sherman Act polices against the acquisition or maintenance of monopoly power. Exclusionary conduct or distribution by vertically integrated utilities ostensibly fall within this scope of monopoly power. And yet, the electricity market's highly regulated history has often shielded antitrust scrutiny.

This Article addresses uneconomic self-commitment in the electric power market with an eye to the antitrust case against the uneconomic operations of coal-fired power plants. Part I describes the history of electricity market regulation, deregulation, and the problem caused by vertically integrated utilities relying on uneconomic coal resources. Part II addresses the interplay of antitrust, anticompetition, and anti-manipulation laws on the energy industry and electricity market. Ultimately, antitrust doctrine's entrenchment in the industry's prior age presents a challenge to what is a billion-dollar problem, and this Article attempts to challenge that entrenchment.

II. Industry Background

This Part describes the electrical grid, regulatory history, and making of the 'competitive' electricity market. It ends with a detailed analysis of uneconomic self-commitment in the electricity sector today.

A. The Electrical Grid

Energy cannot be created or destroyed, only converted from one form to another.[8] In the United States, a complicated, interwoven system of electricity generation, transmission, and distribution serves to convert energy into electricity.

First, power plants, or electric generators, convert one form of energy—historically, coal and other fossil fuels[9]—into an electrical current. Second, high-voltage transmission lines carry that electrical power from the generating

7. Lina M. Khan, *Amazon's Antitrust Paradox*, 126 Yale L.J. 710, 720 (2017).

8. The first law of thermodynamics holds that the total energy in a system remains constant. *See, e.g.*, R.D. Stevenson, *The First Law of Thermodynamics for Ecosystems*, in *Physical Processes in Ecosystems*, Univ. of Wash. Ctr. for Qualitative Sci., ch. 5 (Nov. 23, 2020), https://bookdown.org/huckley/Physical_Processes_In_Ecosystems/thermodynamicsintro.html [https://perma.cc/B5ZN-UB87]. Though a basic proposition in physics, antitrust law—rooted in modern economics—does not operate in a reality with zero sum economic tradeoffs. This will not occur so long as energy production is rooted in a limited set of natural goods.

9. In 2022, natural gas accounted for 39.8 percent of the United States utility-scale electricity generation, or 1,689 billion kilowatt hours. *U.S. Electricity Generation by Energy Source*, U.S. Energy Information Administration (updated Feb. 2023), https://www.eia.gov/tools/faqs/faq.php?id=427&t=3 [https://perma.cc/88WD-TUEE]. That same year, coal only accounted for 19.5 percent of all generation. *Id.* Coal accounted for 51 percent of electricity generation as recently as 2001 and 40 percent or more of generation through the 2000s. *See Net Generation by Energy Sources: Total (All Sectors), 2001–2011*, U.S. Energy Information Administration (last visited Sept. 16, 2023), https://www.eia.gov/electricity/annual/archive/2011/html/epa_03_01_a.html [https://perma.cc/RNL8-UFDS].

source to the end-user customer.[10] At that point, local transformers step down the voltage for distribution at a local level. In the United States, transmission and distribution amount to hundreds of thousands of miles of high-voltage power lines and millions of miles of low-voltage distribution lines.[11] The electrical grid broadly refers to the coordinated, interconnected physical infrastructure of generation, transmission, and distribution across the country. On one end, the generation of electricity accounts for the total grid supply while consumer use accounts for the total grid load on the receiving end.[12]

Electrical grids are maintained at a standardized alternating current frequency, which allow for the interconnection of different utilities[13] and permits transmission across geographic regions and multiple generators.[14] Grid operators must keep the grid frequency stabilized at a consistent level, balancing electricity generation (supply) and load requirements (demand) to ensure frequency stabilization;[15] system frequency increases with too much generation and decreases with too much load.[16] Even a small percentage change in frequency can lead to catastrophic equipment failure across the grid. For example, during the February 2021 Texas Power Criss, Winter Storm Uri increased electrical demand for heating while Texas power plants' energy generation simultaneously decreased due to frozen natural gas lines

10. *See, e.g.*, *How the Electricity Grid Works*, Union of Concerned Scientists (Feb. 17, 2015), https://www.ucsusa.org/resources/how-electricity-grid-works [https://perma.cc/D4U9-ZGW8]. Along the way, because transmission is more efficient at a higher voltage but safer for end use at a lower voltage, various transformers "step up" the voltage level for long-distance transmission, then "step down" the voltage for local distribution.

11. U.S. Energy Information Administration, *Electricity Explained* (last visited Mar. 25, 2025), https://www.eia.gov/energyexplained/electricity/delivery-to-consumers.php [https://perma.cc/2LKQ-N7D2]; *How the Electricity Grid Works*, *supra* note 10.

12. *See generally*, *How the Electricity Grid Works*, *supra* note 10.

13. Grid frequency stabilization is more about synchronizing so that different equipment can work together than it is about the need for a specific frequency. *See* Jody Muelaner, *Grid Frequency Stability and Renewable Power*, Engineering.com (Feb. 5, 2021), https://www.engineering.com/story/grid-frequency-stability-and-renewable-

14. The American grid—a combination of the Eastern, Western, and Texan Interconnections—operate at a standardized average of 60 Hz. *See* Flores-Espino et al., Competitive Electricity Market Regulation in the United States: A Primer, Nat'l Renewable Energy Lab'y (Dec. 2016) [https://perma.cc/B78F-7NH8]. One problem of non-synchronous frequency among adjoining grids is that neighboring networks cannot share power. Following the Fukushima Daiichi nuclear plant disaster, the southern Japanese grid (operating at 60 Hz) was unable to send power to the northern Japanese network (operating at 50 Hz). *See* Mark Fischetti, *Japan's Two Incompatible Power Grids Make Disaster Recovery Harder*, Scientific American (Mar. 25, 2011), https://blogs.scientificamerican.com/observations/japans-two-incompatible-power-grids-make-disaster-recovery-harder/.

15. Anjan Bose & Thomas Overbye, Electricity Transmission System Research and Development: Grid Operations 3, U.S. Dep't of Energy (Apr. 2021), https://www.energy.gov/sites/default/files/202-05/Grid%20Operations%20Bose%20Overbye_0.pdf.

16. Bose & Overbye, *supra* note 15, at 3.

and equipment,[17] causing the Texas Interconnection's[18] network frequency to hit 59.3 Hz.[19] The grid frequency remained at that level for four minutes and twenty-three seconds.[20] Had it remained at that level for nine minutes, it would have triggered cascading grid failure, resulting in physical damage to grid equipment, additional loss of generation, and a potential complete grid collapse.[21] To prevent this, grid operators forcibly curtail grid load demand by instituting increasingly larger rolling blackouts to sectors of the network until standard frequency is restored.[22] In the Texas Power Crisis, the grid operator, ERCOT, began with rolling blackouts and ultimately jutted four and half million people into a days-long electrical blackout.[23]

Grid stability is a balance of consumer load and generation supply, cushioned by a reserve margin of extra generation and capacity that can be added when load demand increases.[24] Main electrical power is supplied by baseload

17. *See* Erin Douglas, *Wind Power A Smaller Contributor to Texas Electricity Power Crisis that Initially Estimated, ERCOT Analysis Shows*, TEX. TRIB., (Apr. 28, 2021), https://www.texastribune.org/2021/04/28/texas-power-outage-wind/ [https://perma.cc/8YPF-M6E6].

18. Texas has its own independent power grid, in part to avoid federal regulation from FERC. *See* Julie A. Cohen, *Connecting Past and Future: A History of Texas' Isolated Power Grid*, Rice Univ.'s Baker Inst. for Pub. Pol'y, Research Paper (Dec. 1, 2022), https://www.bakerinstitute.org/research/connecting-past-and-future-history-texas-isolated-power-grid [https://perma.cc/3RR2-BQS6]; Robert Thorup, *Electric Range War in Texas: A Case Study in Federal-State Energy Regulation*, 48 Geo. Wash. L. Rev. 392, 396–401 (1980).

19. Matt Largey, *Texas' Power Grid Was 4 Minutes and 37 Seconds Away from Collapsing. Here's How it Happened*, Houston Pub. Media (Feb. 24, 2021), https://www.houstonpublicmedia.org/articles/news/energy-environment/2021/02/24/392290/texas-power-grid-was-4-minutes-and-37-seconds-away-from-collapsing-heres-how-it-happened/ [https://perma.cc/9N88-KYFW]; Mose Buchele, *What Led Zeppelin Can Teach Us About the Electric Grid in Texas*, KUT 90.5 (June 26, 2019), https://www.kut.org/energy-environment/2019–06–26/what-led-zeppelin-can-teach-us-about-the-electric-grid-in-texas; FERC et al., FERC – NERC – Regional Entity Staff Report: The February 2021 Cold Weather Outages in Texas and the South Central United States 137 (Nov. 2021), https://www.ferc.gov/media/february-2021-cold-weather-outages-texas-and-south-central-united-states-ferc-nerc-and.

20. Largey, *supra* note 19.

21. *Id.*; FERC et al., *supra* note 19, at 13.

22. *See, e.g.*, Robert Walton, *ERCOT Forced to Declare Emergency Conditions in Extreme Heat as Texas Flirts with Blackouts*, Utility Dive (Sept. 7, 2023), https://www.utilitydive.com/news/ercot-declares-emergency-conditions-extreme-heat-texas-blackouts/692963/ [https://perma.cc/VSD9-QT8A] (citing ERCOT emergency declaration "due to low reserves and a drop in frequency").

23. FERC et al., *supra* note 19, at 9.

24. *See Resource Adequacy 2012*, ERCOT (last visited Sept. 16, 2023), https://www.ercot.com/gridinfo/resource/2012/ [https://perma.cc/4GQM-Y4LB] (explaining ERCOT "minimum reserve margin of 13.75 percent of peak electricity demand to cover electricity demanded or generation plant outages that exceed expectations"); Alex Engel et al., RMI, Cutting Carbon While Keeping the Lights On: Leveraging Capacity to Kickstart a Clean Electricity Future 2 (Mar. 2021), https://rmi.org/wp- content/uploads/dlm_uploads/2021/03/rmi_resource_adequacy.pdf (defining reserve margins as "a common measure of 'resource adequacy,' or the ability of a given power system to meet peak load

generators that provide continuous, minimum generation, supplemented with additional sources of generation.[25] The need for interconnection and balance also places a premium on mitigating local risks through national interconnection.[26] Historically, these requirements led to the development of local and regional power pools and the merging of separate grids. At first, local electrical connections based on a handful of generation sources and managed by one electric utility provider joined together into power pools to attain the benefits of diversified generation.[27] Over time, power pools grew to cover larger regions. Today, much of the United States and Canada are covered by four interconnected power grids: the Eastern Interconnection, Western Interconnection, Texas Interconnection, and Quebec Interconnection.[28]

B. History of Electricity Markets

1. Early Monopolies

Early development of the electrical grid was predicated on natural monopoly theory,[29] where the relevant market's entire demand can be satisfied at the lowest cost by one firm.[30] Local electric utilities built independent power plants and transmission lines and provided energy to a limited local area through generation and transmission contracts with local municipalities, regional cooperatives, or other utilities.[31] Interconnection was informal, often through agreements with neighboring utilities.[32] Power plants, transmission lines, and hardware had massive up-front financial costs, and the benefits of economies of scale supported the theory that the electricity sector created natural monopolies.[33] Any competition was seen as duplicative, even where competing generators could afford the high barriers to entry.

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conditions").

25. Baseload generators are the continuous, minimum level electricity generators that provide 24/7 generation. Though often typical non-renewable sources (coal and natural gas), hydropower and nuclear are other major baseload operators. *See, Electricity Explained*, *supra* note 10.

26. *But see supra* note 18.

27. Bose & Overbye, *supra* note 15, at 4; Tuttle, et al., Univ. of Texas, The History and Evolution of the U.S. Electricity Industry 4–5 (July 2016), https://energy.utexas.edu/sites/default/files/UTAustin_FCe_History_2016.pdf.

28. Bose & Overbye, *supra* note 15, at 4.

29. Joshua C. Macey, *Zombie Energy* Laws, 73 Vand. L. Rev. 1077, 1087 (2020); Ray S. Bolze, John C. Peirce & Linda L. Walsh, *Antitrust Law Regulation: A New Focus for A Competitive Energy Industry*, 21 Energy L.J. 79, 80 (2000).

30. Richard A. Posner, *Natural Monopoly and Its Regulation*, 21 Stan. L. Rev. 548, 548 (1969).

31. Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, 61 Fed. Reg. 21540, 21543 (Apr. 24, 1996), *available at* https://www.govinfo.gov/content/pkg/FR-1996-05-10/pdf/96-10694.pdf [https://perma.cc/6YGJ-BCAB].

32. *Id.*

33. *See* Tuttle, et al., *supra* note 27, at 5; Macey, *Zombie Energy*, *supra* note 29, at 1088;

State regulators also supported natural monopolies, in part based on arguments of natural efficiency and in part based on regulatory capture. Most histories of the electrical market highlight the utility investor, Samuel Insull, who campaigned state legislatures in the late 1800s with arguments that electric power companies would be more efficient if given a natural monopoly.[34]

Many states obliged with the following compromise: electric utilities were granted exclusive operation franchises while subject to public control limitations, including nondiscriminatory access and regulated electricity rates of cost.[35] States formed public service commissions to provide oversight and proscribe maximum rates.[36] Rate regulation or "rate-and-entry regimes" were common in many industries. Typically, this required that the firm submit a proposed rate to the regulator, which then approved the rate and required that the firm charge the approved price.

Electric utilities were able to avoid scrutiny of monopoly status—often caused by price increases—because of the ability to generate profits through economies of scale instead of pricing.[37] Some set amount of profit and price increases from periodic rate adjustments by public utility commissions were also guaranteed.[38] Further, to the extent that utilities did have monopoly status, these concerns were allayed and even supported by an economic theory that too much destructive competition in the market would prevent firms from staying in business altogether.[39] The development of the rate and entry

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Paul L. Joskow & Richard Schmalensee, Markets for Power: An Analysis of Electric Utility Deregulation 59 (1983).

34. *See* Posner, *supra* note 30, at 548; Macey, *supra* note 29, at 1088–89; William K. Jones, *Origins of the Certificate of Public Convenience and Necessity: Developments in the States, 1870–1920*, 79 Colum. L. Rev. 426, 447–50 (1979); David B. Spence, *Can Law Manage Competitive Electricity Markets?*, 93 Cornell L. Rev. 765, 767–68, 770 (2008) ("[G]overnments licensed private firms as monopoly suppliers, closely regulating their rates and conditions of service.").

35. Sandeep Vaheesan, *Market Power in Power Markets: The Filed-Rate Doctrine and Competition in Electricity*, 46 U. Mich. J.L. Reform 921, 925 (2013); Sidney A. Shapiro & Joseph P. Tomain, *Rethinking Reform of Electricity Markets*, 40 Wake Forest L. Rev 497, 507–08 (2005); Macey, *supra* note 29, at 1088; *see* Jersey Cent. Power & Light Co. v. FERC, 810 F.2d 1168, 1171 (D.C. Cir. 1987).

36. Note that utilities often themselves argued for regulation to shield themselves from competition. Pointing to the fact that public service commissioners on regulatory commissions often worked within the electrical utility industry, scholarship has pointed out that the "natural monopoly" theory is part of a larger theory of regulatory capture. *See* Macey, *supra* note 29, at 1090 n.50. Additionally, this scholarship has argued that the natural monopoly theory—premised in part on the larger public interest—allowed regulation for state legislatures to survive the *Lochner* era's laissez-faire approach toward property rights. *See id.* at 1090–91.

37. Promoting Wholesale Competition, *supra* note 31, at 21543.

38. Vaheesan, *supra* note 35, at 925.

39. *See* Macey, *supra* note 29, at 1099–1100 (describing how justification for protective regulations based on necessity of avoiding "destructive" competition between energy providers).

system of regulation ensured that economic control and price outputs were heavily regulated, if not decided, by regulators. Therefore, for most of the 20th century, the electrical grid was run by vertically integrated utilities that produced, transmitted, and distributed electrical power under the oversight of state commissions.

2. Deregulation

Natural monopoly thinking changed with the deregulatory movement that started in the 1970s.[40] Though the movement originated in other industries,[41] it jumped to the energy sector with the first energy and oil crisis in 1973, when OPEC member-states embargoed energy sales to the United States for its foreign policy support toward Israel.[42] Oil prices quadrupled in a single year period.[43] Fears of additional price increases combined with a period of sustained inflation, higher nominal interest rates, growing electricity rates, and a shift in the legal zeitgeist toward competitive private markets all worked to create the impetus for an industry revamp.[44] For example, growing electricity demands spurred investment in capital intensive baseload generation plants.[45] But when demand never materialized, utilities were forced to pass costs on to ratepayers with higher rates. In turn, the average residential electricity price nominally tripled between 1970 and 1985.[46] Economic theory provided a backdrop for a new market structure away from the rate and entry regime.[47]

Congress reacted with attempts to change domestic energy use—i.e., decrease fossil fuel usage and shift consumption habits—and transform the state regulatory structure for electricity sales to better promote increased

40. *See* David B. Spence, *Can Law Manage Competitive Electricity Markets?*, 93 Cornell L. Rev. 765, 770 (2008) ("The impulse to restructure the electric and gas industries had both an economic and a political basis. Its economic rationale was part of a sea change in economic thinking in the 1970s and 1980s, which saw increased faith in the ability of markets to achieve efficient outcomes through competition and reduced faith in the ability of governments to achieve efficient outcomes through regulation or production of service.").

41. *See generally* Andrew Downer Crain, *Ford, Carter, and Deregulation in the 1970s*, 5 J. on Telecomm. & High Tech. L 413 (2007); Joseph D. Kearny & Thomas W. Merrill, *The Great Transformation of Regulated Industries Law*, 98 Colum. L. Rev. 1323 (1998).

42. Eric Hintz, *Looking Back on the 1973 Oil Crisis, New Perspectives on Energy Innovation*, Online Symposium (Oct. 19, 2023), https://invention.si.edu/looking-back-1973-oil-crisis-new-perspectives-energy-innovation [https://perma.cc/GZS8-N9QN].

43. *Oil Shock of 1973–74*, Federal Reserve History (last visited Sept. 16, 2023), https://www.federalreservehistory.org/essays/oil-shock-of-1973–74 [https://perma.cc/3KLJ-235Y].

44. *See, e.g.*, Promoting Wholesale Competition, *supra* note 31.

45. According to some scholarship, the clamor in energy markets following the oil embargo led to an increase in large-scale coal and natural gas plants, in part due to a restriction on natural gas fuel plants under the Power Plant and Industrial Fuel Use Act of 1978, which was repealed nine years later. *Oil Shock of 1973–74*, *supra* note 43; Tuttle et al., *The History and Evolution of the U.S. Electricity Industry*, at 7.

46. *Promoting Wholesale Competition, supra* note 31, at 21543–44.

