

Watts at Stake: Clean Energy's Antitrust Problem

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Abstract

This paper analyzes the history of antitrust regulations and thought in the US. It assesses the arguments made by the pioneers of antitrust and those who sought to depart from a structuralist interpretation of market intervention. This paper then meta-analyzes the financial holdings of the fifteen most expensive and critical electric transmission projects for the realization of the nation's clean energy goals. It then argues that more proactive market regulation is necessary to create the best conditions for the build-out of the electric grid. The paper concludes by proposing three possible methods of increasing oversight within the financial structures of the energy grid, available to both Congress and federal agencies.

Keywords

Antitrust Economics, Electric Transmission Markets, Energy Law, HVDC, HVAC

1. Introduction

The United States is gearing up to lead the world in the clean energy transition (Cai et al., 2023). The US is investing so much in the domain because using clean electricity over fossil fuel power plants improves the environment and human health. Fossil fuel power plants were responsible for around 30% of US greenhouse gas emissions in 2021 (Lawrence Livermore National Laboratory, 2021) and are the dominant emitters of mercury (50 percent), acid gas (over 75 percent), and many toxic metals (20 - 60 percent) in the United States (US EPA, 2015). On the contrary, clean forms of energy such as solar, wind, hydro and nuclear do not emit pollutants or greenhouse gasses into the ecosystem. Policymakers have recently passed bold actions such as Executive Order 14,057, mandating that the United States will reduce greenhouse gas emissions by 50% by 2032 and achieve net zero

emissions by 2050 (White House, 2021), Maryland's Climate Solutions Now Act, mandating the reduction of GHG emissions by 60% below 2006 by the year 2031 and for the state to achieve net zero emissions by 2045 (NCEL, 2022) and, California's CARB setting out to build out a 100% clean energy grid, achieve carbon neutrality by 2045 (California Governor, 2022). These laws have catalyzed massive investments in renewable energy, and in 2021 alone, residential solar power installations rose by 34% from 2.9 gigawatts to 3.9 gigawatts (Leppert & Kennedy, 2022). Similarly, there have been massive steps in the development of novel methods of generating energy (Pandey, 2016). However, there is a transportation problem afoot: these goals can not be fulfilled in the status quo. To analogize the issue, think of a fleet of cars but no roads for them to travel. Clean energy is on route to be produced on a tremendous scale, but there currently no way to move that energy. The US will need to build 75,000 miles of new energy transmission infrastructure by 2035 alone to be able to transport clean energy-primarily found in the desert southwest and midwest regions of the US-to the coasts of the nation, which house the majority of the population (Yancopoulos, 2022). That's enough electric cable to wrap around the Earth's circumference more than three times over! However, as the sector expands, this paper will demonstrate how market power is becoming concentrated with just a few firms controlling the majority of largest pertinent, generation and transmission infrastructure. After providing a background on the more than 100 year old antitrust debate, this paper takes a closer look into the economic and organizational structure present within the adoption of the infrastructure. It argues that the current method of antitrust regulation has a narrow focus on short-term price effects and fails to consider the architecture of market power and the scope of importance in the modern energy industry.

2. Review of Literature

2.1. Structuralism/Chicago, Proactive/Reactive

One of the most significant changes in antitrust law and interpretation over the last century has been the departure from economic structuralism. Economic structuralism is the idea that concentrated market structures promote anti-competitive forms of conduct. It takes the position that a market dominated by a small number of large companies is likely to be less competitive than a market with many small and medium-sized companies. Three arguments underwrite economic structuralism. First, concentrated market structures enable dominant actors to engage in conduct like price-fixing, market division, and tacit collusion. Second, monopolistic and oligopolistic firms can use their existing dominance to block new entrants into the market. Third, monopolistic and oligopolistic firms have greater bargaining power among market actors-including consumers, suppliers, and workers-enabling them to hike prices and degrade quality while maintaining profits. This market structure-based view of competition was a foundation of antitrust practice and policy through the 1960s. Under this framework, courts

blocked mergers that they determined could lead to anti-competitive market structures, concerned that concentrated market power would erode competition. In some cases, this meant halting horizontal deals that would combine two direct competitors operating in the same market or product lines. In other cases, economic structuralism also scrutinized conflicts of interest, blocking vertical deals: mergers joining companies that operated in different tiers of the same supply or production chain.

