THE LAW OF ENERGY ABUNDANCE*

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For the first time in decades, electricity demand in the United States is increasing due to the growth of data centers to power artificial intelligence, new manufacturing hubs, and transportation electrification. At the same time, coal-fired power plants have been closing in response to competition from lower cost natural gas and renewable energy. Clean energy is being rapidly deployed to replace fossil fuels but not quickly enough to address concerns about demand growth and grid reliability. Accordingly, there is a growing imbalance between electricity supply and demand in many regions of the country that threatens to increase electricity prices and undermine the clean energy transition needed to support an affordable, reliable electric grid in the face of climate-driven increases in severe weather.

The lagging supply of carbon-free energy is not caused primarily by technological or economic constraints, but rather by a set of artificial bottlenecks that are embedded in the current legal and regulatory frameworks governing domestic energy development. In this Article, we examine for the first time how the emerging abundance movement, which focuses on supply-side solutions to scarcity issues throughout the economy, may be well suited to address energy development barriers. Having already helped support a series of pro-housing zoning reforms throughout the country, the abundance movement presents a vision of growth, jobs, and lower prices that can appeal to a broad range of stakeholders and policymakers at a time of high political polarization in the United States.

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We propose a theory of clean energy abundance that can combine the strengths of both the burgeoning abundance movement and the longstanding environmental protection movement. In contrast to other abundance thinkers that favor an "all-of-the-above" approach to energy that includes new fossil fuel plants, we believe the urgency of climate change and the benefits of building coalitions with environmental advocates require a different direction. We lay out a "Law of Energy Abundance" focused exclusively on building carbon-free energy and related infrastructure. We assess the current barriers to achieving clean energy abundance as we define it and propose targeted legal reforms that can reduce or eliminate these barriers.

INTRODUCTION

For the first time in decades, electricity demand in the United States is increasing due to the growth of data centers to power artificial intelligence ("AI"), new manufacturing hubs, and transportation electrification.[1] At the

1. Rawley Loken, Amber Mahone & Tory Clark, *Federal Policy Rollbacks Won't Stop Electricity Growth*, UTIL. DIVE (Jan. 22, 2025), https://www.utilitydive.com/news/federal-policy-rollbacks-electricity-demand-growth-data-center-EV/737456/ [https://perma.cc/PP2F-65QV] (showing historical and estimated future U.S. electricity growth since 1970 and detailing sources of new demand); *see also* Brad Plumer & Nadja Popovich, *A New Surge in Power Use Is Threatening U.S. Climate Goals*, N.Y. TIMES (Mar. 14, 2024), https://www.nytimes.com/interactive/2024/03/13/climate/electric-power-climate-change.html [https://perma.cc/3NEL-W7V4 (dark archive)]; Jeff St. John, *Data Centers*

same time, coal-fired power plants have been closing in response to competition from lower-cost natural gas and renewable energy.[2] Clean energy is being rapidly deployed to replace those plants, but this is not happening fast enough to address concerns about demand growth and grid reliability.[3] Specifically, studies show that there is a growing imbalance between supply and demand in many regions of the country that threatens to increase electricity prices, delay coal plant retirements, and undermine the clean energy transition needed to ensure a reliable and affordable electric grid in the face of climate-driven increases in extreme weather.[4]

The lagging supply of carbon-free energy is not caused primarily by technological or economic constraints, but rather by a set of artificial bottlenecks that are embedded in the current legal and regulatory frameworks governing American energy development. This challenge of inadequate supply due to legal and regulatory constraints is also reflected in other areas of the economy.[5] It has led to the emergence of an "abundance" movement focused on addressing

Are Driving US Power Demand to Hard-to-Reach Heights, CANARY MEDIA (Dec. 9, 2024), https://www.canarymedia.com/articles/utilities/data-centers-are-driving-us-power-demand-to-hard-to-reach-heights [https://perma.cc/ND39-7ND9].