47. *See* Vaheesan, *supra* note 35, at 925.

supply and reduced demand.[48] In 1978, it enacted the Public Utility Regulatory Policy Act (PURPA),[49] which implemented a series of changes to electricity generators. PURPA encouraged new power generation by permitting the creation of qualifying facilities—non-utility small power generators that used renewable resources or cogeneration facilities tied to an industrial host site.[50] This focus on non-utility owned generators was an early step against the typical vertically integrated structure for electrical generation. PURPA also required that vertically integrated utilities connect those qualifying facilities to the grid and purchase their power at the utilities' "avoided cost"—the amount that it would have cost the utility to generate an equivalent amount of power.[51] This purchasing requirement theoretically created a market for renewable energy. In practice, it introduced competitive generation into the vertically integrated system to new forms of power generators.[52]

Congress at this time also reorganized what was the Federal Power Commission and the regulatory functions of the Department of the Energy (DOE) into a new Federal Energy Regulatory Commission (FERC) to streamline regulations, ensure energy security, and contain energy costs.[53] FERC retained the independent regulatory status of its predecessor but was given increased jurisdiction over regulation and price control determinations.[54]

Next, in 1992, Congress passed the Energy Policy Act.[55] The law expanded the capacity limit of qualifying facilities and granted FERC increased authority over transmission markets, including the ability for generators to petition FERC for an order requiring a transmitting utility to provide open transmission

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48. *See* Paul J. Joskow, *Public Utility Regulatory Policy Act of 1978: Electric Utility Rate Reform*, 19 Nat. Resources J. 787 (1979).

49. Pub. L. No. 95–617, 92 Stat. 3117.

50. *PURPA Qualifying Facilities*, Fed. Energy Reg. Commission (last visited Sept. 16, 2023), https://www.ferc.gov/qf [https://perma.cc/GY3X-TT2U]; 6 U.S.C. § 824a-3; *see also* 18 C.F.R. §§ 292.204, 292.205; Tuttle et al., *supra* note 27, at 6–7. Cogeneration is where a facility produces electricity and thermal energy (heat) at the same time. For example, after a fossil-fuel plant creates steam to power a turbine for electricity generation, the resulting "waste heat" can be used for actual heating. Under PURPA, cogeneration plants could be paired with industrial host sites to receive low-cost energy. In turn, the qualifying facility could turn around and sell the excess power to the local utility. *See* James I. Serota, *Increasing Competition in the Electric Utility Industry and Decreasing Consumer Welfare: An Antitrust Paradox*, 64 Antitrust L.J. 303, 303–04 (1996).

51. *See* 16 U.S.C. § 824a-3 (2012); *See generally* Macey, *supra* note 29, at 1094; *See* Serota, *supra* note 50, at 304.

52. Scholars are unclear on the total effect of PURPA. *Compare* Macey, *supra* note 29, at 1094 *with* Michael Wara, *Competition at the Grid Edge: Innovation and Antitrust Law in the Electricity Sector*, 25 N.Y.U. Env't. L.J. 176, 214 (2017) (arguing there would be likely no competition without state decision to allow for competitive rates).

53. Tuttle et al., *supra* note 27, at 8.

54. *See generally* Clark Byse, *The Department of Energy Organization Act: Structure and Procedure*, 30 Admin. L Rev. 193 (1978).

55. Pub. L. No. 102–486, 106 Stat. 2776. (codified at 16 U.S.C. § 824k).

services to their facility and transport power over the utility line.[56] Open transmission services allowed qualifying facilities to sell their electricity to utilities at market prices, even if not a utility.[57] Much of today's framework for competitive wholesale electricity markets stems from this contracting power.[58] Indeed, most renewable power today operates under similar contracting with power purchase agreements.[59]

In the next decades, FERC issued a series of its own orders that increased competition in electricity markets. First, in 1996, FERC issued Orders 888 and 889, which enticed competition through open access and information.[60] The orders required transmission owners to provide open access—meaning nondiscriminatory, comparable transmission—to other generators, ensured equal access to the electricity market (not just transmission) to generators, and encouraged the creation of a price exchange "to reveal market clearing prices for electricity."[61] Open markets permitted the creation of platforms with information on transmission requests, capacity, and up to date market information. Orders 888 and 889 further required utilities to publish separate rates for electrical services, thereby unbundling wholesale generation activity from transmission and ancillary services.[62] Coupled with nondiscriminatory access to transmission and markets, these orders essentially formed an open market. Finally, to run these markets, the orders encouraged the formation of independent system operators (ISOs), grid transmission operators that coordinate and monitor electric power within a state.[63]

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56. Macey, *supra* note 29, at 1094 & n.70; Tuttle et al., *supra* note 27, at 8.

57. Today, qualifying facilities are commonly known as "merchant plants" or "independent power producers." Tuttle et al., *supra* note 27, at 8.

58. *See* Tuttle et al., *supra* note 27, at 8.

59. Fisher et al., *supra* note 2, at 19.

60. Promoting Wholesale Competition, *supra* note 31, at 21543; *Open Access Same-Time Information System (formerly Real-Time Information Networks) and Standards of Conduct*, 61 Fed. Reg. 21737, 21740 (Mar. 10, 1996), https://www.govinfo.gov/content/pkg/FR-1996–05–10/pdf/96–10693.pdf.

61. Tuttle et al., *supra* note 27, at 8.

62. *See* Preventing Undue Discrimination and Preference in Transmission Service, 72 Fed. Reg. 12266, at 12284 (Mar. 15, 2007); Tuttle et al., *supra* note 27, at 8; National Research Council, Competition in the Electric Industry: Emerging Issues, Opportunities, and Risks for Facility Operators (1996) at 7, https://doi.org/10.17226/5482;

W.M. Warwick, *A Primer on Electric Utilities, Deregulation, and Restructuring of U.S. Electricity Markets*, U.S. Department of Energy Federal Energy Management Program 6.2.1.2 (May 2002), https://www.pnnl.gov/main/publications/external/technical_reports/pnnl-13906.pdf (explaining, "In FERC Orders 888 and 889, transmission-owning utilities are required to isolate the power trading and transmission operations from each other. In addition, all requests or transmission access, including the utility's own use, are required to be posted to a public bulletin board and satisfied on a first-come basis.").

63. Promoting Wholesale Competition, *supra* note 31, at 21593; *See also* W.M. Warwick, *supra* note 62, at 6.2.1.2 (explaining how Orders 888 and 889 "compel[ed] utilities to turn over the transmission scheduling functioning to a third party, variously called a Tariff Administrator or Independent System Operator (ISO) or Regional Transmission Operator

FERC Order 2000, issued a few years later, further encouraged independent competitive management by supporting the creation of regional transmission organizations (RTOs).[64] RTOs take on the same role as ISOs, though they typically cover a larger geographic area and exert stronger control over transmission grids.[65]

3. The Grid Today

The twenty-first century grid is a mix of the early grid development and recent deregulatory efforts, with elements reminiscent of various stages of grid history. In some pockets of the country—parts of the Southeast, Southwest, and Northwest—a traditional vertically integrated market of utility-owned generation, transmission, and distribution still exists.[66] Under these systems, a single company is granted a monopoly to handle electricity generation and transmission over its own distribution network, with rate-reimbursement checked by public utility commissions.

However, the majority of the country, or roughly fifty percent of states and two-thirds of all electricity demand, has moved to a competitive system.[67] These areas are managed by some form of ISO or RTO, which operate the transmission system and utilize bid-based electricity markets to allocate production from generators toward distribution to the local market. There are seven ISOs or RTOs that dominate the country's main energy markets, covering New England, New York, Texas, California, the Mid-Atlantic, Midwest, and Great Plains.[68] Each of these markets are slightly different. For example, the

(RTO)."). Note that some states have regulated further past Order 888 and 889. California, Texas, and Northeastern states have required transmission owners to sell generation facilities. *See* Vaheesan, *supra* note 35, at 926–27 (citing Paul L. Joskow, Markets for Power in the United States: An Interim Assessment (AEI-Brookings Joint Center for Regulatory Studies, Working Paper No. 0520, 2005)).

64. Tuttle et al., *supra* note 27, at 9; *Electric Power Markets*, FERC (last visited Sept. 16, 2023), https://www.ferc.gov/electric-power-markets [https://perma.cc/UH4E-YQVP].

65. Tuttle et al., *supra* note 27, at 9; *Day-Ahead and Real- Time Energy Markets*, ISO New England (last visited Sept. 16, 2023), https://www.iso-ne.com/markets- operations/markets/da-rt-energy-markets/ [https://perma.cc/QM9P-MD7F]; W.M. Warwick, *supra* note 62, at A.21 (explaining "ISOs are governed by boards of directors that represent the interests of all of a transmission system's users, not just transmission owners. The ISO's mission is to ensure access to transmission by all users to facilitate competition in power supply markets. ISO charters vary by region. Some are responsible for transmission planning, rate setting, transaction processing, and construction of new facilities."), A.40 (noting, "many of the newly formed ISOs hew to traditional utility market territories. Many market participants, as well as FERC, believe that ISOs should encompass all utilizes in a broad, regional organization with clear responsibility for system reliability, including expansion. FERC and the industry have called these new institutions Regional Transmission Organizations to distinguish them from existing ISOs.").

66. *Electric Power Markets*, *supra* note 64.

67. *Today in Energy*, U.S. Energy Information Admin. (April 4, 2011), https://www.eia.gov/todayinenergy/detail.php?id=790 [https://perma.cc/9MSP-4E2X].

68. Joe Daniel, Sierra Club, Backdoor Subsidies for Coal in the Southwest Power

New England Independent System Operator (ISO-NE), an RTO, operates a fully competitive wholesale market for electrical trade and capacity across the six New England states.[69] ERCOT, the RTO covering Texas, is unique in that it serves as both the regional transmission and interconnection authority and the grid balancing authority. ERCOT runs a fully competitive retail electricity market, and even allows residential customers to choose their own electricity provider.[70]

Fundamental to this competitive structure is that RTOs (and ISOs) are the midpoint of market transactions as a non-profit facilitator for member utilities.[71] Grid operators assume the control and management of power, purchasing power from generators and selling it to utilities, who then resell to end-use customers. The goal is to ensure non-discriminatory access, market competition, and efficiency, with the end goal of network reliability and lower prices.[72]

However—despite the shift to a competitive structure—the legacies of the old monopoly system remain today for electrical utilities. Even in states with reformed competitive markets, public utility commissions continue to regulate distribution and participate in some form of rate reimbursement for electric utilities and generators.[73] A legacy generator in a vertically-owned utility may bid on competitive electrical markets yet still seek rate reimbursement from public utility commissions.

Along with rate regulation, other laws from the public utility era, or "zombie energy laws," remain.[74] For example, in many states, a regulatory license is required to build new energy transmission. These ironically named "certificates of public convenience and necessity"—today, seen as neither

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Pool 7, https://www.sierraclub.org/sites/www.sierraclub.org/files/Backdoor-Coal-Subsidies.pdf; *Electric Power Markets*, *supra* note 64.

69. *See* Patton et al., Potomac Economics, 2019 Assessment of the ISO New England Electricity Markets 1 (2020), https://www.potomaceconomics.com/wp- content/uploads/2020/06/ISO-NE-EMM-2019-Report_Final.pdf.

70. Tuttle et al., *supra* note 27, at 12.

71. Daniel Greenfield & John Kwoka, *The Cost Structure of Regional Transmission Organizations*, Northeastern Univ., U.S. Energy Policy In Transition Conference, at 7 (March 2010), https://bear.warrington.ufl.edu/centers/purc/docs//PAPERS/TRAINING/events/PPRC/0310_PPRC/The_Cost_Structure.pdf. RTOs are regulated by FERC under FERC's jurisdiction over "the transmission of electric energy in interstate commerce" and "the sale of electric energy at wholesale in interstate commerce." 16 U.S.C. § 824(b)(1) (2012).

72. Greenfield & Kwoka, *supra* note 71, at 7.

73. *An Overview of PUCs for State Environment and Energy Officials*, U.S. Envt. Protection Agency, State Climate and Energy Technical Forum, at 2 (May 20, 2010) https://www.epa.gov/sites/default/files/2016-03/documents/background_paper.pdf. In vertically integrated electric utilities, the PUCs continue to regulate generation, transmission, and distribution to customers. In competitive markets, PUCs have ceded generation and transmission to the grid operator or FERC, which regulates wholesale transactions and interstate transmission.

74. Macey, *supra* note 29, at 1096.

public, convenient, or necessary—were initially intended to prevent duplicative public resources and protect capital intensive public investments for new energy transmission hardware.[75] Certificates of public convenience and necessity were required across many industries, including railroads, airlines, and telephone companies, and justified under the economic concerns of their era, such as destructive competition and duplication of public facilities.[76] Today, they impose regulatory barriers to new market participants.[77]

Additionally, the judicial doctrine remains rooted in the monopoly era. The filed rate doctrine holds that judicial review of state and federal laws is foreclosed over rates filed by utilities with state and federal regulators.[78] Intended to protect consumers from legal challenges against publicly approved electricity rates, this doctrine now prevents antitrust or other legal scrutiny against noncompetitive electricity rates.[79] Another doctrine, the state action exemption, relieves business conduct from antitrust law where it is undertaken pursuant to a clearly articulated state policy to displace competition with regulation and where actively supervised by state regulators.[80] Both of these doctrines prevent antitrust enforcement in the modern market despite being borne from its public utility past.[81]

What remains is a partially restructured electricity market within the remains of a previously monopolized system. Nothing demonstrates these issues more than the backdoor subsidy of goal generation.[82]

C. Electricity Bidding Markets and Pricing

1. Theoretical Competitive Markets

Competitive electricity markets are reverse auctions where sellers bid a price and the market selects the lowest cost resource needed to meet electrical demand based on a merit order system.[83] In a typical competitive market run by an RTO grid operator,[84] the grid operator acts as a market clearinghouse for

75. *Id.* at 1098–1101.

76. William K. Jones, *supra* note 34, at 427–28.

77. Macey, *supra* note 29, at 1112–16 (describing case of an attempted $3.5 billion wind development from Clean Line Energy that was denied a certificate from the Arkansas Public Utility Commission in a catch-22: because Clean Line energy did not own or operate transmission lines it was not a public utility, and because it was not a public utility, it was not allowed to build transmission lines).

78. *Id.* at 1117.

79. *Id.* at 1103, 1117.

80. *See* David S. Turetsky, *Antitrust Enforcement in the Electric Industry*, Address before the Edison Electric Chief Executive Conference (Jan. 11, 1996), https://www.justice.gov/atr/speech/antitrust-enforcement-electric-industry.

81. *Id.*

82. Daniel, *supra* note 68.

83. *Id.* at 7.

84. This also applies to ISOs, but the Article will use them interchangeably at this point unless a distinction is needed.

the centralized energy market by matching load-serving utilities with electricity generators based on competitive bidding.[85] Load-serving utilities submit their electricity demand requirements and generators compete to serve that electricity demand by bidding their generation capability into the market at their cost of production.[86] Cost-of- production bids are based on the cost of producing a unit of energy, encapsulating short-term variable costs, like fuel, and operations and maintenance costs.[87]

The grid operator aggregates these cost-of-production bids from all generators, taking into consideration operational constraints such as availability, testing, or other concerns. These aggregated bids are ordered into a merit order supply curve from least-cost to highest-cost.[88] Finally, the grid operator aligns generation based on capacity and demand requirements: the lowest-cost generation source provides as much output possible until all load is met or the generator hits its maximum capacity.[89] If more capacity is needed, the grid operator moves to the second-lowest-cost generation source, and so on, until all load is met.[90] All dispatched (or "called") generators are paid out the price

85. Fisher et al., *supra* note 2, at 8.

86. *Id.* The marginal cost of production for a generator is made up of fixed costs and variable costs. Variable costs dominate nonrenewable resources like coal and gas, as these include fuel costs and chemicals used for environmental controls. Daniel, *supra* note 68, at 8. On the other hand, variable costs for renewables are often slight, as resources like wind and solar have zero fuel costs. *Id.* at 8. However, note that some coal fired plants may designate some fuel costs as fixed costs because they procure coal through long term contracts with liquidated damages provisions where it requires the utility to pay for a portion of the coal cost, even where it does not use it. Ultimately, these provisions further distort costs and may perpetuate an uneconomic cycle. *See id.* at 22.

87. Fisher et al., *supra* note 2, at 8. Generators submit their commitment status to the marketplace. These can include "market" commitment, meaning that the generator is available for a price sensitive, market-based price offer; "self" commitment, meaning the generator is committing the resources through a price-insensitive offer; "reliability" commitment, meaning the resource is off-line and only available is there is a reliability issues; "outage," meaning the generator is offline due to a planned outage, such as maintenance; or "not participating," if a generator is available but electing not to participate in the marketplace for some other reason. Southwest Power Pool, Inc., *supra* note 3, at 5.

88. Some RTOs describe this as a two-step process: committing generators based on available generators sorted from least expensive to most expensive, and then optimizing commitments to determine the megawatts each generator should product at the corresponding locational prices. *See also* Southwest Power Pool, Inc., *supra* note 3, at 4. This is also seen as a supply curve (also called "merit order bid stack") that shows the marginal pricing by bidders. Daniel, *supra* note 68, at 7. In a properly functioning market, this curve represents the marginal cost of supplying an additional unit of energy.

89. Macey, *supra* note 29, at 1106–07; *see also* Advanced Energy Management Alliance v. FERC, 860 F.3d 656, 659–60 (D.C. Cir. 2017) (describing yearly capacity auctions—which have a different function but operate similarly—in PJM); Public Citizen, Inc. v. FERC, 7 F.4th 1177, 1187 (D.C. Cir. 2021) (same for MISO).

90. Macey, *supra* note 29, at 1106–07.

per megawatt hour of the last generator dispatched. This generator is said to have "cleared" the market or set the market-clearing price.[91]

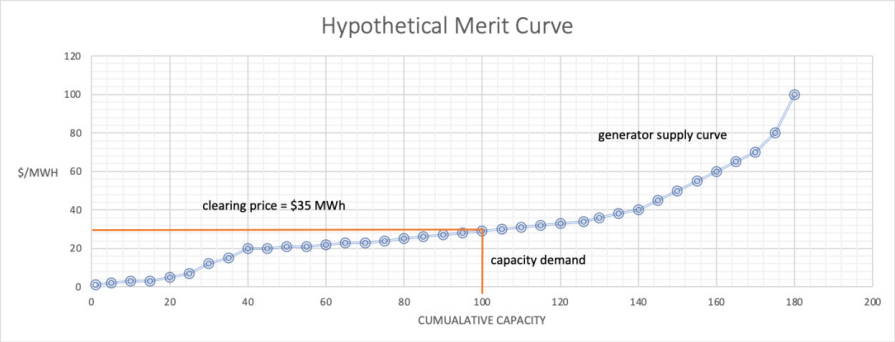

Fig. 1. In a merit supply curve, each bid is allocated from least-cost to highest-cost until capacity demand is met. This sets the clearing price for the successful resources.

In theory, because generators bid at their cost of production, or the marginal cost of producing electricity, this market setup successfully promotes the lowest cost. It balances the risks of underbidding (not recouping costs) with overbidding (not clearing the market). If generators bid over their marginal cost, they risk sitting dormant and earning nothing.[92] Conversely, generators that can continually lower production costs—either due to technology, government offsets and credits, or another source—are rewarded with a larger payout, as they are still paid at the clearance price.[93]

A similar advantage to competitive markets is the associated price signaling from rewarding lowest cost resources. By paying a larger payout for lower costs, the market encourages new resources to enter the market, which allows an adequate supply of electricity and allows for keeping costs down.[94] For example, generators with very low marginal generation costs will clear the market well below production costs. If the hypothetical owner of a wind farm

91. *Id.*; Daniel, *supra* note 68, at 7, 8. This section summarizes the day-ahead market, where participants commit to buy or sell electricity one day before the day of operation. There are also real time energy markets, where participants can buy or sell electricity over the course on an operating day. These markets account for any differences between the day-ahead resources committed and demand in real time. They also often set the price that is either paid to generators in the day ahead market for any generation that deviates from the day ahead commitment. *Day-Ahead and Real-Time Energy Markets*, ISO New England (last visited Sept. 16, 2023), https://www.iso-ne.com/markets-operations/markets/da-rt-energy-markets/. The vast majority of energy transactions occur in the day ahead market—the day of market is more of a supplement. *Energy Primer: A Handbook of Energy Market Basics*, FERC, at 59 (last visited Sept. 16, 2023), https://www.ferc.gov/market-oversight/guide/energy-primer.pdf.