The Chicago School approach to antitrust gained mainstream prominence and credibility in the 1970s and 1980s. It rejected this structuralist view. The essence of the Chicago School position is that the proper lens for viewing antitrust problems is price theory (Posner, 2021). This view is predicated on an unvielding faith in the efficiency of markets, propelled by profit-maximizing actors, seeking to maximize every last dollar of potential profit. The Chicago School has a simple theoretical premise: Rational economic actors working within the confines of the market seek to maximize profits by combining inputs in the most efficient manner. A failure to act in this fashion will be punished by the competitive forces of the market. While economic structuralism holds that concentrated industrial structure predisposes firms towards anticompetitive behavior, the Chicago School posits that market outcomes-including firm size, industry structure, and power concentration levels-reflect the interplay and exchange of market forces and the technical demands of production (Brietzke, 2011). In other words, economic structuralists hold that industrial organization warps market dynamics, while the Chicago School holds that industrial structure is nothing but a reflection of those market dynamics.

The shift from structuralism to price theory had two major ramifications for antitrust analysis. First, it led to a significant narrowing of the concept of entry barriers. An entry barrier is a cost that must be borne by a firm seeking to enter an industry but is not carried by firms already in the industry. According to the Chicago School, advantages that incumbents enjoy including economies of scale, capital requirements, and product differentiation-do not constitute entry barriers. These factors are considered to reflect no more than the "objective technical demands of production and distribution" (Brietzke, 2011). Because of the lack of entry barriers, the Chicago School argues that market power is always up for grabs, a zero sum game, and the incumbent firm can always be pushed out. Thus, antitrust enforcement should be rarely enforced.

2.2. Structuralism Prevails

The current framework in antitrust fails to register certain forms of anticompetitive harm and therefore is unequipped to promote real competition. This failure stems both from assumptions embedded in the Chicago School framework and from the way this framework assesses competition.

Notably, the present approach fails even if one believes that antitrust should promote only consumer interests. Critically, consumer interests include not only cost but also product quality, variety, and innovation. Protecting these long-term interests requires a much thicker conception of "consumer welfare" than currently offered. But more importantly, the undue focus on consumer welfare is misguided. It betrays legislative history, which reveals that Congress passed antitrust laws to promote a host of political and economic ends—including Americans interests as workers, producers, entrepreneurs, and citizens. It also mistakenly supplants a concern about process and structure (i.e., whether power is sufficiently distributed to keep markets competitive) with a calculation regarding outcome (i.e., whether consumers are materially better off).

Antitrust law and competition policy should promote not welfare but competitive markets. By refocusing attention back on process and structure, this approach would be faithful to the legislative history of major antitrust laws. It would also promote actual competition—unlike the present framework, which is overseeing concentrations of power that risk precluding real competition.

Strikingly, the current approach fails even if one believes that consumer interests should remain paramount. Focusing primarily on price and output undermines effective antitrust enforcement by delaying intervention until market power is being actively exercised, and largely ignoring whether and how it is being acquired. In other words, pegging anticompetitive harm to high prices and/or lower output—while disregarding the market structure and competitive process that give rise to this market power—restricts intervention to the moment when a company has already acquired sufficient dominance to distort competition.

This approach is misguided because it is much easier to promote competition at the point when a market risks becoming less competitive than it is at the point when a market is no longer competitive. The antitrust laws reflect this recognition, requiring that enforcers arrest potential restraints to competition "in their incipiency" (Stevens, 1915). But the Chicago School's hostility to false positives—and insistence that market power and high concentration both reflect and generate efficiency—has undermined this incipiency standard and enfeebled enforcement as a whole. Indeed, enforcers have largely abandoned section 2 monopolization claims, which—by virtue of assessing how a single company amasses and exercises its power—traditionally involved an inquiry into structure. By instead relying primarily on price and output effects as metrics of competition, enforcers risk overlooking the structural weakening of competition until it becomes difficult to address effectively, an approach that undermines consumer welfare.