92. Daniel, *supra* note 68, at 8.

93. *Id.*

94. *Id.*

bids $10 per megawatt hour based on production costs and receives a market clearing price of $35, the generator will earn $25 per megawatt hour above production costs. Such a set up ensures that lower-cost, more-efficient generators can make more in profit, creating a cycle where increasingly cheaper and generally newer resources enter the market to replace older, less efficient resources that cannot compete.[95] Government subsidies also play a role.

In recent decades, it is this exact price signaling that has provided major benefits for renewable resources, which typically have low production costs, little-to-no short-term variable costs (they do not require fuel), and benefit from government subsidies.[96] A theoretical market at full capacity might have local renewable generators, such as wind or solar, followed by the least-cost baseload generators.[97]

2. Competitive Market Reality: Self-Commitment

Reality pans out a bit differently in many markets. Despite merit order of dispatching, grid operators can place generators in the dispatch even when their cost of production would not clear the market price. This process is called "self-commitment" or "self-scheduling."[98] When generators commit and schedule resources in the market,[99] they indicate whether a generation resource is turned on or off and the level of operation.[100] Generators can also self-commit or self- schedule resources.[101] This bypasses the competitive bidding process and ensures that the

95. *Id.* at 9.

96. *See* Joe Daniel, *The Billion-Dollar Coal Bailout Nobody is Talking About: Self-Committing in Power Markets*, Forbes (May 28, 2019), https://www.forbes.com/sites/energyinnovation/2019/05/28/the-billion-dollar-coal-bailout-nobody-is-talking-about-self-committing-in-power-markets/?sh=255c2d2271fc.

97. This allocation will only increase each year as more renewables come on to the market. Joseph Rand, et al., *Queued Up: Characteristics of Power Plants Seeking Transmission Interconnection as of the End of 2021*, Lawrence Berkely Nat'l Laboratory (April 2022), https://emp.lbl.gov/publications/queued-characteristics-power-plants-0 (demonstrating increase in renewables, namely solar).

98. This is also called "reliability must run," "reliability unit commitment," and "day ahead reliability units" (along with other names), depending on the market.

99. This applies specifically to day-ahead markets. *See supra note* 91.

100. For example, there is the option to self-schedule and self-commit resources. Market scheduling and market commitment allows the ISO/RTO to determine dispatch, and results in least cost dispatch.

101. Self-commitment means the generator indicates that the generating unit is required to run at some minimum level but does not necessarily require running at a level to make money. When a generator self-commits a resource, it means that the resource will operate without necessarily being called for generation by grid operators. *See, e.g.*, *Electronic Storage Resources FAQ*, MISO (July 22, 2024), https://help.misoenergy.org/knowledgebase/article/KA-01334/en-us [https://perma.cc/RMD2-GYY3] ("Certain commitment modes are treated as must-run by MISO market systems. The Market Participant is telling MISO when it is going to operate, and MISO is not committing these resources. The Market Participant tells MISO what mode it is in (i.e., discharge), then depending on offer parameters, MISO

generator will run at a specified level and/or specified time, regardless of merit order or economic cost.

a. Valid Self-Commitment

First, a certain amount of uneconomic commitment is expected in markets. There are valid reasons an electricity generator may need to be dispatched even where its offered price exceeds the market rate. For example, many baseload generators and thermal plants have high start-up costs, long run times, or minimum operating levels, and cannot easily start production when prices are optimal.[102] These units may be dispatched even when they would operate at a loss in anticipation of a future period where market prices increase or the marginal cost for an hour of producing electricity for the plant goes down.[103] Plants may also self-schedule due to testing requirements, weather, fuel contracts or other contracts, or for other valid reasons.[104]

Second, some self-scheduling has no impact on economics. Self-committed wind resources typically have no effect on market pricing because these resources have zero short run marginal costs and would have been economically committed regardless. Therefore, any self- commitment of these resources is nearly always economic.

b. Uneconomic Self-Commitment

Though a certain amount of uneconomic commitment is expected in markets, much of the self-commitment by coal resources as is critiqued in

will dispatch the unit economically within those offers."); Southwest Power Pool, Inc., *supra* note 3, at 5 ("T[ypes] [of] C[ommitment] S[tatus]…2. Self – the market participant is committing the resource through price insensitive offers outside of centralized unit commitment."). Self-scheduling goes a step further and occurs when the generator schedules when the generation occurs, guaranteeing that the unit runs for a specific level and time. *See, e.g.*, Joe Ciabattoni, Sr. et al., PJM Manual 11: Energy & Ancillary Services Market Operations 25–26 (2024), https://www.pjm.com/-/media/documents/manuals/m11.ashx [https://perma.cc/J4SC-YE2H] ("Market Sellers can choose to self-schedule their generation into the Day-Ahead Market or submit an offer into the Day-ahead Market and allow PJM to schedule their generation…Self-scheduled generation shall submit an hourly operating range and can offer an associated price/MW pair for consideration in dispatch."). Some grid operators more or less use these terms interchangeably. *See, e.g.*, *FAQs: Real-Time Energy Market*, ISO New Eng., https://www.iso-ne.com/participate/support/faq/rt-market#b [https://perma.cc/4EKZ-3FYV] (last visited Mar. 25, 2025) ("Self-scheduling a resource is when a lead market participant commits, or schedules, a resource to provide energy in an hour, whether or not the ISO would have scheduled or dispatched the resource to provide the service."). For simplicity, this Article treats both related concepts the same.

102. S*ee* Southwest Power Pool, Inc., *supra* note 3, at 21–22.

103. *See id.*; Macey, *supra* note 29, at 1108 & n.134; Herminé Nalbandian-Sugden, IEA Clean Coal Ctr., Operating Ratio and Cost of Coal Power Generation 41 (2016), https://usea.org/sites/default/files/Operating%20ratio%20and%20cost%20of%20coal%20power%20generation%20-%20ccc272-1.pdf [https://perma.cc/J95T-SGXC].

104. Southwest Power Pool, Inc., *supra* note 3, at 7–8. For example, a power plant may need to test environmental controls or reliability for peak output periods. These categories of self-scheduling are defined and limited in time.

this Article is without a valid economic, operational, or regulatory basis. In the majority of the country with RTO or ISO grid operators and a theoretically competitive market, there is a major giveaway to these generators even despite higher cost for generation. Estimates for this type of uneconomic self-commitment costs ratepayers as much as one to two billion dollars in excess rates per year across the four major utility markets.[105] This is uneconomic commitment as an operating rule, and it undermines the proper functioning of wholesale energy markets by setting incorrect price signals and vastly overcharging ratepayers.

Uneconomic self-commitment exploits the economic market because it does not have a basis in real operational factors. This kind of self-commitment is called "out of merit" or "uneconomic" because it ignores the market's least cost merit order, jumps to the front of the line regardless of other low-cost resources, and ignores total costs. Economic self-commitment also indicates that the generator is running when its *own* costs exceed the revenues earned from the market, meaning it is losing money. Note that while this practice is described as uneconomic because it goes against competitive market bidding, the practice is not uneconomic for the bottom lines of the generator, as is explained below.

Compare vertically integrated utilities to independent power producers. The latter cannot lose money nor recoup losses, and thus rarely engage in uneconomic self-commitment. Independent power producers are reliant on market revenues for their income and PPA contracts. They get paid per hour based on market revenues—per megawatt hour of electricity produced.[106] On the other hand, vertically integrated utilities have an incentive to capture costs outside of the competitive energy market through rate proceedings and fuel cost adjustments, a mechanism which is not available to IPPs.[107] Primary revenues for vertically integrated utilities do not come from the market, but in the form of income from ratepayers at state regulatory commission rates.[108] Rate-regulated utilities also have their own form of "make whole" payments

105. RMI, *supra* note 1; Daniel et al., *supra* note 4, at 5.

106. Independent power producers and generators can also be paid "uplift payments," or additional payments where there is a shortfall between the offer made for generation and the revenue earned based on clearing prices. Fisher et al., *supra* note 2, at 30. For example, if a generator commits a resource in a day ahead market but then real time prices fall below their offer, they are paid the difference as make whole payments. Daniel, *supra* note 68, at 12. But this occurs when you are called to market—not self-committing—and ensures you are not losing money for being called. And it only really effects IPPs because they are exposed to market actors and only make money based on this mechanism.

107. S*ee* Fisher et al., *supra* note 2, at 24–25; Daniel et al., *supra* note 4, at 8; Daniel, *supra* note 68, at 22–23 (describing how vertically integrated utilities can hide variable costs through fuel costs); *id.* at 25 (differentiating rate-regulated utilities from independent power producers).

108. Daniel et al., *supra* note 4, at 11.

in the form of "fuel adjustments."[109] These payments are paid out under provisions that permit the utility to increase rates—without filing a formal rate increase—as a result in the change in the cost of fuel or power expenses.[110]

Cost reimbursements do have limits. In theory, only "prudent" costs are part of rates.[111] Plants also must be "used and useful."[112] Plants that are not "used and useful" because they, for example, have high operational costs, can be excluded from rate recovery.[113] This essentially incentivizes uneconomic operation as a sort of self-sustaining position.[114] Significant uneconomic self-commitment thus is common in the market, as nearly fifty percent of ISO/RTO generation comes from rate-regulated utilities.[115] For example, in a study in the Southwest Power Pool (SPP), an RTO covering the Texas panhandle north to the Dakotas, thirteen of fourteen analyzed units that were studied (and often had uneconomic conditions) were owned by a combination of a state-regulated utility, a municipal utility, or an electrical coop all, which have captive customers.[116]

The crux of uneconomic self-commitment is not that generators can enable their own production—losing money in that process—but that they can reimburse themselves and cover losses in state fuel cost recover proceedings or through rate reimbursement.

3. Main Problems with Uneconomic Self-Commitment

a. Higher Prices & Pricing Risks

Uneconomic self-commitment creates several problems for the grid, ratepayers, and electrical market. First, self-commitment results in higher prices for committed energy generators. In economic terms, uneconomic self-commitment alters the market supply curve because it treats the self-committed generators as price insensitive.[117] This shift in supply options reduces the market's marginal clearing price and pushes out lower-cost generators for higher- cost self-committed generators.[118]

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109. Daniel, *supra* note 68, at 12–13; Fisher et al., *supra* note 2, at 20.

110. *See, e.g.*, *Fuel Adjustment Clauses & Other Cost Trackers*, ELCON, https://elcon.org/fuel-adjustment-clauses-cost-trackers/ (last visited Oct. 8, 2023).

111. *See, e.g.*, Fed. Power Comm'n v. Hope Nat. Gas Co., 320 U.S. 591, 603–06 (1944).

112. Daniel et al., *supra* note 4, at 30–31.

113. *See* Fisher et al., *supra* note 2, at 11.

114. *See* Southwest Power Pool, Inc., *supra* note 3, at 5.

115. Daniel et al., *supra* note 4, at 5.

116. Daniel, *supra* note 68, at 23. State regulated utilizes have a public ratemaking process, where coops and municipal utilities have predetermined rates. *Id.*

117. Southwest Power Pool, Inc., *supra* note 3, at 6.

118. *See, e.g.*, *Utility Transition Hub*, *supra* note 1. This dashboard displays how a market with economic dispatch will prioritize dispatch and result in a higher market clearing price. In a market with uneconomic dispatch, the last dispatched resource—which sets the market clearing price—is never dispatched because this was allotted to the uneconomic resource that cuts the line. *See id.* The lower market clearing price paid out to each resource distorts the

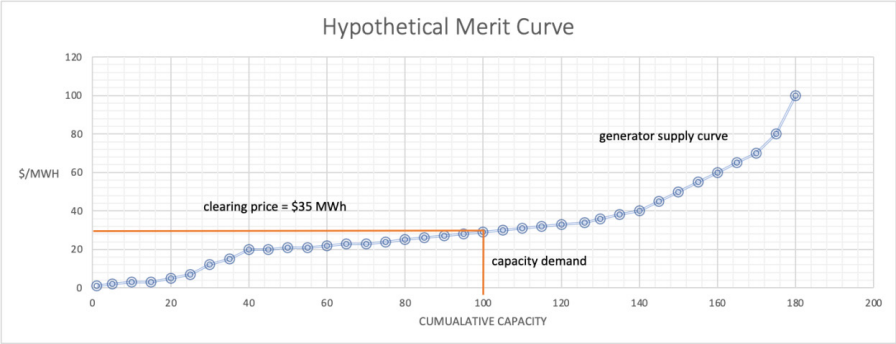

Fig. 1 (again). In a merit supply curve, each bid is allocated from least-cost to highest cost until capacity demand is met. This sets the clearing price for the successful resources.

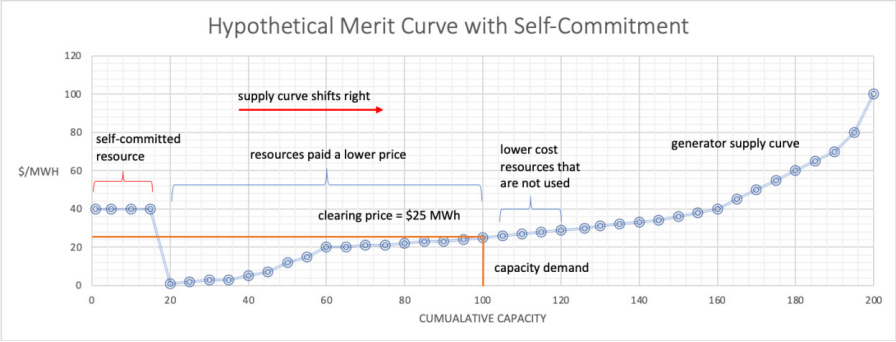

Fig. 2. When a self-committing resource is included, the merit supply curve shifts to the right, meaning capacity that was previously allocated to lower cost resources is now taken by the self-committing resource. The lower price curve results in a lower clearing price paid to the successful resources.

Because self-committed resources also have the lowest curtailment priority—meaning they are the last producers instructed to reduce output and are deemed as "must run"—they further distort pricing when grid operators are required to respond to market demands.[119] Overall, this process distorts price and investment signals—by thirty percent in some markets. According to research from the Sierra Club on the Midwest's Midcontinent Independent System Operator (MISO), median hourly market prices would be $7.7/MWh higher without uneconomic self-commitment across both high-cost and low-cost hours.[120]

market for more efficient resources, while the higher costs of the uneconomically dispatched resource (whose costs exceed the market clearing price) are paid for by ratepayers. *See id.*

119. Southwest Power Pool, Inc., *supra* note 3, at 7.

120. Fisher et al., *supra* note 2, at 18. In SPP, a study found that market prices are suppressed seven percent by self-commitment. Southwest Power Pool, Inc., *supra* note 3,

And yet, it costs rate-paying customers more. While the market pays lower costs to generators, the higher costs of the uneconomic generator that is supplying electricity is paid by ratepayers because of how regulated utilities are paid through rate reimbursement proceedings and state fuel recovery actions. Monthly electric bills in many markets, such as SPP, are determined by traditional ratemaking at state commissions (not the SPP market). Utilities that cannot cover fuel and operating costs with revenues from the SPP market make up the difference through ratemaking with state commissioners.[121] Utility's captive customers have no choice in subsidizing coal plants on electric bills, often at considerable cost.[122] Utilities are identifying a non-market source of revenue to cover variable costs and fixed costs with state mediated ratemaking making up the difference for lost revenues[123]—a subsidy for an otherwise uneconomic coal plant that distorts the market.[124]

Uneconomic self-commitment from coal generators conservatively costs ratepayers an average of one to two billion dollars per year.[125] Estimates from an ongoing preliminary analysis of 2023 of seven regional electrical markets recognized a cumulative price tag of more than $5.3 billion to ratepayers in the Southeast for 2015–2022 rates, with some costs exceeding $100 per household annually.[126] Other region markets, including MISO, the West, and PJM, have multiple years with comparably high gross losses from uneconomic dispatch. These costs also represent a wealth transfer to an inefficient, uneconomic, and polluting industry that the United States has committing to phasing out,[127] with more than 200 million tons in CO2 emissions from those coal plants operating during uneconomic months.[128]

The scope of uneconomic self-commitment losses is national. In SPP, uneconomic self- scheduled generation made up half of market generation in 2019.[129] Of this, seventy to eighty– percent of self-committed megawatts came from coal generators.[130] Comparatively, natural gas and wind led market-based commitments from 2015–2019.[131] SPP analysis reveals that most units

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at 39.

121. Daniel, *supra* note 68, at 5.

122. *Id.* at 4.

123. *Id.* at 25.

124. *Id.* at 24.

125. *Utility Transition Hub*, *supra* note 1.

126. *Id.*

127. In COP28 in December 2023, U.S. Special Envoy John Kerry announced that the Biden Administration would commit to building no new coal plants and phasing out existing plants. *See, e.g.*, Seth Borenstein, *US Joins in Other Nations in Swearing Off Coal Power to Clean Climate*, AP (Dec. 2, 2023, 2:42 AM), https://apnews.com/article/coal-climate-change-eliminate-electricity-e5e41ae56f672fa50e7e3e593726d5a6.

128. *Utility Transition Hub*, *supra* note 1.

129. Southwest Power Pool, Inc., *supra* note 3, at 42.

130. *Id.* at 18.

131. *Id.* at 19.

are either substantially uneconomic over long periods of time or operating uneconomically for periods of time such that they barely break even by the end of the year.[132] In an analysis of just fourteen coal-fired powerplants in SPP by the Sierra Club, uneconomic self-scheduling led to $300 million in higher electric bills from increased uneconomic rates passed to ratepayers.[133]

The same is true of MISO in the Midwest. Analysis from the Union of Concerned Scientists analyzing the U.S. coal fleet found that each of the region's coal units was uneconomic for at least one month per year.[134] Similar research found that over half of the coal capacity in MISO was uneconomically committed at some point in 2018, costing $350 billion in excess costs to ratepayers and suppressing market prices by one to three percent.[135] Even more, eighteen percent of coal unit starts were unprofitable in MISO in 2019 compared to zero percent of merchant units—the ones that have to remain profitable.[136] According to MISO data, the majority of coal-fired power was self-scheduled from 2017 to 2019, and twelve percent was dispatched uneconomically.[137]

Another analysis by the Sierra Club of four major wholesale energy markets (MISO, SPP, ERCOT, and PJM) from 2014 to 2017 estimates that coal plants with negative net energy margins performed worse than the energy market by $1.5 billion.[138] The study further estimated that captive ratepayers of regulated utility coal plants lost $3.5 billion from 2015 to 2017 alone due to non-economic dispatch.[139] The energy industry has thoroughly documented this problem.[140]

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132. Daniel, *supra* note 68, at 17. This is attributable to uneconomic behavior, likely uneconomic self-commitment.

133. *Id.* at 4, 26.

134. Joseph Daniel, *Self-Scheduling: How Inflexible Coal is Breaking Energy Markets*, Union of Concerned Scientists (Apr. 24, 2016, 3:05 PM), https://blog.ucsusa.org/joseph-daniel/inflexible-coal-breaking-energy-markets/ [https://perma.cc/4FL8-PC6X].

135. Daniel et al., *supra* note 4, at 25, 27; *see id.* at 22.

136. Potomac Economics, A Review of the Commitment and Dispatch of Coal Generators in MISO 5, 10 (2020), https://www.potomaceconomics.com/wp-content/uploads/2020/09/Coal-Dispatch-Study_9-30-20.pdf [https://perma.cc/T57P-74Q3].