Indeed, growing evidence shows that the consumer welfare frame has led to higher prices and few efficiencies, failing by its own metrics. It arguably has further contributed to a decline in new business growth, resulting in reduced opportunities for entrepreneurs and a stagnant economy. The long-term interests of consumers include product quality, variety, and innovation—factors best promoted through both a robust competitive process and open markets. By contrast, allowing a highly concentrated market structure to persist endangers these longterm interests, since firms in uncompetitive markets need not compete to improve old products or tinker to create new ones. Even if we accept consumer welfare as the touchstone of antitrust, ensuring a competitive process—by looking, in part, to how a market is structured—ought to be key. Empirical studies revealing that the consumer welfare frame has resulted in higher prices—failing even by its own terms—support the need for a different approach.

Legislative history reveals that the idea that "Congress designed the Sherman Act as a 'consumer welfare prescription'" is wrong. Congress enacted antitrust laws to rein in the power of industrial trusts, the large business organizations that had emerged in the late nineteenth century. Responding to a fear of concentrated power, antitrust sought to distribute it. In this sense, antitrust was "guided by principles" (Fox, 2012). The law was "for diversity and access to markets; it was against high concentration and abuses of power".

More relevant than any single goal was this general vision. When Congress passed the Sherman Act in 1890, Senator John Sherman called it "a bill of rights, a charter of liberty," and stressed its importance in political terms. On the floor of the Senate he declared,

"If we will not endure a king as a political power, we should not endure a king over the production, transportation, and sale of any of the necessities of life. If we would not submit to an emperor, we should not submit to an autocrat of trade, with power to prevent competition and to fix the price of any commodity" (Letwin, 1955). In other words, what was at stake in keeping markets open—and keeping them free from industrial monarchs—was freedom.

Animating this vision was the understanding that concentration of economic power also consolidates political power, "breeding antidemocratic political pressures." This would occur through enabling a small minority to amass outsized wealth, which they could then use to influence government. But it would also occur by permitting "private discretion by a few in the economic sphere" to "control the welfare of all," undermining individual and business freedom. In the lead up to the passage of the Sherman Act, Senator George Hoar warned that monopolies were "a menace to republican institutions themselves".

This vision encompassed a variety of ends. For one, competition policy would prevent large firms from extracting wealth from producers and consumers in the form of monopoly profits. Senator Sherman, for example, described overcharges by monopolists as "extortion which makes the people poor." While Senator Richard Coke referred to them as "robbery." Representative John Heard announced that trusts had "stolen millions from the people," and Congressman Ezra Taylor noted that the beef trust "robs the farmer on the one hand and the consumer on the other". In the words of Senator James George, "they aggregate to themselves great enormous wealth by extortion which makes the people poor."

Notably, this focus on wealth transfers was not solely economic. Leading up to the passage of the Sherman Act, price levels in the United States were stable or slowly decreasing. If the exclusive concern had been higher prices, then Congress could have focused on those industries where prices were, indeed, high or still rising. The fact that Congress chose to denounce unjust redistribution suggests that something else was at play—namely, that the public was "angered less by the reduction in their wealth than by the way in which the wealth was extracted." In other words, though the harm was being registered through an economic effect— a wealth transfer—the underlying source of the grievance was also political.

Another distinct goal was to preserve open markets, in order to ensure that new businesses and entrepreneurs had a fair shot at entry. Several Congressmen advocated for the Federal Trade Commission Act because it would help promote small business. Senator James Reed expressly noted that Congress's aim in passing the law was to keep markets open to independent firms. When discussing the Sherman Act, Senator George lamented that if large-scale industry were allowed to grow unchecked, it would "crush out all small men, all small capitalists, all small enterprises".

Through the 1950s, courts and enforcers applied antitrust laws to promote this variety of aims. While the vigor and tenor of enforcement varied, there was an overarching understanding that antitrust served to protect what Justice Louis Brandeis called "industrial liberty" (Brandeis & Lewis, 1934). Key to this vision was the recognition that excessive concentrations of private power posed a public threat, empowering the interests of a few to steer collective outcomes. "Power that controls the economy should be in the hands of elected representatives of the people, not in the hands of an industrial oligarchy," Justice William O. Douglas wrote. Decentralizing this power would ensure that "the fortunes of the people will not be dependent on the whim or caprice, the political prejudice, the emotional stability of a few self-appointed men".

As described earlier, Chicago School scholars upended this traditional approach, concluding that the only legitimate goal of antitrust is consumer welfare, best promoted through enhancing economic efficiency. Notably, some prominent liberals—including John Kenneth Galbraith—ratified this idea, championing centralization. In the wake of high inflation in the 1970s, Ralph Nader and other consumer advocates also came to support an antitrust regime centered on lower prices, according to the Chicago School's view. By orienting antitrust toward material rather than political ends, both the neoclassical school and its critics effectively embraced concentration over competition.