137. Morehouse, *supra* note 4.

138. Fisher et al., *supra* note 2, at 15.

139. *Id.*

140. In 2019, the Minnesota Public Utilities Commission compelled state generators, including Xcel Energy, to submit reports detailing the utilities' self-commitment activities. *See* Review of the 2017–2018 Annual Automatic Adjustment Report for All Electric Utilities, Docket No. E-999/AA-18–373, Document No. 201911-157516-01, at 2 (Minn. Pub. Util. Comm'n Nov. 13, 2019) (order), https://www.edockets.state.mn.us/documents/%7BF06B666E-0000-C415-9F04-7AC0175405AE%7D/download?contentSequence=0&rowIndex=132. After initially reporting that self-commitment of the baseload electric generation plants provides a net benefit to ratepayers, *id.* at 6, analysis by the utilities themselves reported that a switch to economic operators could save millions of dollars. *See* Daniel et al., *supra* note 4, at 8; Catherine Morehouse, *Xcel "Sees Opportunities Across Our System" to Change Coal Operations: CEO Fowke*, Util. Dive (Feb. 3, 2020), https://www.utilitydive.com/news/xcel-sees-opportunities-across-our-system-to-change-coal-operations-ceo/571522/

As this Article described earlier, one of the initial goals of structuring the electrical market with set utility rates was to provide open opportunity for regulators and consumers to ensure appropriate rates of a natural monopoly. Yet this open pricing model has been distorted into a second stream of income outside of the competitive energy market to allow major legacy generators to keep their own assets online, even when uneconomic.[141] And because rates are approved by state commissions, they retain the veneer of legitimacy and finality that does not stun ratepayers with imperfect information. But the veneer is a Potemkin village.

b. Effect on the Market for Electricity and Energy Development

Uneconomic self-commitment also displaces the generation of other low-cost resources and creates poor market incentives. The unit that would have made the money loses out, which can suppress all revenues as the new price-setting resources set a lower clearing price than what would have occurred under a merit system. The knock-on effect of lower prices impacts all running generators, who all receive a lower price in turn. In the long term, price suppression discourages new electricity resources, especially from independent plants or renewables that face economic constraints and basis risk.

In the broader wholesale electrical market, the interaction of larger market merit order demands with specific local variances in load demand impacts risk factors for different generators. Prices for electrical generation are typically set at "nodes," or the specific locations for transmission systems.[142]

[https://perma.cc/FJ9Y-77EF]. In Indiana in 2021, the state Utility Regulatory Commission investigated Duke Energy after Sierra Club found that the utility had lost $40 million from uneconomic self-scheduling in the nine months from September 2019 to May 2020 alone. *See* Catherine Morehouse, *Indiana Strikes Down NGO Challenge to Duke Coal Operations, Said to Cost Ratepayers Millions*, Util. Dive (Mar. 18, 2021), https://www.utilitydive.com/news/indiana-strikes-down-ngo-challenge-to-duke-coal-operations-said-to-cost-ra/596916/ [https://perma.cc/8TTS-4P6H]. The Utility Regulatory Commission ultimately upheld Duke's energy practices as reasonable due to contractual obligations, inefficiency of shutting units off, and Duke's "defined review and decision making process for its commitment decisions"—blaming losses away from self-commitment. *Id.*; Duke Energy Indiana, LLC's Generation Unit Commitment Decisions, Cause No. 38707 FAC 123 S1, at 6 (Ind. Util. Reg. Comm'n Mar. 17, 2021) (order), https://s3.documentcloud.org/documents/20516365/ord_38707fac123s1_031721.pdf.

141. Daniel, *supra* note 68, at 25.

142. *See Pricing-Node Table*, ISO New Eng., https://www.iso-ne.com/markets-operations/settlements/pricing-node-tables [https://perma.cc/KK82-UG3N] (last visited Mar. 25, 2025); *Understand Basis Risk*, Am. Cities Climate Challenge, https://cityrenewables.org/vppa/research-and-build-team/understand-basis-risk/ [https://perma.cc/73H5-ZQJ7] (last visited Mar. 25, 2025); Stephen Abbott & Ryan Shea, A Local Government's Guide to Off-Site Renewable PPA Risk Mitigation 14 (2020), https://rmi.org/insight/a-local-governments-guide-to-off-site-renewable-ppa-risk-mitigation/ [https://perma.cc/2QK5-7H9P].

Nodes can be located at specific connection points on the transmission system or where generators are connected to the transmission. Because the grid has thousands of nodes, the wholesale market price for any region or zone is based on aggregated nodal prices using a weighted formula, which removes hyperlocal fluctuations to create price stability.[143] Pricing stability benefits generators by allowing some method for predicting potential returns based on short-term variable costs and operations and maintenance costs.

Typically, when a power generator sells electricity, it receives the local node price in return. However, because these prices can be volatile, buyers will negotiate energy generation contracts based on regional wholesale prices that are settled at the hubs where markets intersect.[144] Though this allows for buyer stability on pricing, it requires that price discrepancies are absorbed when nodal price and the hub price diverge. "Basis risk" is the level of correlation between market prices and the off-taker, or the potential for the relationship between local node prices and hub prices to diverge.[145] Higher basis risk requires higher contract prices for longer term contracts like power purchase agreements (PPA).[146]

For example, one recurring basis risk may be where renewable generators are next to one another and generate at the same time, causing an increase in supply, which suppresses local (nodal) prices. This in turn impacts the hub price, but the effect on the hub price is diluted when average with other hub prices. If a PPA covering the renewable generators is based on a hub price but pays out generator costs based at the suppressed nodal price, there is a price differential against the generator. In this scenario, the basis risk is natural and based on economic factors.

But self-commitment also causes basis risk because of the effect on the hub price itself.[147] Renewables located at or near uneconomically self-committed nonrenewable generators will see further suppressed nodal prices, creating a larger spread between nodal prices and the hub price, and thus higher basis risk. In this manner, uneconomic dispatching creates geographic exclusionary zones that inhibit other generators from competing around nodes where uneconomic production is artificially suppressing pricing. This has a stronger impact on renewables that rely on PPAs.

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143. *See* ISO New Eng., *supra* note 142; Abbott & Shea, *supra* note 142.

144. FERC, Energy Primer: A Handbook for Energy Market Basics 120 (2020), https://www.ferc.gov/sites/default/files/2020–06/energy-primer-2020.pdf.

145. American Cities Climate Challenge, *supra* note 142.

146. *Id.*

147. Self-commitment is documented as having a price-suppressive effect on hub prices. Fisher et al., *supra* note 2, at 10 (describing hub price differentials in MISO); *id.* at 21; Daniel, *supra* note 68, at 13–22 (conducting high resolution analysis of SPP dispatch). If self-commitment causes a price-suppressive effect at the hub, then it must also cause an exaggerated impact on nodal prices, causing basis risk.

Another problematic effect of self-commitment is congestion pricing. Increased generation—i.e., supply—at any level of the market puts downward pressure on other generators in the short and long term. For example, self-commitment permits a generator to remain at a minimum operating level, even if uneconomic to do so, which suppresses the market price at two levels of feedback loops.[148] In the short term, generators face a reduced incentive to run if they will not get dispatched. In the long term, generators are induced to not build additional generation sources into the market because of overall reduced pricing.[149] SPP has documented this in the form of "congestion dollars" by fuel type and increased congestion costs.[150] These costs are paid by generators in the form of reductions in nodal prices and typically result in reduced revenues for renewables and coal, with the benefit of natural gas. However, while coal generators can get this money back in the form of rate reimbursement, renewable generators absorb the loss.[151]

On the scale of the national market, many of the above effects have a particularly adverse impacts on renewables because of increased basis risk and reduced payout costs. These risks will only increase as decreased renewable generation costs place increased pressure on nonrenewable sources: as one study of generator retirements notes, the "rapid cost decline of renewable energy means the cost of running coal generation now exceeds the all-in cost of replacing it with wind and solar in many parts of the United States . . . causing rapid reconsideration of the prudency of allowing exiting coal generation to continue operating, particularly for regulated investor-owned utilities that recover plant costs through regulation."[152]

c. Negative Externalities

Lastly, subsidizing a backward, inefficient, and uncompetitive system is rife with negative externalities. These include adverse health effects related to pollution and particulate matter. In a 2010 study, nine coal plants were found responsible for 239 deaths and $110 million in economic externalities.[153] Coal causes ozone smog, particulate pollution, acid rain, and regional haze. A 2023 paper on mortality risk associated with coal electricity generation that studied deaths from the two-decade period of 1999–2020 attributed 460,000 "excess" deaths in the United States to coal-fired power plant pollution.[154] Moreover,

148. Southwest Power Pool, Inc., *supra* note 3, at 32.

149. *Id.* at 32–33.

150. *Id.* at 33.

151. *Id.* at 32.

152. Ron Lehr & Mike O'Boyle, Depreciation and Early Plant Retirements 1 (2018), https://energyinnovation.org/wp-content/uploads/2018/12/Depreciation-and-Early-Plant-Retirements-Brief_12.3.2018.pdf [https://perma.cc/V6M4-4VPM].

153. *See* Conrad Schneider & Jonathan Banks, The Toll from Coal (2010), https://cdn.catf.us/wp-content/uploads/2010/09/21094102/CATF_Pub_TheTollFromCoal.pdf [https://perma.cc/53CJ-45RU].

154. Lucas Henneman et al., *Mortality Risk from United States Coal Electricity*

the study attributed the risk of mortality to exposure to coal fire particulate matter as more than double compared to the mortality risk from exposure to particulate matter from non-coal fired sources.[155] Nearly 3,800 people die per year from soot pollution from coal-fired power plants, and one study determined that seventeen plants are responsible for more than half of those deaths.[156] Local communities—often not affluent—bear the greatest burden of pollution and adverse health harms from coal plants.[157] The overall effect goes beyond respiratory disease, and can even impact school absenteeism and emergency room visits.[158]

An even larger negative externality is the production of more than half of U.S. carbon dioxide emissions from coal-fired plants.[159] From 2015 to 2023, 200 million tons in CO2 emissions were attributable to coal plants operating during uneconomic months, a not insignificant percentage of the nearly one billion in annual U.S. CO2 emissions attributable to coal-fired power.[160] U.S. energy production has drifted from coal—the fossil fuel with higher CO2 emissions—to methane —which causes fewer CO2 emissions but a sharper global emissions impact.[161] But the energy shocks from the Covid-19 pandemic and Russian invasion of Ukraine were factors that led to an increase in global

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Generation, 382 Science 941, 941 (2023).

155. *Id.*

156. *Out of Control: The Deadly Impact of Coal Plant Pollution*, Sierra Club (Mar. 19, 2024), https://coal.sierraclub.org/deadly-impact-of-coal-pollution [https://perma.cc/SS6Q-LV9N].

157. *See id.*; Sue Sturgis, *The Unequal Burden of Coal Plant Pollution*, Facing S. (Nov. 21, 2012), https://www.facingsouth.org/2012/11/the-unequal-burden-of-coal-plant-pollution.html [https://perma.cc/84FZ-5YA7]; *Power Plants and Neighboring Communities*, EPA (Mar. 19, 2024), https://www.epa.gov/power-sector/power-plants-and-neighboring-communities [https://perma.cc/5CSW-HYHG].

158. Sarah Komisarow & Emily L. Pakhtigian, *Are Power Plant Closures a Breath of Fresh Air? Local Air Quality and School Absences*, J. of Env't. Econ. & Mgmt. 1 (Jan. 15, 2022), https://doi.org/10.1016/j.jeem.2021.102569.

159. *FAQs*, U.S. Energy Info. Admin., https://www.eia.gov/tools/faqs/faq.php?id=77&t=11 [https://perma.cc/EVT9-SUH5] (last updated Nov. 30, 2023).

160. *See Utility Transition Hub*, *supra* note 1.

161. *See* Andrew Moseman & Jessika Trancik, *Why Do We Compare Methane to Carbon Dioxide Over a 100-year Timeframe? Are We Underrating the Importance of Methane Emissions?*, MIT Climate Portal, https://climate.mit.edu/ask-mit/why-do-we-compare-methane-carbon-dioxide-over-100-year-timeframe-are-we-underrating (last updated Jan. 4, 2024); Paul Balcombe et al., *The Natural Gas Supply Chain: The Importance of Methane and Carbon Dioxide Emissions*, 5 ACS Sustainable Chem. Eng. 1 *passim* (2017); Hiroko Tabuchi, *Leaks Can Make Natural Gas as Bad for the Climate as Coal, a Study Says*, N.Y. Times, https://www.nytimes.com/2023/07/13/climate/natural-gas-leaks-coal-climate-change.html (July 19, 2023).

coal emissions in the early 2020s.[162] Reports of coal's decline are greatly exaggerated.[163]

Rising atmospheric carbon dioxide levels has its own subset of increasingly detrimental outputs and catabolic effects.[164] Burning fossil fuels has released massive amounts of CO2 and other greenhouse gases into the atmosphere, raising the current atmospheric CO2 concentration from 280 parts per million pre-industrial to a Northern hemisphere average of 424 parts per million in 2023.[165] This in turn has caused observed warming of more than 1.1

162. *See* Int'l Energy Agency, CO2 Emissions in 2022, at 3 (2023), https://iea.blob.core.windows.net/assets/3c8fa115–35c4–4474-b237–1b00424c8844/CO2Emissionsin2022.pdf [https://perma.cc/5K62-D555]; Int'l Energy Agency, CO2 Emissions in 2021, at 3 (2022), https://iea.blob.core.windows.net/assets/c3086240-732b-4f6a-89d7-db01be018f5e/GlobalEnergyReviewCO2Emissionsin2021.pdf [https://perma.cc/4G3F-UT8A]; *see also Global CO2 Emissions Rebounded to Their Highest Level in History in 2021*, IEA (Mar. 8, 2022), https://www.iea.org/news/global-co2-emissions-rebounded-to-their-highest-level-in-history-in-2021 [https://perma.cc/4ECB-PJQ9] ("Increased use of coal was the main factor driving up global energy-related CO2 emissions by over 2 billion tonnes").

163. While analysts expect coal global coal supply to peak in 2023, global coal production—as opposed to U.S. production—has continued to rise each year. *See Coal 2023: Supply,* IEA, https://www.iea.org/reports/coal-2023/supply [https://perma.cc/GQC8-T6K9] (last visited Dec. 10, 2024); *Coal 2022: Executive Summary*, IEA, https://www.iea.org/reports/coal-2022/executive-summary [https://perma.cc/UTH3-3MNM] (last visited Dec. 10, 2024). "Greatly exaggerated death" is routinely mocked in the industry. *See, e.g.*, *Rumors of Coal's Demise are Greatly Exaggerated*, Am. Energy All. (Jan. 5, 2023), https://www.americanenergyalliance.org/2023/01/rumors-of-coals-demise-are-greatly-exaggerated/ [https://perma.cc/TL5P-4Q57]; Felicity Bradstock, *The Decline in Coal Appears to Have Been Exaggerated*, Oil Price (May 28, 2023, 12:00 PM), https://oilprice.com/Energy/Coal/The-Decline-In-Coal-Appears-To-Have-Been-Exaggerated.html [https://perma.cc/73C4-S6WG]; Ottmar Edenhofer et al., *Reports of Coal's Terminal Decline May Be Exaggerated*, Environ. Res. Letters (Feb. 7, 2018), https://iopscience.iop.org/article/10.1088/1748-9326/aaa3a2/pdf; Tilak Doshi, *King Coal: Reports of My Death Have Been Greatly Exaggerated (Apologies to Mark Twain)*, Forbes (Dec. 1, 2022, 2:41 PM), https://www.forbes.com/sites/tilakdoshi/2022/12/01/king-coal-reports-of-my-death-have-been-greatly-exaggerated-apologies-to-mark-twain/?sh=6ceda1b5476a [https://perma.cc/7JQQ-CS57]; *Death of Coal Has Been Greatly Exaggerated*, Columbus Dispatch (July 2, 2017, 5:00 AM), https://www.dispatch.com/story/opinion/columns/2017/07/02/death-coal-has-been-greatly/20388698007/ [https://perma.cc/FPV9-NT98].

164. *See, e.g.*, James Hansen, Climate Change in a Nutshell: The Gathering Storm 3 (2018), https://www.columbia.edu/~jeh1/mailings/2018/20181206_Nutshell.pdf [https://perma.cc/U2ZC-M7K9]; James Hansen et al., Global Warming in the Pipeline 43 (2023), https://www.columbia.edu/~jeh1/Documents/PipelinePaper.2023.05.19.pdf [https://perma.cc/TCK6-JLL7] ("[T]he only IPCC scenarios that would phase down human-made climate change amount to 'a miracle will occur' . . . The IPCC scenario that moves rapidly to negative global emissions has biomass-burning powerplants that capture and sequester CO2, a nature-ravaging proposition without scientific and engineering credibility and without a realistic chance of being deployed at scale and on time to address the climate threat."). Hansen's recent work emphasizes that uneconomic self-commitment by coal generators—the focus of this paper—is less a concern than coal generation (or any generation of any emissions whether CO2 or methane) in the first instance.

165. *Broken Record: Atmospheric Carbon Dioxide Levels Jump Again*, Nat'l Oceanic

degrees Celsius in global surface temperatures, with more in the pipeline.[166] At the start of 2024, the year 2024 was confirmed as the warmest on record and at 1.55 degrees Celsius above pre-industrial levels.[167] The Intergovernmental Panel on Climate Change estimates at least 1.5 degrees Celsius in further warming—which is already a detrimental proposition for climate feedback loops—while other scientists see more dire level of 8 degrees Celsius in total warming increases, with 2 degrees by 2050.[168] Looking at this level of global heating, one group writes that "[i]mpacts on people and nature will accelerate as global warming pumps up hydrologic extremes. The enormity of consequences demands a return to Holocene-level global temperature."[169]

III. Antitrust & Anticompetitive Action

What can be done about uneconomic self-commitment? On one hand, the electricity industry is slowly starting to shift on its own. Many grid operators have already described the need to move away from self-committed resources.[170] Some utilities themselves have opted away from uneconomic self-commitment, sometimes due to outward pressure. One generator, the Dolet Hills Power Station in Louisiana, shifted from "must run" status to limited summer operation in 2019 not long after research emerged finding that

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& Atmospheric Admin. (June 5, 2023), https://www.noaa.gov/news-release/broken-record-atmospheric-carbon-dioxide-levels-jump-again [https://perma.cc/P5UU-278N] (2023 levels); Rebecca Lindsey, *Climate Change: Atmospheric Carbon Dioxide*, Nat'l Oceanic & Atmospheric Admin. (Apr. 9, 2024), https://www.climate.gov/news-features/understanding-climate/climate-change-atmospheric-carbon-dioxide [https://perma.cc/KBS5-9VGP] (pre industrial levels).

166. IPCC, Climate Change 2023: Synthesis Report 35–115 (2023), https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf [https://perma.cc/WX5B-GWUR].

167. 167. *WMO Confirms 2024 as Warmest Year on Record at About 1.55°C Above Pre-Industrial Level*, World Meteorological Organization (Jan. 10, 2024), https://wmo.int/news/media-centre/wmo-confirms-2024-warmest-year-record-about-155degc-above-pre-industrial-level [https://perma.cc/E94J-6NW7].

168. *Id.* at 57. In *Global Warming in the Pipeline*, a group of scientists including James Hansen write that "[e]quilibrium global warming including slow feedbacks for today's human-made greenhouse gas (GHG) climate forcing (4.1 W/m2) is 10°C, reduced to 8°C by today's aerosols. Decline of aerosol emissions since 2010 should increase the 1970–2010 global warming rate of 0.18°C per decade to a post-2010 rate of at least 0.27°C per decade. Under the current geopolitical approach to GHG emissions, global warming will likely pierce the 1.5°C ceiling in the 2020s and 2°C before 2050." Hansen et al., *supra* note 164, at 1.

169. Hansen et al., *supra* note 164, at 1. Other scientists are less assuaging. *See, e.g.*, William E. Rees, *Yes, The Climate Crisis May Wipe out Six Billion People*, The Tyee (Sept. 18, 2019), https://thetyee.ca/Analysis/2019/09/18/Climate-Crisis-Wipe-Out/ ("[t]he [c]limate [c]risis [m]ay [w]ipe out [s]ix [b]illion [p]eople"). Scientific or technical qualifications are not needed to recognize the potential impact in the coming decades.

170. *See* Greg Warren et al., Sw. Power Pool, State of the Market 2020, at 278 (2021), https://www.spp.org/documents/65161/2020%20annual%20state%20of%20the%20market%20report.pdf [https://perma.cc/54T6-B9VL].

this "must run" status cost customers $116 million.[171] Additionally, in 2024 in Michigan, the state Public Service Commission rejected rate reimbursement from Indiana Michigan Power affiliates that purchased power at above market rates when lower cost resources were available: when Indiana Michigan Power asked to recover $103 million in fuel and power supply costs, the Commission disallowed $11.2 million in costs associated with uneconomic coal resources.[172] State regulators can also act (and have), though most of this is ultimately left to utilities themselves.[173]

However, waiting for major industry participants to voluntary change course, especially when the financial incentives are to their benefit, may be wishful thinking. In West Virginia in 2021, the Public Service Commission responsible for regulating public utilities even suggested that utilities needed to operate coal plants at a minimum sixty-nine percent capacity—even though national capacity for all coal plants in the United States is below this number—"regardless of economic considerations" and even where "necessary to run a baseload plant at a cost that exceeds the purchased power alternative for a few hours in order to take advantage of the ensuing hours when purchased power would be the more expensive option."[174] The antitrust and anticompetition laws provide another recourse—or they should.

171. Catherine Morehouse, *Ex-FERC Commissioners Debate Solutions to Coal Self-Commitments Said to Cost Millions*, Util. Dive (June 1, 2020), https://www.utilitydive.com/news/ex-ferc-commissioners-debate-solutions-to-coal-self-committment-said-to-cos/578935/ [https://perma.cc/QLB8-MVGZ]. Dolet Hills then closed in 2021 after previously proposing a 2026 closure. *See* Elena Vasilyeva, *Cleco, SWEPCO to Close Louisiana Coal Plant Early*, argus (Jan. 11, 2021), https://www.argusmedia.com/en/news-and-insights/latest-market-news/2269477-cleco-swepco-to-close-louisiana-coal-plant-early [https://perma.cc/APS3-4U2L].

172. *See* Joe Daniel et al., *Michigan Put Its Foot Down on Uneconomic Coal Operations—Will Your State Be Next?*, RMI (Apr. 18, 2024), https://rmi.org/michigan-put-its-foot-down-on-uneconomic-coal-operations-will-your-state-be-next/ [https://perma.cc/FC2N-6UP2].

173. Daniel, *supra* note 68, at 30.

174. Ashtin Massie et al., *Affordable Energy in West Virginia Starts with Economic Dispatch*, Util. Dive (Aug. 9, 2023), https://www.utilitydive.com/ [https://perma.cc/Q4KR-3B9G] (select magnifying glass icon to reveal search bar, search for article title); Appalachian Power Co., Case No. 22–0393-E-ENEC, at 4 (W. Va. Pub. Util. Comm'n Feb. 3, 2023), https://www.psc.state.wv.us/scripts/WebDocket/ViewDocument.cfm?CaseActivityID=598850&NotType=WebDocket ("[T]he Companies bemoan a lack of clarity in the Commission's use of the 69 percent capacity factor and plead . . . In the absence of a clear statement from the Commission that it wants to see capacity factors of 69%, regardless of economic considerations, the Companies have stated that they will not presume that it is the Commission's intent."); *id.* at 3 (noting Companies' questions of whether this capacity factor overrides economic dispatch); *id.* at 5 (holding that "[a]t times it may be necessary to run a baseload plant at a cost that exceeds the purchased power alternative for a few hours in order to take advantage of the ensuing hours when purchased power would be the more expensive option….That possibility can occur on many days, and the Companies have the responsibility of managing their plant availability, fuel availability and bidding strategies to produce the lowest power supply costs possible even if it means that self-supply is more costly than purchased power during some hours when the plants

Antitrust laws did not traditionally play a substantial role in the energy industry, in part because of the lack of competition for what were perceived as natural monopolies, and in part because of the heavy-handed early regulation in place to ensure price fairness to consumers.[175] This remains the case. As natural monopolies opened to competition with regulatory involvement, regulatory enforcement on the potential anticompetitive effects has not kept pace. Antitrust law's historical approach to energy markets, and doctrines that impede antitrust enforcement, are a primary reason for the mismatch in competition and anticompetitive protections.

Part II addresses the antirust and anticompetition remedies in the electricity sector and applies a case to uneconomic self-commitment by vertically integrated electric utilities. It starts with monopolization claims under Section 2 of the Sherman Act and highlights the potential barriers to such a claim. Next, it reviews alternative antitrust enforcement mechanisms from FERC. Ultimately, it highlights how antitrust law is unaligned with the doctrine's long-term approach to electricity markets and stresses the need for private competitors and government authorities to stress test an antitrust claim.

A. Antitrust Litigation

This Article is unaware of any federal litigation that has challenged an uneconomic self- committing utility using the antitrust laws. Nevertheless, imagine an independent electrical generator that owns or is looking to build a new renewable energy project in a state dominated by vertically integrated electrical utilities, such as a solar facility in the Texas panhandle (SPP), or an offshore wind farm on the Louisiana coast (MISO).[176] In either of the regional grids of SPP or MISO, where self-committed generation accounted for half of the market and most of the dispatched power, respectively, this renewable project would likely face numerous economic challenges posed by the utility's uneconomic conduct. These include increased basis risk from self-committed operation, lower market clearing costs—and thus lower payment from the grid—and increased curtailment from the presence of self-committed operation,

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must be up and running to take advantage of ensuing hours").

175. Ray S. Bolze et al., *Antitrust Law Regulation: A New Focus for A Competitive Energy Industry*, 21 Energy L.J. 79, 79–80 (2000).

176. Self-scheduling may be even more problematic for non-coal, non-renewable electricity producers (like natural gas) that are forced out of merit order due to a coal plant's uneconomic self-commitment. Additionally, while hypotheticals, Texas has installed nearly 6,500 megawatts of solar generation in 2023 alone, *see* Claire Hao, *Texas Installed More Solar that Any Other State in 2023, Report Finds*, Hous. Chronicle (Mar. 6, 2024), https://www.houstonchronicle.com/business/energy/article/texas-solar-record-ercot-grid-18705325.php, while Louisiana is working on its first offshore windfarm, *see* Tristan Baurick, *Louisiana Signs Agreements to Build First Offshore Wind Farms in State Waters*, nola.com (Dec. 13, 2023), https://www.nola.com/news/environment/louisiana-signs-agreements-for-its-first-offshore-wind-farms/article_1f2a8708-99f2-11ee-a5c8-976e6eb24217.html.

a not insignificant percentage of which would be uneconomic.[177] Though the reimbursement rates for renewable production in the United States are high due to lower operational costs and substantial government subsidy, ensuring that this generator will be scheduled based on merit order, it will nevertheless face pricing pressures and will be expected to absorb losses and receive a lower return, dampening the market for anyone but the utility-owned generator. The renewable generator may want to challenge the utility-owned coal plant for its uneconomic behavior, but it would face substantial hurdles.

1. Doctrinal Barriers

Public utilities have historically been exempted from antitrust laws, and the antitrust laws have historically presented multiple barriers to antitrust action.[178] This section describes how those barriers can be addressed or should be disappearing for a competitor antitrust claim.

a. Filed Rate Doctrine

As described in Part I, early public utilities were regulated under a rate and entry system of regulation that remains in many markets today. Utilities propose a set rate to the public utility commission or regulatory agency and then, following approval, are required to charge that price. Under the filed rate doctrine, rates filed with the commission or agency are immune from court challenge, including under antitrust statutes.[179] The doctrine was clarified in *Keogh v. Chicago Northwestern Railroad*, where the Court held that a plaintiff could not bring an antitrust challenge to railroad rates filed with the Interstate Commerce Commission (ICC).[180] The Court recognized that the plaintiff was injured by a railroad cartel agreement to establish uniform rates compared to the previously lower rates, but accepted that "every rate complained of had been duly filed" with a federal railroad agency, investigated, and then approved.[181] It held that while rates approved by the agency could be challenged by the government, a private plaintiff could not recover antitrust damages where the rates were determined by regulation.[182]

177. *See* Part I for a prior overview on the effects on these markets.

178. Bolze et al., *supra* note 174, at 82–83. Antitrust law also has specific granted immunities, such as an industry is exempt from antitrust liability. Electric utilities do not have any exploit exemption from antitrust liability. *See* Jeffery D. Schwartz, *The Use of the Antitrust State Action Doctrine in the Deregulated Electric Utility Industry*, 48 Am. U. L. Rev. 1449, 1456 (1999).

179. This has been recently defined as "applicable where rates were filed with a federal regulatory agency and where the offending transactions are carried out with reference to a filed tariff." *In re* Enron Corp., 326 B.R. 257, 260 (Bankr. S.D.N.Y. 2005). Here, "the filed rate doctrine forbids a regulated entity from charging rates for its service other than those properly filed with the appropriate federal regulatory authority." *Id*. (citing Ark. La. Gas Co. v. Hall, 453 U.S. 571, 577–78 (1981)).

180. Keogh v. Chi. & Nw. Ry. Co., 260 U.S. 156, 163–65 (1922).

181. *Id.* at 160.

182. *Id.* at 161–64.

Keogh has been challenged and modified but remains the law. In *Square D Co. v. Niagara Frontier Tariff Bureau*, Judge Friendly critiqued the doctrine, noting among other concerns that implied antitrust exemptions were in disfavor.[183] The Court, facing support from the Solicitor General to overrule *Keogh*, nevertheless re-affirmed it, noting that even assuming it was bad policy light of changing market developments, the doctrine should survive on *stare decisis* grounds.[184] The Court more recently reaffirmed the filed rate doctrine broadly in 1990's *Maislin Industries v. Primary Steel*, despite recognizing again its "harsh effects."[185]

These harsh effects remain an impediment today, even for antitrust claims involving market—i.e., non-filed—rates. During the Enron scandal and California Energy Crisis of 2000–2001, litigants in the resulting Enron bankruptcy sought to challenge Enron's manipulation of the market and alleged unlawful anticompetitive acts including antitrust market manipulation.[186] When Enron claimed the filed rate doctrine preempted and precluded claims, the claimants argued that it was inapplicable because no "properly filed rates were on file" such that at FERC there was "no filed tariff in place at all."[187] The bankruptcy court disagreed, holding that the filed rate doctrine still applied to bar claims because of FERC's requirement for filed rates, even if that baseline requirement was itself violated.[188] It wrote that "while market-based rates may not have historically been the type of rate envisioned by the filed rate doctrine, they do not fall outside the purview of the doctrine."[189] The Enron bankruptcy court ultimately held that the filed rate doctrine barred both a monetary award

183. Square D Co. v. Niagara Frontier Tariff Bureau, Inc., 760 F.2d 1347, 1362 (2d Cir. 1985), *aff'd*, 476 U.S. 409 (1986).

184. *Square D Co.*, 476 U.S. at 417, 422–24.

185. Maislin Indus., U.S., Inc. v. Primary Steel, Inc., 497 U.S. 116, 128 (1990). For a larger account of filed rate doctrine cases, see generally Vaheesan, *supra* note 35.

186. *See In re* Enron Corp., 326 B.R. 257, 259 (Bankr. S.D.N.Y. 2005).

187. *Id.* at 261 (quoting California v. FERC, 383 F.3d 1006, 1016 (9th Cir. 2004)).

188. *In re* Enron Corp., 326 B.R. at 261 (holding that the argument that "'[p]ragmatically…there is no filed tariff in place at all'…inappropriately equates the Debtors' alleged violation of the filing requirements with no-filed tariffs. FERC required each seller to file quarterly reports pursuant to [regulation] on transaction-specific information about its sales and purchases at market-based rates") (quoting California v. FERC, 383 F.3d at 1016); Simon v. KeySpan Corp., No. 10 Civ. 5437(SAS), 2011 WL 2135075, at *2 (2d Cir. 2012) ("[P]rices that comply with market-based rate tariffs…are filed rates protected by the filed rate doctrine."); Transmission Agency of N. Cal. v. Sierra Pac. Power Co., 295 F.3d 918, 929 (9th Cir. 2002) ("At its most basic, the filed rate doctrine provides that state law, and some federal law (e.g. antitrust law), may not be used to invalidate a filed rate nor to assume a rate would be charged other than the rate adopted by the federal agency in question.") (citing County of Stanislaus v. Pac. Gas & Elec. Co., 114 F.3d 858, 862–63 (9th Cir. 1997)).

189. *In re* Enron Corp., 326 B.R. at 261 (quoting Pub. Util. Dist. No. 1 of Grays Harbor Cnty. v. IDACORP Inc., 379 F.3d 641, 651 (9th Cir. 2004)).

or injunctive relief for claimants.[190] This holding was not modified in subsequent litigation.

Similar cases have prevailed, and courts have formulated a modern filed rate doctrine approach rooted in three principles. First, under the "non-discrimination strand," the doctrine prevents courts from engaging in price discrimination claims between consumers, which would "prevent a court in California from awarding damages based on the state's consumer protection laws to the extent that consumers (or competitors) from other states could not benefit from the same law."[191] Second, under the "nonjusticiability strand," courts recognize that FERC and other agency bodies have the "institutional competence to address rate-making issues," not courts.[192] A review of jurisprudence on energy markets demonstrates that this strand is certainly true. Third and last, under the "preemption strand," courts seek to "avoid disruption of a congressional scheme for uniform price regulation."[193] Overall, though courts recognize that the market in which the filed rate doctrine emerged has changed—stating "this paradigm rarely holds true today"—the doctrine should still apply if its original purposes of non-discrimination, non-justiciability, and preemption remain valid.[194]

The reasoning behind the doctrine's application to market-based rates today is shaky. The concern for court involvement—namely the judicial inability to judge the reasonableness of rates—is valid.[195] But the application to market-based rate systems or complete preemption for related conduct that it is often invoked against is not as logical.[196] FERC may well regulate national

190. *Id*. at 262–63.

191. *In re* Transpacific Passenger Air Transp. Antitrust Litig., 69 F. Supp. 3d 940, 954 (N.D. Cal. 2014) (citing Carlin v. DairyAmerica, Inc., 705 F.3d 856, 882 (9th Cir. 2013)).

192. *Id.* (citing *Carlin*, 705 F.3d at 880–81; Verizon Del., Inc. v. Covad Commc'ns Co., 377 F.3d 1081, 1086 (9th Cir. 2004)).

193. *Id.* (citing *Carlin*, 705 F.3d at 880–81).

194. *Id.* (citing *Carlin*, 705 F.3d at 880–83; E. & J. Gallo Winery v. EnCana Corp., 503 F.3d 1027, 1048 (9th Cir. 2007); Ting v. AT&T, 319 F.3d 1126, 1138–41 (9th Cir. 2003)).

195. *See In re* Enron Corp., 326 B.R. at 262–63 (noting "[T]he finding of liability in antitrust laws would be integral to the Court's determination of whether the Debtors are liable due to their violations of the federal antitrust laws and regulations. For instance, the Court could not determine the overcharge claim owed by the Debtors for any electricity market manipulation without first deciding the reasonableness of the filed tariff. Moreover, to award monetary relief, the Court would have to determine a 'fair price.' Thus, the filed rate doctrine bars the Court from awarding monetary damages sought by the Claimants").

196. Many have critiqued the filed rate doctrine. This Article agrees but does not add to that critique. *See, e.g.*, Rachel Warnick Petty, *A Light in the Darkness: The Case for Judicial Antitrust Enforcement in the Electric Wholesale Industry*, 5 Tex. J. Oil, Gas, & Energy L. 55, 57 (2009) (arguing that "continued application of the doctrine is both inappropriate under deregulation and unhelpful in establishing effective markets."); Jim Rossi, *Why The Filed Rate Doctrine Should Not Imply Blanket Judicial Deference to Regulatory Agencies*, 34 Admin. & Regul. L. News 11, 11 (2008) (arguing that new market-based approaches to electric power, natural gas, and other industries question the continued application and usefulness of the doctrine); Julia Gorodetsky, *Analogy by Necessity: The Filed Rate Doctrine*

electricity markets, but the fiction of applying a doctrine for "filed" rates to competitive regional markets is ahistorical. The resulting doctrine exists on legal fiction and nonetheless creates a significant barrier to antitrust action.[197]

But despite seemingly untrenched case law, there are some avenues for antitrust claims against filed rates. *Keogh* does not prohibit challenges by the government.[198] Nor does it prohibit injunctive relief to private parties surrounding formulation of the rate or actions that do not directly challenge the rate itself.[199] *Keogh* does not bar injunctive relief,[200] and plaintiffs may therefore sue for injunctive relief related to prospective or separate action.[201] For prospective injunctive relief, however, courts have held back from judicial intervention on preemption or nonjusticiability grounds when the injunctive remedy would involve performance related to a filed rate with the agency. For

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and Judicial Review of Agency Inaction, 23 Tul. Env't. L.J. 1, 1 (2009) (arguing "that the judicial review of private party antitrust claims predicated on market-based tariffs and filed with a regulatory agency should not be precluded by the filed rate doctrine").

197. *See, e.g.*, Pub. Util. Dist. No. 1 of Snohomish Cnty. v. Dynegy Power Mktg., Inc., 384 F.3d 756, 761 (9th Cir. 2004) (holding that antitrust action would "interfere with FERC's exclusive jurisdiction to set wholesale rates and was therefore barred by field preemption, conflict preemption, and the filed rate doctrine") (citing Pub. Util. Dist. No. 1 of Grays Harbor Cnty. v. Dynegy Power Mktg., Inc., 379 F.3d 641, 648, 650, 651, 653 (9th Cir. 2004)).

198. Keogh v. Chi. Nw. Ry. Co., 260 U.S. 156, 162 ("The fact that these rates had been approved by the Commission would not, it seems, bar proceedings by the government.").