Focusing antitrust exclusively on consumer welfare is a mistake (Lynn, 2009). For one, it betrays legislative intent, which makes clear that Congress passed antitrust laws to safeguard against excessive concentrations of economic power. This vision promotes a variety of aims, including the preservation of open markets, the protection of producers and consumers from monopoly abuse, and the dispersion of political and economic control. Secondly, focusing on consumer welfare disregards the host of other ways that excessive concentration can harm us—enabling firms to squeeze suppliers and producers, endangering system stability (for instance, by allowing companies to become too big to fail), or undermining media diversity, to name a few. Protecting this range of interests requires an approach to

antitrust that focuses on the neutrality of the competitive process and the openness of market structures.

The Chicago School's embrace of consumer welfare as the sole goal of antitrust is problematic for at least two reasons. First, this idea contravenes legislative history, which shows that Congress passed antitrust laws to safeguard against excessive concentrations of private power. It recognized, in turn, that this vision would protect a host of interests, which the sole focus on "consumer welfare" disregards. Second, by adopting this new goal, the Chicago School shifted the analytical emphasis away from process—the conditions necessary for competition—and toward an outcome—namely, consumer welfare. In other words, a concern about structure (is power sufficiently distributed to keep markets competitive?) was replaced by a calculation (did prices rise?). This approach is inadequate to promote real competition, a failure that is amplified in the case of dominant online platforms.

Antitrust doctrine has evolved to reflect this redefinition. The recoupment requirement in predatory pricing, for example, reflects the idea that competition is harmed only if the predator can ultimately charge consumers supracompetitive prices. This logic is agnostic about process and structure; it measures the health of competition primarily through effects on price and output. The same is true in the case of vertical integration. The modern view of integration largely assumes away barriers to entry, an element of structure, presuming that any advantages enjoyed by the integrated firm trace back to efficiencies.

More generally, modern doctrine assumes that market power is not inherently harmful and instead may result from and generate efficiencies. In practice, this presumes that market power is benign unless it leads to higher prices or reduced output—again glossing over questions about the competitive process in favor of narrow calculations. In other words, this approach equates harm entirely with whether a firm chooses to exercise its market power through price-based levers, while disregarding whether a firm has developed this power, distorting the competitive process in some other way. But allowing firms to amass market power makes it more difficult to meaningfully check that power when it is eventually exercised. Companies may exploit their market power in a host of competitiondistorting ways that do not directly lead to short-term price and output effects.

A better way to understand competition is by focusing on competitive process and market structure. This approach is not advocating a strict return to the structure-conduct-performance paradigm. Instead, it proposes that seeking to assess competition without acknowledging the role of structure is misguided. This is because the best guardian of competition is a competitive process, and whether a market is competitive is inextricably linked to—even if not solely determined by how that market is structured. In other words, an analysis of the competitive process and market structure will offer better insight into the state of competition than do measures of welfare.

Moreover, this approach would better protect the range of interests that

Congress sought to promote through preserving competitive markets. Foundational to these interests is the distribution of ownership and control—inescapably a question of structure. Promoting a competitive process also minimizes the need for regulatory involvement. A focus on process assigns the government the task of creating background conditions, rather than intervening to manufacture or interfere with outcomes).

3. Data Collection

3.1. Methods

To gather comprehensive information about the 15 largest upcoming transmission projects in the United States, data was collected from multiple sources, including 10-K forms submitted to the SEC, FERC filings, and news articles detailing recent investments by infrastructure firms. The 10-K forms provided detailed financial and operational insights, FERC filings offered regulatory and compliance information, and news articles supplemented these official documents with current developments and investment activities in the industry. By triangulating data from these diverse sources, a robust and rigorous understanding of financial tethers of the projects was achieved.

3.2. Results

This paper exposes the conflicts of interests and financial tethers that exist within the 15 largest transmission projects in the US that are currently finishing up the permitting process as described as (Americans for a Clean Grid, 21). (**Table 1**) Five dominant firms have emerged.

Table 1. 15 largest forthcoming transmission projects.

Region	Project Name	Year Proposed	Miles	Kilovolts	AC/DC	Cost \$B
ERCOT - Southeast	Southern Spirit	2009	400	500	DC	2.5
MISO	LRTP Tranche 1	2022	2000	345	AC	10.3
MISO	Minnesota Energy Connection	2021	160	345	AC	0.48
MISO	SOO Green	2019	349	525	DC	4.0
NYISO	Clean Path New York	2021	175	400	DC	3.5
NYISO	Champlain Hudson	2017	265	320	DC	1.5
NYISO	New England Power Link	2017	25	320	DC	0.64
Northwest	TransWest Express	2016	213	500	AC	0.67
Northwest	Greenlink North	2020	235	525	AC	0.81

Continued						
Northwest	Greenlink West	2020	351	525	AC	1.61
РЈМ	Coastal Virginia	2016	71	230	AC	1.83
PJM	Kitty Hawk North	2019	55	275	AC	0.55
Southwest	RioSol	2006	550	500	AC	1.3
Southwest	SunZia	2018	46	230	AC	0.57
SPP	Grain Belt Express	2010	800	600	DC	7

First, there is the Anschutz Corporation. With regards to affiliations, TransWest Express (TWE) and PowerCompany of Wyoming (PCW) are wholly owned affiliates of the Anschutz Corporation. With regards to generation, PCW is building the Chokecherry and Sierra Madre turbines that will be installed on a 320,000-acre ranch owned by another affiliate of The Anschutz Corporation. This project is estimated to cost 5 billion dollars and be completed by 2027. With regards to transmission, TWE is building the eponymous TransWest Express Transmission Line from Wyoming to California and Nevada markets. This project is estimated to cost 3 billion dollars and be completed by 2027. Finally, within the energy markets there are several renewable portfolio standards (RPS). Nevada has a Renewable Portfolio Standard (RPS) of 50% by 2030. Currently it is at 37%. California RPS: 90% by 2035. Currently, it is at 60%.

Second, there is the private equity firm Blackrock. Blackrock is the largest private equity firm on Earth by AUM and is subject to the regulations described in part VI. With regards to affiliations, transmission Developer LLC (TDI) is a wholly owned subsidiary of Blackrock. Blackrock is a primary shareholder in Invenergy, investing a total of 4 billion dollars since 2021. In addition, Blackrock owns a portfolio of offshore wind projects totalling over 3 GW of capacity. On the generation side, the Champlain Hudson Power Express (CHPE) Transmission Line is being developed by Blackrock in partnership with Canadian State owned company Hydro-Quebec. Invenergy has recently been awarded a 350 MW wind energy contract from Hydro-Quebec Distribution. Additionally, Invenergy is the top wind producer in eastern Kansas. With regards to transmission, TDI is building CHPE spanning from the Canadian border to NYC. The project is estimated to cost 6 billion dollars and be completed by 2025. Blackrock is also behind New England Power Link which will bring in clean energy from Eastern Canada and the Atlantic Coast. Back in 2017, the NECPL was expected to go online in 2019, as long as it got the permits and power contracts needed to proceed. It ultimately got the permits but not the contracts. In addition, Blackrock is financing Clean Path New York will bring in clean energy from Invenergy. The project is estimated to cost 11 billion dollars and be completed by 2027. Finally, Grain Belt Express will bring in energy from Kansas to Illinois. The project is estimated to cost 7 billion dollars and be completed by 2026. New York has a RPS of 70% by 2030. Currently it is at 22%.

Third, monopolization is occurring with the firm Pattern Energy which is unaffiliated with any larger or smaller firm. On the generation side, Pattern Energy is developing a 3500 MW wind farm in New Mexico, costing approximately 6 billion dollars to construct. The project is expected to be completed by 2026. Regarding transmission, Pattern is also building the SunZia transmission line, spanning from New Mexico to Arizona (Southwest Market). The project is estimated to cost 2 billion dollars and be completed by 2026.

Fourth, a similar situation with Pattern Energy is occurring with South Western Power Group. SWP is a wholly owned subsidiary of MMR group. MMR is a global leader in the construction of electric transmission lines . Agua Fria Energy is a wholly owned subsidiary of SWP. Regarding generation, Agua Fria Energy is developing large-scale wind, solar, and energy storage projects in New Mexico and Arizona. SWP is also building the Rio Sol transmission line, adjacent to the SunZia transmission line and spanning from New Mexico to Arizona (Southwest Market). The project is estimated to cost 2 billion dollars and be completed by 2026.