199. *See, e.g.*, Square D Co. v. Niagara Frontier Tariff Bureau, Inc., 476 U.S. 409, 422 & n.28 (1986) (permitting injunctive relief action and noting "a critical distinction remains between an absolute immunity from *all* antitrust scrutiny and a far more limited nonavailability of the private treble-rate damages remedy"); Marcus v. AT&T Corp., 138 F.3d 46, 62–63 (2d Cir. 1998) (holding that filed rate doctrine would not bar claim for injunctive relief if the claim could be substantiated) (citing Gelb v. Am. Tel. & Tel. Co., 813 F. Supp. 1022, 1033 (S.D.N.Y. 1993)); McCray v. Fidelity Nat'l Title Ins. Co., 682 F.3d 229, 235 n.5 (3d Cir. 2012) (affirming district court determination that "that the filed rate doctrine precludes injunctive relief to the extent that such relief 'seeks to prevent the defendants from relying on the filed rate'") (quoting McCray v. v. Fidelity Nat'l Title Ins. Co., 636 F. Supp. 2d 322, 334 (D. Del. 2009)); Square D Co. v. Niagara Frontier Tariff Bureau, Inc., 760 F.2d 1347 (2d Cir. 1985), *aff'd*, 476 U.S. 409 (1986) (affirming dismissal of antitrust claim under filed rate doctrine but remanded for hearing to determine whether plaintiffs where entitled to injunctive relief and to permit amending the complaint to state damage claims not arising from a filed tariff); Katz v. Fidelity Nat'l Ins. Co., 685 F.3d 588, 599 n.6 (6th Cir. 2012) ("The filed-rate doctrine can also bar injunctive relief, if the injunction that plaintiffs seek is no more than a request for a different rate-making decision or if the injunction would force the court to alter the existing rate. The filed-rate doctrine applies in this scenario because it is designed 'to protect the exclusive authority of the agency to accept or challenge [rates].'") (citation omitted) (quoting Town of Norwood v. New Eng. Power Co., 202 F.3d 408, 420 (1st Cir. 2000)); Coll v. First Am. Title Ins. Co., 642 F.3d 876, 890–91 (10th Cir. 2011) ("Nor does the filed rate doctrine necessarily preclude claims for injunctive relief, at least to the extent those claims do not implicate the reasonableness of the approved rate for title insurance premiums") (collecting cases).

200. *See* Georgia v. Penn. R.R., 324 U.S. 439, 453–54 (1945).

201. *See, e.g.*, *In re* Penn. Title Ins. Antitrust Litig., 648 F. Supp. 2d 663, 686 (E.D. Penn. 2009) (holding that injunctive relief was not barred from filed rate doctrine when the relief sought was prospective and separate and apart from an already filed rate).

example, in litigation also stemming from the California Energy Crisis, the Ninth Circuit held that injunctive remedies related to breach and non-performance of FERC-approved operating agreements were preempted by the field rate doctrine.[202]

Finally, *Keogh* bars private money damages by ratepayers or customers for harms caused by the rates—it does not bar other antitrust actions or actions by *competitors* harmed by anticompetitive conduct outside of the ratemaking process.[203] Put simply, the filed rate doctrine does not apply to competitors because "competitors are not the intended beneficiaries of the rule of public utility regulation."[204] How this could be used in the uneconomic dispatch setting is seen in *Utilimax.com v. PPL Energy Plus*, where the plaintiff, a retail electricity supplier that purchased electricity through the PJM wholesale market for resale—and did not generate its own electricity—sued PPL, a retail electricity supplier and seller, for antitrust violations.[205] PPL claimed the filed rate doctrine barred the claims, and the Third Circuit upheld this argument on the finding that the plaintiff was not a competitor, just a customer that could not afford to pay PPL's wholesale rates due to its allegedly inflated prices.[206] However, it noted that if the retail supplier was also a competitor generator and suing in that capacity, its claims would not be barred.[207]

In short, any plaintiff alleging antitrust practices against generators or utilities will face filed rate doctrine arguments from defendants. But that doctrine should not prohibit injunctive relief unrelated to the directly challenged rate itself or actions by competitors. This is especially the case if a potential antitrust plaintiff challenged the effect on market price rather than the specific rate set, or sought to bar future price-setting, not rate reimbursement, based on the likely market effects: congestion, higher basis risk, and lower clearing costs. And of course, the federal government could challenge the rates with far fewer restrictions from this doctrine.

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202. Pub. Util. Dist. No. 1 of Snohomish Cnty., 384 F.3d at 761–62; California *ex rel.* Lockyer v. Dynergy, Inc., 375 F.3d 831, 852 (9th Cir. 2004) ("[R]emedies for breach and non-performance of FERC approved operating agreements in the interstate wholesale electricity market fall with the exclusive domain of FERC.").

203. *See In re* Transpacific Passenger Air Transp. Antitrust Litig., 69 F. Supp. 3d 940, 954 (N.D. Cal. 2014).

204. Keogh v. Chi. & Nw. Ry. Co., 260 U.S. 156, 163 ("Section 7 of the Anti-Trust Act gives a right of action to one who has been 'injured in his business or property.' Injury implied violation of a legal right.") (quoting Sherman Act, ch. 647, §7, 26 Stat. 209, 210 (1890) (current version at 15 U.S.C. § 15); *In re* Lower Lake Erie Iron Ore Antitrust Litig., 998 F.2d 1144, 1161 (3d Cir. 1993) (holding that filed rate doctrine—called filed tariff rule—could not prohibit antitrust conspiracy claim against railroads for dock handling technology and actions brought by competitor operators of nonrailroad docks); Essential Commc'ns Sys., Inc. v. Am. Tele. & Tele. Co., 610 F.2d 1114, 1121 (3d Cir. 1979) (holding filed rate doctrine did not bar suit for telecommunications competitor for actions based in formulating rate).

205. *See* Utilimax.com, Inc. v. PPL Energy Plus, LLC, 378 F.3d 303 (3d Cir. 2004).

206. *Id.* at 307–08.

207. *Id.*

b. State Action Exemption

Another legacy doctrine is the state action doctrine, also called state action immunity or the *Parker* rule,[208] which holds "any action that qualifies as state action is ipso facto . . . exempt from the operation of the antitrust laws."[209] Private parties can avail themselves of this protection in some circumstances. In the energy context, state action immunity has been claimed by public utilities starting with *Cantor v. Detroit Edison*, where an electric utility argued that its distribution of lightbulbs to customers was protected from antitrust action because of its approval by the Michigan Public Service Commission.[210] Soon after *Cantor*, the Supreme Court clarified that state action immunity could apply to protect the conduct of private parties from antitrust scrutiny.[211] In the ensuing decades, many challenges to utilities for anticompetitive conduct were blocked under state action immunity.[212]

However, this immunity is less likely to be a problem today. In *Midcal*, in 1980, the Supreme Court clarified application to private actors, holding that a private actor may be shielded under the state action doctrine where it acts (1) pursuant to a "clearly articulated and affirmatively expressed" state policy to displace competition, and (2) where "actively supervised" by the state itself.[213]

To satisfy *Midcal*, a regulated entity benefits from its state supervision. But the deregulation of the electricity market that has permitted this immunity works against the availability of state action immunity. *Midcal* immunity is "designed to ensure that the state action doctrine will shelter only the particular anticompetitive acts of private parties that, in the judgment of the State, actually further state regulatory policies."[214] State regulation—which may otherwise qualify to meet the "actively supervised" by the state prong of *Midcal*—has waned as states have further deregulated the industry. Indeed, this led some scholars to predict during the deregulatory movement that utilities might face increased antitrust liability over conduct traditionally shielded from antitrust liability by the state action doctrine.[215] While this has not come to pass, it demonstrates that electric utility conduct in states with a deregulated market is likely not protected by state action immunity under the *Midcal* test.

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208. *See* Parker v. Brown, 317 U.S. 341 (1943).

209. City of Columbia v. Omni Outdoor Advert., Inc., 499 U.S. 365, 379 (1991) (quoting Hoover v. Ronwin, 466 U.S. 558, 568 (1984)). There are limits to this broad statement.

210. *See* Cantor v. Detroit Edison Co., 428 U.S. 579 (1976).

211. S. Motor Carriers Rate Conf., Inc. v. United States, 471 U.S. 48 (1985).

212. *See* Jeffery D. Schwarz, *The Use of the Antitrust State Action Doctrine in the Deregulated Electric Utility Industry*, 48 Am. U. L. Rev. 1449, 1479–83 (1999) (analyzing successful state action doctrine defenses).

213. Cal. Retail Liquor Dealers Ass'n v. Midcal Aluminum, Inc., 445 U.S. 97, 105 (1980); Schwarz, *supra* note 211, at 1464.

214. Patrick v. Burget, 486 U.S. 94, 100–101 (1988).

215. Schwarz, *supra* note 211, at 1478 ("Utilities may face an environment in which conduct traditionally shielded from antitrust liability by the state action doctrine will now be subject to antitrust liability.").

In short, a potential plaintiff should be able to ignore state action concerns, as this is one area where the shifting electricity market has changed the doctrinal approach.

2. Antitrust Claims Under Section 2 of the Sherman Act

Assuming a plaintiff has breached the potential threshold antitrust issues in the energy sector, it can press forward on its antitrust claim. Antitrust law provides multiple statutory remedies under the Sherman Act, Clayton Act, Robinson-Patman Act that relate to monopoly pricing or anticompetitive behavior. Section I of the Sherman Act prohibits contracts "in restraint of trade," and identifies per se illegal agreements that harm competition, including price fixing, horizontal market allocation, and horizontal boycotts.[216] The Clayton Act prohibits mergers and acquisitions that "substantially . . . lessen competition, or tend to create a monopoly,"[217] while Section II (amended in the Robinson-Patman Act) prohibits price discrimination between competing buyers where the effect of the discrimination may substantially lessen competition or create a monopoly.[218] However, most applicable to uneconomic self-commitment—and the focus of this paper—is Section II of the Sherman Act.

Section II provides that "[e]very person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty" of an antitrust violation.[219] Unlike Section I, which governs multilateral restraints on trade by multiple firms, Section II prohibits unilateral anticompetitive conduct by a dominant firm, or monopolization and the unlawful exercise of monopoly power.[220] It does not call monopolies unlawful.[221] Rather, it proscribes a firm with monopoly power from using that power for many forms of exclusionary conduct that are identified in the statute and provides three possible antitrust claims—monopolization, attempted monopolization, and conspiracy to monopolize—each with overlapping elements. This section applies such a claim to a vertically owned coal utility that uses its rate recovery ability to reimburse uneconomic self-commitment. Again, antitrust doctrine imposes historical barriers.

216. 15 U.S.C. §§ 1 et seq.
217. *See id.* § 18.
218. *Id.* § 13.
219. *Id.* § 2.
220. *Id.*
221. *See* Standard Oil Co. of N.J. v. United States, 221 U.S. 1, 62 (1911) (noting that the Sherman Act does not directly prohibit monopolies); *see* Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc., 429 U.S. 477, 488 (1977).

a. Monopolization

To demonstrate monopolization, a plaintiff must prove that the defendant has "(1) possession of monopoly power in the relevant market; (2) willful acquisition or maintenance of that power; and (3) causal antitrust injury."[222]

i. Monopoly power

The first element, monopoly power, can be proven with either circumstantial or direct evidence[223] based on a fact-intensive analysis.[224] The level of evidence will shape the fact inquiry, and monopoly power can often be inferred from market power or an entity's predominant share of the market.[225] Direct evidence of exclusionary conduct of competition or actual control of prices is often recognized as the best form of direct evidence of monopoly power.[226] Such direct evidence would be a showing that the entity can raise prices in the market to *supra*-competitive levels or exclude competition ("exclusionary conduct") through restricting the entry of new competitors or removal of

222. Pac. Express, Inc. v. United Airlines, Inc., 959 F.2d 814, 817 (9th Cir. 1992); United States v. Grinnell Corp., 384 U.S. 563, 570–71 (1966)

223. Either circumstantial or direct evidence is sufficient. *E.g.,* Re/Max Int'l, Inc. v. Realty One, Inc., 173 F.3d 995, 1018 (6th Cir. 1999); Tops Mkts., Inc. v. Quality Mkts., Inc., 142 F.3d 90, 98 (2d Cir. 1998); Coastal Fuels of P.R., Inc. v. Caribbean Petroleum Corp., 79 F.3d 182, 196–97 (1st Cir. 1996); Rebel Oil Co., Inc. v. Atl. Richfield Co., 51 F.3d 1421, 1434 (9th Cir. 1995).

224. Image Tech. Servs., Inc. v. Eastman Kodak Co., 125 F.3d 1195, 1202–03 (9th Cir. 1997) (quoting *Rebel Oil Co., Inc.*, 51 F.3d at 1434). This analysis can be skipped when direct evidence of market power is given. It is not required when a party establishes monopoly power with direct evidence. FTC v. Ind. Fed'n of Dentists, 476 U.S. 447, 460–61 (1986) (citations omitted); *see also* Broadcom Corp. v. Qualcomm Inc., 501 F.3d 297, 307 n.3 (3d Cir. 2007) ("Because market share and barriers to entry are merely surrogates for determining the existence of monopoly power . . . direct proof of monopoly power does not require a definition of the relevant market."); *Re/Max Int'l, Inc.*, 173 F.3d at 1018 ("an antitrust plaintiff is not required to rely on indirect evidence of a defendant's monopoly power, such as high market share within a defined market, when there is direct evidence that the defendant has actually set prices or excluded competition").

225. *See* Grinnell Corp., 384 U.S. at 571; Pa. Dental Ass'n v. Med. Serv. Ass'n of Pa., 745 F.2d 248, 260 (3d Cir. 1984). There is no magical percentage of market control for monopoly power under Section 2 of the Sherman Act, and even a sixty-four percent market share may not be sufficient. *See* United States v. Aluminum Co. of Am., 148 F.2d 416, 424 (2d Cir. 1945) (Ninety percent market share "is enough to constitute a monopoly; it is doubtful whether sixty or sixty-four percent would be enough")); *See* Grinnell Corp., 384 U.S. at 571 (eighty-seven percent market power constitutes a monopoly); Am. Tobacco Co. v. United States, 328 U.S. 781, 797 (1946) (over two-thirds of market can constitute a monopoly); Arthur S. Langenderfer, Inc. v. S.E. Johnson Co., 917 F.2d 1413, 1443 (6th Cir. 1990) ("There is substantial merit in a presumption that market shares below 50 or 60 percent do not constitute monopoly power") (citing Areeda & Hovenkamp, Antitrust Law, § 518.3 (1988 Supp.)).

226. *See* Am. Tobacco Co., 328 U.S. at 810–11; Conwood Co., L.P. v. U.S. Tobacco Co., 290 F.3d 768, 783 n.2 (6th Cir. 2002); Byars v. Bluff City News Co., Inc., 609 F.2d 843, 850 (6th Cir. 1979).

existing competitors.[227] It also involves the ability to raise prices without losing a significant number of customers or maintain prices despite competition.[228]

If a plaintiff cannot show this evidence, it can also use circumstantial or indirect evidence, which includes second-level characteristics indicating the defendant's ability to control prices or competition.[229] Broadly, exclusionary conduct only covers behavior that is "reasonably capable of creating, enlarging, or prolonging monopoly power by impairing the opportunities of rivals"—it does not benefit consumers, is unnecessary for any particular consumer benefits resulting from the monopolist conduct, or produces harms disproportionate to the resulting benefits.[230]

When assessing alleged monopoly power in a relevant market under the first element, the meaning of "market" is further broken down in case law to define the relevant market[231] and market share.[232] A market is just that—the economic sphere based on geography or other limitations that define a market for something, while the market share corresponds with the entity's level of control over that sphere.

The electricity market generally fits neatly within the market definition. For example, in *In re Pacific Gas & Electric Company*, the court noted that objectors alleging antitrust claims under a PG&E bankruptcy plan would need to "define the relevant market," "show that PG&E owns a dominant share of that market," and "show that there are significant barriers to entry and that existing competitors lack the capacity to increase their output in the short run."[233] Objectors successfully did this by identifying the geographic market—Northern California's generation and transmission market for the distribution

227. U.S. Anchor Mfg., Inc. v. Rule Indus., Inc., 7 F.3d 986, 994 (11th Cir. 1993) (quoting Am. Key Corp. v. Cole Nat'l Corp., 762 F.2d 1569, 1581 (11th Cir. 1985)); *see also* United States v. E.I. du Pont de Nemours & Co., 351 U.S. 377, 391 (1956) (noting that monopoly power is "the power to control prices or exclude competition").

228. *See* Reazin v. Blue Cross & Blue Shield of Kan., Inc., 899 F.2d 951, 970 (10th Cir. 1990) (demonstrating evidence that defendant maintained dominance despite price increases); McWane, Inc. v. FTC, 783 F.3d 814, 838 (11th Cir. 2015) (demonstrating evidence that defendant raised prices despite competition in market).

229. *See* United States v. Dentsply Int'l, Inc., 399 F.3d 181, 187 (3d Cir. 2005) (describing circumstantial evidence factors to include "the size and strength of competing firms, freedom of entry, pricing trends and practices in the industry, ability of consumers to substitute comparable goods, and consumer demand").

230. Phillip E. Areeda & Herbert Hovenkamp, Antitrust Law: An Analysis of Antitrust Principles and Their Application 72 (Wolters Kluwer, 2d ed. 2002); *see also* Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585, 605 n.32 (1985) (defining exclusionary conduct); Eastman Kodak Co. v. Image Tech. Servs. Inc., 504 U.S. 451, 482–83 (1992); Grinnell Corp., 384 U.S. at 571.

231. *See* E.I. du Pont de Nemours & Co., 351 U.S. at 393–96 (defining different relevant market areas).

232. *See* Grinnell Corp., 384 U.S. at 571 (describing that monopoly power may be inferred based on a "predominant" market share).

233. *In re* Pac. Gas & Elec. Co., 295 B.R. 635, 657 (N.D. Cal. 2003).

of electricity to residential and business customers—and PG&E's dominant share of the Northern California service territory.[234] Objectors pointed out that PG&E provided distribution to over 4.6 million customers in this territory while other entities, which included objectors, served only approximately 440,000 customers, meaning PG&E's market share exceeded ninety percent of customers.[235] They also highlighted the significant barriers to entry for any competitor firm that wanted to challenge PG&E's position in this market, arguing that constrained transmission capacity and congestion from San Francisco Peninsula and San Francisco Bay prevented competitors the ability to access new or alternative sources of imported electrical power, and that it was too expensive and impractical for competitors to build local generating plants to relieve congestion themselves.[236] Lastly, objectors established it was a PG&E competitor in the same market with evidence of PG&E's actions and concerns related to local competition and the fact that there were alternate suppliers in the same geographic area.[237]

Plaintiffs in the electricity market have had varying success alleging the monopoly power element of a monopolization claim. Many lose. In *Utilimax.com v. PPL Energy Plus*, the retail electricity supplier plaintiff sued the defendant electricity supplier under Section 2 based on the allegation that PPL had created a monopoly position in PJM's daily capacity market.[238] This market had a FERC requirement that electricity suppliers needed to meet a certain daily capacity requirement or face a penalty, and PPL was the only seller to meet those capacity requirements on given months.[239] Using this monopoly status—being the only seller on the market—it was able to demand nearly double the price when it was in control.[240] Utilimax argued that this price setting was "not reasonable or competitive and bore no relation to market conditions," and instead was an exercise of its undue market power.[241] This ability to raise prices, based on evidence that PPL netted nearly $11 million

234. *Id.*

235. *Id.*

236. *Id.*

237. *Id.* at 659-60.