Finally, there is the regulated utility NV Energy which is a subsidiary of Berkshire Hathaway Energy. NV Energy owns generation assets in Las Vegas, Yerington and Ely. NV Energy is currently building three large transmission lines. Greenlink West will be a 525 kV line that spans approximately 350 miles from Las Vegas, NV to Yerington, NV. Scheduled In-Service Date: December 2026. Greenlink North will be a 525 kV line that spans approximately 235 miles from Ely, NV to Yerington, NV. Scheduled In-Service Date: December 2028 (Id.). Greenlink Nevada will also include three 345 kV lines from Yerington, NV to the Reno, NV area (Id.). With regards to the RPS, Nevada has an RPS of 100% by 2050. Currently it is at 37%.

3.3. Discussion

The data collection in this paper describes market concentration in the most pertinent, generation and transmission infrastructure. Although the sample size is by no means an assessment of the entire industry, it provides a glimpse into the inner workings of the burgeoning clean energy industry. The Review of Literature in this paper catalogs the debate between those who prefer a proactive posture towards market regulations and one that is reactive. This paper argues that, in light of congressional intent regarding antitrust, a structural approach to administering the law is generally most appropriate. Bringing both sections of this paper together, one recognizes that the Chicagoan approach to antitrust falls apart when applied to the situation described by the data collection for two interrelated reasons.

First, the complex and arduous regulatory process creates massive barriers to entry. Take for example, the wind project being developed by the Anschultz corporation as described above. It took more than 10 years for the firm to go through the procedural steps-such as certifications, studies, hearings and environmental impact statements-necessary to put steel in the ground. This creates a massive head start for the existing projects, operating in a consolidated market, to claim as much market share as possible through power purchase agreements, contracts to purchase power from a specific vendor that span more than two decades.

Second, the interconnection process, bringing new power lines onto the grid in a safe and orderly manner, is unable to accommodate the increased volume of requests brought on by the lean energy transition. As of February 2024, over 2000 gigawatts of generation and storage projects were waiting to be connected to the grid, which is more than the grid's total installed capacity, compounding the barriers of entry described previously. The backlog is caused by pervasive issues that are not likely to be solved soon. For example, there is a shortage of qualified workers to complete the necessary interconnection studies for the regional grid operators. The California Independent System Operator (CAISO) said in a statement to the US Federal Energy Regulatory Commission (FERC) that "few experts are available to hire" who can conduct interconnection studies for utility-scale projects. The Midcontinent Independent System Operator (MISO) similarly reported to FERC in late 2020 that it has "experienced delays in performance of interconnection studies by outside consultants." FERC cited both comments in a recent notice about a proposed rule to improve generator interconnection procedures.

Both of these challenges present entry barriers that go beyond economic markets. They are inherent to the system of electric generation and transmission. Thus, the fundamental proposition of the Chicago school that market power is always fleeting is turned on its head in the context of electric transmission. The clean energy transition is so fundamental to ensuring that future generations may prosper that it tells us to be proactive and ensure as much competition as possible on the market. Make no mistake, this paper is not advocating for central planning to replace free markets in terms of providing the means to satisfy the goals of the clean energy transition. Rather this paper suggests that the government ought to use every tool available and its arsenal to create the freest market so to speak, with as much competition to produce the best, most efficient, clean grid as fast as possible. This paper suggests three tools that the government may employ in order to achieve this ideal.

First, amend 2020 Merger Guidelines to include special scrutiny for "exceptional" industries. This approach involves clearly defining what constitutes an "exceptional" industry, with a focus on sectors crucial for national security, public welfare, or those undergoing rapid technological change. Establishing stricter thresholds for market concentration and potential anticompetitive behavior, such as lowering the Herfindahl-Hirschman Index (HHI) thresholds, and incorporating specific criteria relevant to clean energy transmission, like the potential for innovation stifling, impact on energy independence, and environmental considerations, will ensure thorough review and prevent monopolistic behaviors.