238. Complaint, Utilimax.com, Inc. v. PPL Energy Plus, LLC, No. 02-7160 (E.D. Pa. 2002), 2002 WL 34249495.

239. *Id.*

240. *Id.* Specifically, PPL benefited under a FERC requirement that load serving entities like PPL had to meet a certain daily capacity or would have to be assessed a capacity deficiency rate. Utilimax.com, Inc. v. PPL Energy Plus, LLC, 273 F. Supp. 2d 573, 577 (E.D. Pa. 2003), *aff'd,* 378 F.3d 303 (3d Cir. 2004). These rate charges were distributed to holders of unused capacity, and the suppliers (holders) of unused capacity could withhold it from the market or sell it for a price equal to the capacity daily rate. *Id.* at 577–78. During the first quarter of 2001, PPL was the only entity that possessed uncommitted capacity in the daily PJM market, which allowed it to withhold its capacity and net more than $11 million in capacity discharge payments for two months, compared to charges of $1000 or less over prior two-month periods when there was competition. *Id.*

241. Utilimax.com, Inc., 273 F. Supp. 2d at 578–79.

more than typical charges for the relevant period, was the evidence of direct conduct used to highlight PPL's monopoly power and allegedly unlawful monopolization. However, as noted earlier, Utilimax's claims were dismissed on filed rate doctrine grounds and never tested under the Sherman Act.[242] In a small measure of vindication, FERC later adopted a new allocation formula for capacity that returned prices to lower levels.[243]

Other plaintiffs have been knocked down entirely based on their Section II claim. In *Schuylkill Energy Resources*, a cogenerating energy facility sued an electric utility related to its curtailment policy based on the allegation that it monopolized the energy market for retail consumers and wholesale resale by curtailing energy purchases from independent power producers.[244] The court quickly established that the antitrust claim of preventing independent generators from retail service was not a Section II claim because it did not explain how the defendant maintained a monopoly or attempted to maintain a monopoly in a relevant market—it was not enough to just claim the effect of the general curtailment policy.[245]

However, two cases demonstrate the potential routes for success under a Section II claim. In *SolarCity Corporation v. Salt River Project Agricultural Improvement*, the plaintiff solar energy distributor sued the defendant power utility after it imposed a rate structure that would add additional fees to consumers who obtained part of their electricity from rooftop solar.[246] SolarCity's Section 2 claim was that the defendant utility's rate structure excluded competition by preventing competitors in its service area from installing distributed solar (from firms like SolarCity), which limited consumer choice and harmed SolarCity and competitor firms, whose conduct competed with defendant's business.[247] Notably, defendants argued both the state action doctrine and filed rate doctrine in defense and lost on both. The court held that the state action was inapplicable in the context of the motion to dismiss and that the filed rate doctrine did not apply because SolarCity was not challenging that the rates were unreasonable, just that the imposition of the rates were imposed to exclude competitors from the market.[248]

Additionally, in *Merced Irrigation District v. Barclays Bank*, a plaintiff utility alleged Section II monopolization claims against Barclays premised on the defendant's ability to control daily electricity prices though trades.[249] As a

242. *Id.* at 587.

243. *Id.* at 578.

244. Schuylkill Energy Res., Inc. v. Pa. Power & Light Co., 113 F.3d 405 (3d Cir. 1997).

245. *Id.* at 412–15.

246. SolarCity Co. v. Salt River Project Agric. Improvement, No. CV-15-00374-PHX-DLR, 2015 WL 6503439 (D. Ariz. 2015).

247. *Id.* at *11–12.

248. *Id.* at *14 (noting "Whether the rates are reasonable has no bearing on whether the District engaged in anticompetitive conduct. The Court will not dismiss SolarCity's claims on this ground.").

249. Merced Irrigation Dist. v. Barclays Bank, PLC, 165 F. Supp. 3d 122, 141 (S.D.N.Y.

utility, Merced generated, distributed, bought, and sold electricity to customers, and purchased peak electricity from other districts.[250] These contracts with other districts would settle according to a market price at a specific Northern California trading hub, which was also a hub where Barclays energy traders could buy and sell power.[251] Barclays traded in short and medium-term contracts by purchasing and selling electricity contracts in alternate directions. According to Merced, Barclays traders would purposefully inflate or depress prices by purchasing or selling electricity on daily contracts at artificial money-losing prices but would offset this position by selling or purchasing (the opposite of the first contract) for next day physical electricity prices at higher prices, which would drive up the weighted average price of electricity.[252] In the daily market, Barclays would lose money—it lost more than $4 million on these trades—but it gained more than $34.9 million when it would settle the next-day contract at the artificially high prices.[253] FERC eventually investigated this conduct and issued an order that it violated the agency's anti-manipulation rule.[254] And Merced sued under Section II, alleging that Barclays had used monopoly power to control prices and influence prices in a manner that did not result from legitimate market factors.[255]

The district court upheld Merced's Section II claims on a motion to dismiss, holding that Barclay's "direct control over prices" was an alternative to pleading relevant market share and was direct evidence of monopoly power.[256] It also held that this was exclusionary conduct because it was "conduct without a legitimate business purpose that makes sense only because it eliminate[d] competition."[257] In the end, the case settled for $29 million.[258]

2016).

250. *Id.* at 128–29.

251. *Id.* at 129. This desk obligated market participants like Merced that traded in physical positions to deliver the electricity based on the hub's index price, while participants with purely financial positions like Barclays did not have this obligation but could nevertheless trade. *Id.*

252. *Id.*

253. *Id.* at 130 ("As an illustration, if Barclays held a long swap contract to be settled on a particular day at the North Path 15 trading hub, it would create a large short physical position in the daily markets at that hub by entering into contracts to sell electricity. Then, to avoid having to deliver the physical electricity provided for in the daily contracts while simultaneously inflating the Daily Index Prices to generate maximum revenue for its swap contract, Barclays would 'flatten' its entire short physical position prior to the contract's settlement date by buying large quantities of next-day physical contracts at higher than market prices, driving up the weighted average price of electricity and, consequently, the Daily Index Prices. When the swap contract settled, Barclays would have made a sizeable profit even after losing money overpaying for the next-day physical contracts.").

254. *Id.* at 130–31.

255. *Id.* at 141.

256. *Id.* at 141–42.

257. *Id.* at 142–43.

258. Final Order and Judgment at 4, Merced Irrigation Dist. v. Barclays Bank PLC, No. 1:15-cv-04878-VM-GWG (S.D.N.Y. 2018); Shaun D. Ledgerwood et al., *The Intersection*

ii. Willful acquisition or maintenance of that power

The second element of a monopolization claim—willful acquisition or maintenance of monopoly power—builds off the first and requires that a plaintiff demonstrate that the alleged monopolizing entity actually used its monopoly power in violation of the Sherman Act. This in turn requires a showing of intent or willfulness inferred from the defendant's anticompetitive conduct.[259] The goal is to avoid punishing all monopolies. Willful acquisition or maintenance of monopoly power is "distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident."[260]

Willfulness can be proven from many forms of behavior[261] and overlaps with the first element if there is direct evidence of exclusionary conduct.[262] It includes, for example, exclusive dealing, refusals to deal, predatory prices or bidding, prize squeezes, sham conduct, and other forms of market deception.[263] Such conduct lacks a legitimate business purpose—it "impair[s] the opportunities of rivals [and] either does not further competition on the merits or does so on in an unnecessarily restrictive way."[264] Overall, if a court finds that a "firm has been attempting to exclude rivals on some basis other than efficiency, it is fair to characterize its behavior as predatory."[265] For example, in *Merced Irrigation District*, the court noted that it did not need to infer Barclays' specific motive to engage in anticompetitive trading because the money-losing trades it placed were intended to artificially deflate or inflate prices and constrain the market for other buyers and sellers.[266]

While willful maintenance of monopoly power might tie to direct evidence of monopoly power, *Texas Commercial Energy*[267] highlights the importance in the electricity sector of alleging the anticompetitive conduct in a manner that avoids the traps of the filed rate doctrine. In *Texas Commercial Energy*, a retail electrical provider that purchased energy and electricity capacity on ERCOT's

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of Market Manipulation Law and Monopolization Under the Sherman Act: Does It Make Economic Sense?, 40 ENERGY L.J. 47, 49 (2019).

259. *See, e.g.*, Eastman Kodak Co. v. Image Tech. Servs., Inc., 504 U.S. 451 (1992).

260. United States v. Grinnell Corp., 384 U.S. 563, 570–71 (1966).

261. United States v. Microsoft Corp., 253 F.3d 34, 58 (D.C. Cir. 2001) (en banc) (per curiam).

262. *See* Broadcom Corp. v. Qualcomm Inc., 501 F.3d 297, 308 (3d. Cir. 2007) (citing Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 407 (2004)).

263. *See generally* 1 IRVING SCHER & SCOTT MARTIN, ANTITRUST ADVISER § 2:11 (5th ed. 2024) (collecting cases).

264. Aspen Skiing Co., 472 U.S. at 605 n.32.

265. *Id.* at 605 (quoting ROBERT H. BORK, THE ANTITRUST PARADOX 138 (1978)). The second element also implicates the rule of reason used to analyze Section 1 claims under the Sherman Act, ensuring that the challenged conduct has an adverse effect on competition. *See* Mid-Tex. Commc'ns Sys., Inc. v. Am. Tel. & Tel. Co., 615 F.2d 1372, 1389 n.13 (5th Cir. 1980) (describing rule of reason analysis under section 2).

266. Merced Irrigation Dist., 165 F. Supp. 3d 122, 142–43 (S.D.N.Y. 2016).

267. Tex. Com. Energy v. TXU Energy, Inc., No. C-03-249, 2004 WL 1777597, at *2–3 (S.D. Tex. June 24, 2004).

balancing energy services market[268] and then turned around and sold it to retail customers sued a defendant electricity generator for allegedly manipulating short term market prices.[269] Plaintiff claimed that defendants controlled more than seventy-five percent of the market for certain periods, including as high as ninety-nine percent during one day, and used this control to squeeze prices by withholding electricity capacity from the market despite having excess capacity.[270] It explained how during one day when the generator held ninety-nine percent of the capacity on the market, this price squeeze caused the price for short-term energy to clear $990 per megawatt hour, which required Plaintiff to post millions in collateral payments.[271] In a latter market report from the grid operator, it concluded that this market manipulation by the defendant generator had increased the price of energy and cost $17 million in higher costs.[272] This evidence might have been enough for demonstrating the maintenance of market power. However, Plaintiff's federal antitrust claims were nevertheless dismissed because the court held that it was not suing as a competitor and was thus barred by the filed rate doctrine.[273] Though the evidence of the market was there, Plaintiff was not a competitor in that market—it was a customer.

A series of cases involving the New England natural gas market highlight the interplay between the alleged market, exclusionary conduct, and (again) the filed rate doctrine. In *Breiding v. Eversource Energy*, retail electricity consumers brought a putative class action against the utilities Eversource and Avangrid, arguing that they restricted natural gas supply in New England and caused $3.6 billion in higher retail costs.[274] The putative class's claim was based on a Section II monopolization claim that each utility abused their market power over the natural gas *transmission* market to restrict the amount of gas entering the region, which limited supply and in turn impacted the *distribution* market and raised retail electricity costs.[275] Eversource and Avangrid were allegedly able to do this because they had joint dominant ownership of the primary natural gas transmission pipeline into New England, and, through subsidiaries, the natural gas utilities that distributed gas downstream to retail consumers and retail electric utilities that distributed retail electricity.[276] Wholesale electricity in New England is set by a bid market, so by artificially restricting supply, increased demand resulting in higher bids increased the wholesale electricity cost.[277]

268. *Id.* This is a short-term power market.
269. *Id.*
270. *Id.*
271. *Id.* at *3–4.
272. *Id.* at *4.
273. *Id.* at *13–14. Notably, the court also held that the filed rate doctrine still applied to the Texas market, which avoids FERC oversight. *Id.* at *9–10.
274. Breiding v. Eversource Energy, 344 F. Supp. 3d 433, 437–41 (D. Mass. 2018).
275. *Id.* at 442.
276. *Id.*
277. *Id.* at 442–43.

But plaintiff's federal antitrust claims were dismissed on the basis of the filed rate doctrine: even though plaintiffs avoided allegations that related to specific filed rates, the court held that multiple strands of the doctrine were implicated.[278] First, it held that the manipulation of the wholesale price was regulated by FERC, implicating FERC's authority, and the court could not determine the "liability for alleged retail electricity market manipulation without first deciding the reasonableness of wholesale electricity rates approved by FERC."[279] Second, the plaintiffs were retail consumers—not customers or competitors in the transmission market—and thus lacked standing.[280] The court had an unrelated third reason that precluded liability: plaintiffs failed to sufficiently allege that the defendant utilities had market power. It did not disagree with plaintiffs' claims that the six New England states could constitute a single market but did disagree that Eversource and Avangrid had individual power over the market.[281] In short, a Section 2 monopoly claim cannot be shared my multiple defendants.[282]

The core facts of *Breiding* were revived when a new putative class of wholesale electricity purchasers challenged Eversource and Avangrid in *PNE Energy Supply v. Eversource*.[283] The allegations stemmed from the same misconduct alleged in *Breiding*, but PNE sought to distinguish itself as purchasers of the retail electricity. And again, the court held that the filed rate doctrine barred claims, this time because FERC still had regulatory authority over the "unregulated" market for natural gas.[284] In this case, PNE challenged defendants' market manipulation by demonstrating how they used 'no notice' contracts to cancel the import of natural gas without notice or time for replacements, causing the price spike. But the court held that these contracts constituted an ancillary adjunct to the filed tariff and were authorized by FERC.[285] Like other cases, the court noted that it "would be required to determine the difference between wholesale electric rates during the class period and hypothetical rates that would have been charged but for Defendant's conduct. The filed rate doctrine prohibits this analysis."[286] The *PNE Energy* court also invoked the third element of a monopolization claim.

iii. Causal injury

The third element, causal injury, requires a showing that the claimant has an antitrust injury, or "injury of the type the antitrust laws were intended

278. *Id.* at 446.
279. *Id.*
280. *Id.* at 452.
281. *Id.* at 457.
282. *Id.* at 458.
283. PNE Energy Supply LLC v. Eversource Energy, 396 F. Supp. 3d 200 (D. Mass. 2019), *aff'd*, 974 F.3d 77 (1st Cir. 2020).
284. *Id.* at 209–13.
285. *Id.* at 209–11.
286. *Id.* at 212.

to prevent and that flows from that which makes defendants' acts unlawful."[287] Such an injury "should reflect the anticompetitive effect either of the violation or of anticompetitive acts made possible by the violation."[288] The claimant must prove the injury is causally liked to an illegal presence in the market.[289] The "[c]ompetitors and consumers in the market where trade is allegedly restrained are presumptively the proper plaintiffs to allege antitrust injury."[290] Injury is also implicated in and by antitrust standing. Antitrust plaintiffs "must show both constitutional standing and antitrust standing,"[291] which involves an analysis of prudential considerations of the enforcement of antitrust laws.[292]

There are numerous limits to injury. To be "anticompetitive," the injury cannot be a loss stemmed from typical competition. Price reduction alone is competitive and does not invoke a monopolization claim under the Sherman Act until it harms consumer welfare by impacting the allocative efficiency of the goods.[293] Harm to consumer options is also not always an injury. In *Schuylkill Energy Resources*, the Third Circuit held that a cogeneration facility's allegations that a utility unlawfully curtailed energy purchases failed to provide an antitrust injury, noting that the following injuries were not cognizable claims: depriving consumers of alternative energy sources, depriving

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287. Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc., 429 U.S. 477, 489 (1977); *see also* Schuylkill Energy Res., Inc. v. Pa. Power & Light Co., 113 F.3d 405, 413 (3d Cir. 1997) (describing how claims for private actions for damages under Section 2 of the Sherman Act flow from Section 4 of the Clayton act, which "provides for suits by 'any person who shall be injured in his business or property by reason of anything forbidden in the antitrust law.'" (citing 15 U.S.C. § 15(a)).

288. Brunswick Corp., 429 U.S. at 489.

289. Serpa Corp. v. McWane, Inc., 199 F.3d 6, 10 (1st Cir. 1999) (quoting Zenith Radio Corp. v. Hazeltine Rsch., Inc., 395 U.S. 100, 125 (1969)).

290. Serpa Corp., 199 F.3d at 10–11.

291. In re Aluminum Warehousing Antitrust Litig., 833 F.3d 151, 157 (2d Cir. 2016).

292. *See* Serpa Corp., 199 F.3d at 9–10. Prudential concerns include: "(1) the causal connection between the alleged antitrust violation and harm to the plaintiff; (2) an improper motive; (3) the nature of the plaintiff's alleged injury and whether the injury was of a type that Congress sought to redress with the antitrust laws . . . ; (4) the directness with which the alleged market restraint caused the asserted injury; (5) the speculative nature of the damages; and (6) the risk of duplicative recovery or complex apportionment of damages." *See also* RSA Media, Inc. v. AK Media Grp., Inc., 260 F.3d 10, 14 (1st Cir. 2001) (quoting same).

293. *See* Rebel Oil Co., Inc. v. Atl. Richfield Co., 51 F.3d 1421, 1433 (9th Cir. 1995) ("[R]eduction of competition does not invoke the Sherman Act until it harms consumer welfare . . . [,which is] maximized when economic resources are allocated to their best use… and when consumers are assured competitive price and quality… Accordingly, an act is deemed *anticompetitive* under the Sherman Act only when it harms both allocative efficiency *and* raises the prices of goods above competitive levels or diminishes their quality.") (citations omitted); *see also* Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 210 (1993) (noting that below-cost pricing is not anticompetitive in itself when it brings lower aggregate prices to the market).

alternative energy sources from consumers; or injuries as a supplier as opposed to a competitor.[294]

Back to *PNE Energy*, the court also held in this case that the putative class failed to demonstrate an injury had occurred.[295] It found that even though PNE rightfully alleged it was a customer in the wholesale market—avoiding some of the standing and doctrinal barrier issues of *Breiding*—its allegations related to its injury in a different market from where it was a competitor. In short, PNE alleged it was a customer in the wholesale market, but alleged antitrust injuries in the capacity market for higher prices; it needed to show its standing and injury in the same market.[296] The *PNE* plaintiffs also failed under the shared monopoly theory.

Causal injury in the context of uneconomic self-commitment applies where a competitor who also seeks to serve the same market as the alleged monopolizer is injured based on its competitor status.[297] A competitor also fits within the typical case construction for proving antitrust injury, which requires (1) unlawful conduct, (2) causing an injury to plaintiff, (3) that flows from that which makes the conduct unlawful, and (4) that is of the type the antitrust laws were intended to prevent.[298] For example, the unlawful conduct here, or uneconomic self- commitment that leads to artificially reduced payouts for competitors in the market, directly injures the competitors, flows from the market bidding, and invokes exclusionary conduct at the heart of the Sherman Act.

And yet, though uneconomic self-commitment fits within the doctrine's framework generally, it does not easily fall within the usual strictures of antitrust injury based on case law. For example, exclusionary conduct based on uneconomic price bids in the electricity market are a price-based injury. But in *Cargill v. Monfort*, the Supreme Court clarified a distinction between "price cutting aimed simply at increasing market share," which was not anticompetitive, and predatory pricing, which is "pricing below an appropriate measure of cost for the purpose of eliminating competitors in the short run and reducing competition in the long run," and is anticompetitive.[299] Uneconomic self-commitment is arguably not aimed at eliminating competitors in the short run—it is aimed at the very survival of the coal generator that is otherwise priced out of the market. This pricing conduct may impact competition in the medium and long run, but the goal is *less* about anticompetitive market impact and more self-preservation-with-side-effects-of-anticompetition. This difference

294. Schuylkill Energy Res., Inc. v. Pa. Power & Light Co., 113 F.3d 405 (3d Cir. 1997).

295. PNE Energy Supply, 396 F. Supp. 3d at 214.

296. *Id.* at 214–15.

297. *See* SAS of P.R., Inc. v. P.R. Tel. Co., 48 F.3d 39, 44 (1st Cir. 1995) ("[T]he presumptively 'proper' plaintiff is a customer who obtains services in the threatened market or a competitor who seeks to serve that market.").

298. Am. Ad Mgmt., Inc. v. Gen. Tel. Co. of Cal., 190 F.3d 1051, 1054–55 (9th Cir. 1999).

299. Cargill, Inc. v. Monfort of Colo., Inc., 479 U.S. 104, 117–18 (1986).

distinguished the pricing behavior from the utility in *SolarCity* that imposed rates for a purely uneconomic basis. And it sounds close to the type of competitive market pricing that *Cargill* and antitrust law does not restrict. But this analysis also omits that vertically integrated utilities only have the ability to offer lower prices in the first instance because of their legacy monopoly status and regulation by public utility commissions.

Another doctrinal problem is that uneconomic self-commitment results in *lower* market prices, which is arguably not anticompetitive in and of itself.[300] Ratepayers do pay higher prices in the end from the rate recovery process, but these costs are not directly from straightforward manipulation in the market. And if a competitor were to challenge this conduct, the defendant could invoke the filed rate doctrine.

In short, the typical bounds of doctrinal antitrust injury do not tack neatly onto a market that allows a monopoly firm to undercharge and lower prices because it is paid elsewhere in a protected market. A competitor Section 2 claim will need to demonstrate harm in a novel or non-archetypal fashion to avoid dismissal, while simultaneously avoiding the other hazards of failing to define the market or market power.

b. Attempted Monopolization & Conspiracy to Monopolize

Two other antitrust claims under Section 2 are attempted monopolization and conspiracy to monopolize—both which involve subsets of a monopolization claim.

Attempted monopolization involves a firm that has not achieved monopoly power but otherwise engages in anticompetitive conduct with the intent to gain a monopoly and "dangerous probability" that it will obtain a monopoly.[301] Unique to this claim is the latter "dangerous probability" requirement, which requires an analysis by courts that there is a "generous probability of success" for monopolization based on the market share and other monopolization facts.[302] Factors that highlight such probability include "the strength of the competition, the probability development of the industry, the barriers to entry, the nature of the anti-competitive conduct, and the elasticity of consumer demand,"[303] among others.[304]

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300. *Id.* at 117 (explaining how lower prices and price competition are not necessarily uncompetitive).

301. Spectrum Sports, Inc. v. McQuillan, 506 U.S. 447, 456 (1993).

302. *See, e.g.*, Domed Stadium Hotel, Inc. v. Holiday Inns, Inc., 732 F.2d 480, 490 (5th Cir. 1984) (stating that high market share "may support a claim for attempted monopolization if other factors such as concentration of market, high barriers to entry, consumer demand, strength of the competition, or consolidation trend in the market are present").

303. Int'l Distrib. Ctrs., Inc. v. Walsh Trucking Co., Inc., 812 F.2d 786, 792 (2d Cir. 1987).

304. *See* Spirit Airlines, Inc. v. Nw. Airlines, Inc., 431 F.3d 917, 952 (discussing structural factors); White & White, Inc. v. Am. Hosp. Supply Corp., 723 F.2d 495, 507 (6th Cir. 1983) (discussing structural factors).

Conspiracy to monopolize, like other conspiracy claims, involve multiple parties, an over act in furtherance of the conspiracy, and an agreement and specific intent to monopolize.[305] Its sub-elements otherwise mimic other section 2 monopolization claims.[306]

3. Uneconomic Antitrust Claim

Returning to the hypothetical solar facility in Texas or Louisianian offshore wind farm, it is not clear whether an antitrust claim rooted in Section 2 of the Sherman Act would prevail or be stymied by various doctrinal challenges. The filed rate doctrine would require specifically pleaded antitrust claims that avoid any rates covered by FERC, even if unfiled or based in an unregulated market, and only challenge prospective behavior. Here, the conduct in *Merced Irrigation* might be the best model as a competitor can challenge the price bids rather than the end rates. If the bids are submitted without a legitimate business purpose—i.e., not valid economic self-commitment—then allegations might avoid the filed rate doctrine entirely.

Next, only a competitor (or government) would be able to bring the claim, and the competitor must be a competitor in the same tightly defined market. Ratepayers, who are collectively harmed most by uneconomic self-commitment, lack the standing to challenge rates. The competitor would need to allege a monopolization claim that appropriately defines the market for electricity, demonstrates the defendant's monopoly control of that market-based on evidence of exclusionary conduct, and explains how that exclusionary conduct limits the opportunities of rivals. In theory, a defendant's ability to control price is easy to demonstrate; the defendant is always able to set a lower price or self-commit regardless of price. Direct evidence of the generator's ability to control prices—here, the price-setting curve for committed resources—could be sufficient for evidence of monopoly power in the relevant market as seen in *Merced*, *Utilimax*, and *Texas Commercial Energy*.[307] But to avoid the pitfalls of the latter two cases, the competitor would need to highlight how the exclusionary conduct in the same market in which the competitor was injured was willful, with the goal of impairing competition. Plaintiffs would then need to

305. *See* Am. Tobacco Co. v. United States, 328 U.S. 781, 809 (1946) ("A correct interpretation of the statute and of the authorities makes it the crime of monopolizing, under § 2 of the Sherman Act, for parties, as in these cases, to combine or conspire to acquire or maintain the power to exclude competitors from any part of the trade or commerce among the several states or with foreign nations, provided they also have such a power that they are able, as a group, to exclude actual or potential competition from the field and provided that they have the intent and purpose to exercise that power.") (citing United States v. Socony-Vacuum Oil Co., 310 U.S. 150, 224 n. 59 (1940)).

306. *See generally* 1 Irving Scher & Scott Martin, Antitrust Adviser § 2:22 (5th ed. 2024) (describing elements of conspiracy claims).

307. McWane, Inc. v. FTC, 783 F.3d 814, 830 (11th Cir. 2015) ("McWane's 'ability to control prices' in the market 'provide[d] direct evidence of [its] monopoly power.'").

tie this into an injury in that market that alleges more than price competition and lower prices for competitors.

A survey of the case law shows that such a claim might not be possible. The potential doctrinal challenges in antitrust law have developed to ensure that it only policies the kind of conduct that antitrust law intends to correct. As this Part has demonstrated, despite the potential avenues for competitors to navigate the doctrine and challenge conduct in the electricity market, the antitrust doctrines are not designed to correct or police this action without difficulty. This mismatch is because the antitrust doctrines are not designed for the electricity market; most markets are not electricity markets, which feature protected income streams that are outside of the market yet nevertheless shape market behavior for vertically integrated utilities with rate recovery power. And uneconomic self-commitment is not a historical problem that antitrust law developed to protect but a recent market tool in a changing competitive market. Stated differently, the electricity market's natural monopoly history has allowed vertically integrated utilities to avoid the full front of antitrust scrutiny, even though the market has shifted toward a competitive, deregulated status.

But, normatively, a vertically integrated utility uneconomically self-committing electric generation resources and recouping costs on ratepayers is the kind of anticompetitive conduct that the antitrust laws should be intended to prevent. Vertically integrated utilities hold a vestige of monopoly status over electricity markets, with the ability to commit their own resources, avoid economic price constraints, and ensure that costs are reimbursed outside the typical market avenue. For competitor firms, this conduct results in lower market clearing costs, increased curtailment, increased pricing pressure, and the expectation to absorb losses or receive a lower rate in return. At baseline, "market power is the ability to set price above marginal cost."[308] While merit order dispatch is predicated on allocating generators based on marginal cost, uneconomic self-schedulers are able to operate *out* of merit order, setting price *outside* of marginal cost, because of the ability to re-coup losses with rate recovery. These lower prices do not result in lower prices to ratepayers; rather, the conduct both harms competition and consumers. Antitrust law should remedy these harms, and competitor plaintiffs should test and question the limits of the doctrine's modern application.

B. Other Anticompetitive Tools

A competitor electricity generator's primary tool to challenge anticompetitive conduct against an uneconomic self-committing competitor is based on the Sherman Act. But these allegations, as described above, would face multiple pleading and proof challenges, especially under the filed rate doctrine.

308. Richard A. Posner & William M. Landes, *Market Power in Antitrust Cases*, 94 Harv. L. Rev. 937, 939 (1980).

Plaintiffs should test the bounds. Short of this, there are two alternatives. First, a government claim of anticompetitive conduct in the electricity market is not hampered by the filed rate doctrine, meaning Department of Justice enforcement can and should utilize the Sherman Act to better police anticompetitive uneconomic self-commitment. The second avenue is FERC itself. After all, if the goal of the filed rate doctrine is to allow the agency with the requisite experience to police anticompetitive behavior, then FERC's experience should counsel it to police anticompetitive behavior. This section primarily analyzes this power by FERC.

1. Department of Justice Action

As detailed above, an antitrust claim brought by federal enforcers in the Department of Justice would act unencumbered by the filed rate doctrine and constraints of a competitor case. The Department has signaled its willingness to address anticompetitive concerns in the electricity markets—though public remarks have not focused on self-commitment.[309] Additionally, recent challenges to energy firm mergers signals concern over a firm's "incentive or ability to raise electricity prices profitably."[310] Nevertheless, and despite increased antitrust activity in other sectors, specifically technology, the Department of Justice has not shown strong interest in electricity market action. These cases are typically confined to FERC.

2. FERC Market Manipulation

FERC can regulate rates that are "just and reasonable"[311] and impose various controls: it can require regular reporting on market activities and can enact fine and remedial powers over a finding that rates violate market rules.[312] Additionally, FERC can bring an anticompetitive market manipulation case on its own, without any antitrust strictures. The agency has its own anti-manipulation rule that holds it unlawful for any entity, directly or indirectly, to engage in market manipulation practices "in connection with the purchase or sale of electric energy or the purchase or sale of transmission services subject to" FERC jurisdiction.[313] On its own, FERC may initiate administrative proceedings by issuing an order to show cause and notice of a proposed penalty.[314]

309. *See, e.g.*, David S. Turetsky, *Antitrust Enforcement in the Electric Industry* (Jan. 11, 1996), https://www.justice.gov/atr/speech/antitrust-enforcement-electric-industry [https://perma.cc/N26W-GYAS] (naming monopolistic tie-ins, joint conduct, and pooling arrangements as three primary concerns in the electricity market in 1996).

310. *See* Ethan Howland, *DOJ Raises Market Power Concerns for PJM in Vistra-Energy Harbor Deal*, UtilityDive (Aug. 23, 2023), https://www.utilitydive.com/news/doj-ferc-vistra-energy-harbor-market-power/691596/ [https://perma.cc/C7LT-R4Y9].

311. 16 U.S.C. § 824d(a).

312. *See* Vaheesan, *supra* note 35, at 933.

313. 18 C.F.R. § 1c.2 (2024).

314. *See* 16 U.S.C. § 823b; 18 C.F.R. § 385.209(a)(2), 385.1506 (2024); *See, e.g.*, FERC v. Vitol Inc., 79 F.4th 1059, 1061 (9th Cir. 2023) (describing agency authority and case

FERC's market manipulation powers were added in the Federal Power Act of 2005 and are modeled after the Securities Exchange Act's anti-manipulation provisions.[315] Specifically, it is unlawful for any entity, directly or indirectly, in connection with the purchase of sale of electric energy, to (1) "use or employ any device, scheme, or artifice to defraud," (2) "make any untrue statement of a material fact or to omit to state a material fact necessary in order to make the statements made, in light of the circumstances under which they were made, not misleading," or (3) "engage in any act, practice, or course of business that operates or would operate as a fraud or deceit upon any entity."[316] Fraud is defined generally and includes "any action, transaction, or conspiracy for the purpose of impairing, obstructing or defeating a well-functioning market."[317] It does not require violation of a specific tariff, rule, or regulation.[318] However, the prohibitions are "not intended to regulate negligent practices or corporate mismanagement, but rather to deter or punish fraud in wholesale energy markets."[319]

In the nearly two decades since the issuance of the anti-manipulation rule, a subset of energy market manipulation law has outlined the bounds of a fraudulent anticompetitive behavior in the electricity sector.[320] At this point, FERC has yet to bring a market manipulation case against a vertically integrated utility for market manipulation predicated on uneconomic self-commitment—but there is no indication in the law that this would not be permitted.

There are only a few examples where FERC has gotten close to this issue[321]: In *Golden Spread Electric Cooperative, Inc.*, FERC entered a consent agreement with a non-profit, consumer-owned generation and transmission

background on FERC proceeding against respondent); FERC v. Powhatan Energy Fund, 2023 WL 2603381 (E.D. Va. Mar. 22, 2023) (describing FERC proceeding against defendant).

315. *See Prohibition of Energy Mkt. Manipulation*, 114 FERC ¶ 61,047, at 5 (Jan. 19, 2006); *see also* Pub. Citizen, Inc. v. FERC, 7 F.4th 1177, 1183 (D.C. Cir. 2021); *Prohibition of Energy Market Manipulation*, Order No. 670, FERC Stats. & Regs. ¶ 31,202, *reh'g denied*, 114 FERC ¶ 61,300 (2006) (Order No. 670); *see generally* FERC, *Staff White Paper on Anti-Market Manipulation Enforcement Efforts Ten Years After EPACT 2005* at 3, 7 (November 2016), https://www.ferc.gov/sites/default/files/2020–05/marketmanipulationwhitepaper.pdf [https://perma.cc/4AR8-M4L9] (describing background on anti-manipulation rule and Order No. 670).

316. 18 C.F.R. § 1c.2 (2024).

317. Pub. Citizen, 7 F.4th at 1183 (quoting *Prohibition of Energy Mkt. Manipulation*, 114 FERC ¶ 61,047, at 38–39 (Jan. 19, 2006)).

318. *Id.* (citing *Houlian Chen Powhatan Energy Fund*, 151 FERC ¶ 61,179, at 58 (May 29, 2015).

319. *Prohibition of Energy Mkt. Manipulation*, 114 FERC ¶ 61,047, at ¶ 5 (Jan. 19, 2006).

320. *See generally* FERC, *Staff White Paper on Anti-Market Manipulation Enforcement Efforts Ten Years After EPACT 2005*, at 3, 7 (Nov. 2016), https://www.ferc.gov/sites/default/files/2020–05/marketmanipulationwhitepaper.pdf [https://perma.cc/LNU5-FHMB] (describing background on anti-manipulation rule and Order No. 670).

321. FERC eventually investigated Barclay's conduct in *Merced* and issued an order that it violated the agency's anti- manipulation rule. *See* Merced Irrigation Dist., 165 F. Supp. 3d at 130–31.

electric cooperative in Amarillo, Texas that operated Mustang Station, a natural gas generator.[322] FERC alleged that Mustang Station manipulated its self-commitment status when submitting generation offers in the Day-Ahead market for SPP in order to increase make whole payments.[323] Mustang Station strategically selected self-commitment status to isolate times during operation when the station would be profitable from the times it would be unprofitable. By isolating these times from the remaining hours of the day when the station was selected to market status (and would garner losses), SPP would issue a make whole payment; this garnered make whole payments for hourly losses, even though it was whole on a daily basis. In sum, it received some $314,151 in make whole payments as a result.[324] Stated differently, the generator set its status to "market" (offering market rates for electricity) when it expected to be unprofitable, garnering make whole payments for the change and losses, and switched to self-commit status when it expected to be profitable in order to exclude profitable hours from the SPP's calculation for make-whole payments.[325] Because this was an attempt to circumnavigate SPP's method for calculating make whole payments on a daily basis by using hourly eligibility, the generator violated SPP's make whole payment construct and the Commission's Anti-Manipulation Rule.[326] The generator complied with the investigation and stipulated to a civil fine and disgorgement.[327]

Similarly, in *Deutsch Bank Energy Trading*, FERC issued a show cause order and proposed penalty against energy traders for market manipulation that included using self-commitment.[328] The Commission found that Deutsche Bank directed a generator to self-schedule on CAISO's Congestion Revenue Right's (CRR) market regardless of price, finding "Deutsche Bank's exports (purchases) at Silver Peak were not undertaken as a result of supply and demand fundamentals and they were not taken to make a profit. Rather, they were undertaken solely to affect the value of Silver Peak CRRs by affecting congestion at Silver Peak. [This strategy] avoided artificial congestion and avoided an unfair loss on the CRR."[329] It held that this trading alongside other strategies met the prohibition of market manipulation because Deutsche Bank "scheduled power to alter the pricing at Silver Peak to benefit that CRR position and not because of any supply and demand fundaments"—a "fraud or deceit" under the prohibition.[330]

322. 177 FERC ¶ 61,109 (2021).
323. *Id.* at ¶ 61603–04.
324. *Id.*
325. *Id.* at ¶ 61604.
326. *Id.*
327. *Id.*
328. Deutsche Bank Energy Trading, LLC, 140 FERC ¶ 61,178 (2012).
329. *Id.* at ¶ 61806–07.
330. *Id.* The Commission also found that Deutsche Bank committed the trade with the requisite scienter in a FERC-jurisdictional market, satisfying the other elemental requirements for market manipulation. *Id.* at ¶ 61,810.

There is little reason to think FERC could not—or should not—bring a similar market manipulation case against an uneconomic self-scheduler. These practices occur "not because of any supply and demand fundamentals," but because of the ability to recoup losses *regardless* of supply and demand fundamentals.[331] At the baseline, the Commission has held that fraud includes "any action, transaction, or conspiracy for the *purpose* of impairing, obstructing or defeating a well-functioning market."[332]

The Commission's own internal guidance also weighs toward such a case. First, the Commission has stated that it "considers the uneconomic nature of conduct as another important factor in its determinations of what constitutes fraud," defining such conduct as "when an entity knowingly engages in behavior that loses money on a stand-along basis—or is indifferent to whether it loses money—but engages in the behavior anyway to serve an ulterior purpose (e.g., to move prices in a way that benefits related financial positions."[333] For example, the Commission has charged entities that lost millions at market rates but profited regardless based on external payments.[334] Similarly, the Commission has stated that it considers "whether conduct is consistent with market fundamentals of supply and demand . . . participants in energy markets should have as their price signals these supply and demand fundamentals, not ancillary considerations that bear no relation to underlying market fundamentals."[335]

IV. Conclusion

Players in the electricity sector have known for years of the problems caused by self- commitment.[336] And for years, ratepayers have paid higher costs borne by self-commitment, representing a bailout to the industry and subsidy for coal.[337] While recent government administrations have attempted to hasten the country's shift away from coal,[338] these policies focus more on negative externalities than dispatching practices. Antitrust and anticompetition law by private competitors and government enforcers are another avenue, but not without limits. Though antitrust doctrine has historically been a barrier to enforcement in the electricity market, a narrowly tailored realignment of

331. *Id.* at ¶ 61807.

332. *See* Prohibition of Energy Mkt. Manipulation, 18 C.F.R. § 1c at 50 (2024).

333. FERC, *supra* note 13, at 13.

334. *See id.* (citing In Re Make-Whole Payments and Related Bidding Strategies, 144 FERC ¶ 61,068, (2013)). *In Re Make-Whole Payments* also included the use of self-scheduled submissions to manipulate pricing. *See* In Re Make-Whole Payments and Related Bidding Strategies, 144 FERC ¶ at 61554 (2013).

335. FERC, *supra* note 315, at 15.

336. *See, e.g.*, Daniel, *supra* note 68; RMI *supra* note 1; Southwest Power Pool, Inc., *supra* note 3; Daniel et al., *supra* note 4; Daniel, *supra* note 134; Morehouse, *supra* note 4.

337. *Utility Transition Hub*, *supra* note 1.

338. Lisa Friedman & Coral Davenport, *E.P.A. Severely Limits Pollution from Coal Burning Power Plants*, N.Y. Times (Apr. 25, 2024), https://www.nytimes.com/2024/04/25/climate/biden-power-plants-pollution.html.

antitrust principles on the electricity industry would ensure that the unique regulated history of the market does not harm the industry's future. Otherwise, it will remain a billion-dollar problem for ratepayers and even larger problem for an electrical grid forced to adapt to changing climate realities.