Second, Congress can amend §16 USC 19.Q (a) to include policing conflicts of interest in the directive for FERC will increase transparency and trust in FERC's

regulatory decisions. Mandating the development and enforcement of robust conflict of interest policies, requiring full disclosure of financial interests by FERC commissioners, staff, and relevant stakeholders, and providing FERC with the authority and resources to investigate and penalize conflicts of interest will reduce the risk of regulatory capture. This ensures that FERC's decisions are in the public interest, promoting fair competition and the growth of the clean energy market. Additionally, it allows research papers such as this one to more easter assess the state of market concentration in the clean energy industry.

Third, an agency can leverage Section 5 (b) of the Federal Trade Commission Act (FTCA) to litigate anticompetitive practices in the clean energy transmission industry, under the guise of it being an 'exceptional' industry, is crucial. This involves arguing the clean energy sector's importance for national security, environmental sustainability, and public welfare, and bringing more frequent and aggressive enforcement actions against anticompetitive practices such as price-fixing, market division, or monopolistic behaviors. Coordinating with other federal and state agencies will strengthen the enforcement impact and ensure comprehensive oversight. These actions deter companies from engaging in anticompetitive practices, promote a more competitive market environment, and ensure the transition to clean energy is not hindered by monopolistic entities, benefiting consumers and the environment.

4. Conclusion

This paper flags ongoing market concentration in the clean energy generation and transmission industry through data collection. It assesses the historical debate on the proper response to market concentration in both academic and judicial circles. It argues for a proactive approach to market concentration and provides three methods of achieving remedy through the political and legal system. These are complex issues taking place in a complex and dynamic industry. No one has a crystal ball that will predict the actions of the market; history is clear that competition is the path to forge a better tomorrow. Through competition, we ensure the success of tomorrow's energy grid.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

References

Brandeis, L. D., & Lewis, C. M. (1934). The Curse of Bigness: Miscellaneous Papers of Louis

D. Brandeis. Viking Press.

- Brietzke, P. H. (2011). Robert Bork, the Antitrust Paradox: A Policy at War with Itself. *Valparaiso University Law Review, 13,* 403-421.
- Cai, Y., Xin, M., & Chen, C. (2023). Survey of Clean Energy Industry Based on Information Analysis Method. *Journal of Power and Energy Engineering*, *11*, 69-74. https://doi.org/10.4236/ipee.2023.116007
- California Governor (2022, November 16). *California Releases World's First Plan to Achieve Net Zero Carbon Pollution.*
- Fox, E. M. (2012). Against Goals. Fordham Law Review, 81, 2157.
- Lawrence Livermore National Laboratory (2021). United States Energy-Related Carbon Emissions in 2021.
- Leppert, R., & Kennedy, B. (2022, October 14). *Home Solar Panel Adoption Continues to Rise in the U.S.*
- Letwin, W. L. (1955). Congress and the Sherman Antitrust Law: 1887-1890. The University of Chicago Law Review, 23, 221-258. <u>https://doi.org/10.2307/1598473</u>
- Lynn, B. C. (2009). *Cornered: The New Monopoly Capitalism and the Economics of Destruction*. Turner Publishing Company.
- National Caucus of Environmental Legislators NCEL (2022). *Maryland Passes the Climate Solutions Now Act.*
- Pandey, A. (2016) Power Producing Preheaters—An Approach to Generate Clean Energy in Cement Plants. *Energy and Power Engineering*, *8*, 204-218. https://doi.org/10.4236/epe.2016.84019
- Posner, E. A. (2021). Antitrust and Labor Markets: A Reply to Richard Epstein. NYUJL & Liberty, 15, 389. <u>https://doi.org/10.2139/ssrn.3977736</u>
- Stevens, W. H. (1915). The Clayton Act. The American Economic Review, 5, 38-54.
- US EPA, O. (2015, November 9). *Cleaner Power Plants*. US EPA. <u>https://www.epa.gov/power-sector/power-plants-and-neighboring-communities</u>
- White House (2021). *Executive Order on Catalyzing Clean Energy Industries and Jobs through Federal Sustainability.* The White House.
- Yancopoulos, D. (2022). Impacts of Extreme Heat on Solar and Wind Power Production: An Assessment of Princeton University's Net Zero America E+ RE+ Pathway. Theses, Princeton University.

Appendix

https://docs.google.com/document/d/1NTykyTO682697lxxKoHYW9H5QFfw-CtPrwj1bj59YMs/edit?usp=sharing