2. *Targeted Coal Plant Closures May Boost Environmental, Health Outcomes*, PENN STATE (Dec. 11, 2024), https://www.psu.edu/news/research/story/targeted-coal-plant-closures-may-boost-environmental-health-outcomes [https://perma.cc/P9NX-GMPT] (discussing reasons for coal plant closures). *But see* Jeff St. John, *States, Enviro Groups Fight Trump Plan To Keep Dirty Power Plants Going*, CANARY MEDIA (July 10, 2025), https://www.canarymedia.com/articles/fossil-fuels/trump-coal-plant-order-challenges [https://perma.cc/P4HE-6RLL] (discussing litigation over Trump administration efforts to use emergency authority to keep coal plants open in the name of grid reliability).

3. *See* N. AM. ELEC. RELIABILITY CORP., 2024 LONG-TERM RELIABILITY ASSESSMENT 6–10 (2024), https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_Long%20Term%20Reliability%20Assessment_2024.pdf [https://perma.cc/TD5X-RXR7] ("New solar PV, battery, and hybrid resources continue to flood interconnection queues, but completion rates are lagging behind the need for new generation."); Benjamin Storrow, *Soaring Power Demand Could Fuel Trump Carbon Boom*, CLIMATEWIRE (Jan. 6, 2025, at 06:18 ET), https://www.eenews.net/articles/soaring-power-demand-could-fuel-trump-carbon-boom/ [https://perma.cc/V2VJ-72T7] (discussing how concerns over electricity demand growth may slow coal plant retirements and result in increasing support for new gas plants).

4. *See* N. AM. ELEC. RELIABILITY CORP., *supra* note 3 (explaining that most of the North American grid will face resource adequacy challenges over the next ten years as "surging demand growth continues and thermal generators announce plans for retirement"); *100% Clean Electricity by 2035 Study*, NAT'L RENEWABLE ENERGY LAB'Y, https://www.nrel.gov/analysis/100-percent-clean-electricity-by-2035-study.html [https://perma.cc/N34F-JK76] (describing study calculating the cost and benefits of different pathways to a 100% decarbonized U.S. electric grid, finding that in all scenarios, the benefits associated with a decarbonized grid outweigh the costs, and that with the "avoided cost of damage from floods, drought, wildfires, and hurricanes due to climate change, the United States could save over an additional $1.2 trillion—totaling an overall net benefit to society ranging from $920 billion to $1.2 trillion"); Ivan Penn & Karen Weise, *Big Tech's A.I. Data Centers Are Driving Up Electricity Bills for Everyone*, N.Y. TIMES (Aug. 14, 2025), https://www.nytimes.com/2025/08/14/business/energy-environment/ai-data-centers-electricitycosts.html?unlocked_article_code=1.eU8.cSDu.CL-bavCA6qU4&smid=url-share [https://perma.cc/M4AC-ES7A (staff-uploaded, dark archive)] (discussing increased electricity prices).

5. *See infra* Section I.A.

supply-side problems in areas as diverse as housing,[6] healthcare,[7] higher education,[8] and air travel.[9] According to abundance advocates, these supply-side bottlenecks are largely caused by a "scarcity mindset . . . too often upheld by those invested in maintaining the status quo."[10] They argue that "society's challenges cannot all be resolved merely by regulation or redistribution, but also require the active expansion of material resources, opportunity, and productivity" by overcoming "overly burdensome" regulatory and legislative processes.[11]

We propose that the abundance movement may be uniquely well suited to address the nation's energy-supply challenges. Having already helped support a series of pro-housing zoning reforms throughout the country, the abundance movement presents a vision of growth, jobs, and lower prices that can appeal to a broad range of stakeholders and policymakers at a time of high political polarization in the United States.

This Article is the first to define and explore in detail the concept of energy abundance within the broader abundance movement. It argues that energy abundance in the United States and the world cannot succeed without a comprehensive shift to zero-carbon energy because of the local and global environmental harms and socioeconomic costs associated with continuing to burn fossil fuels. It proposes a "Law of Energy Abundance" to shape advocacy and policy efforts around a clean energy transition that can bridge existing divides between supply-side advocates and environmental protection advocates.

The following two examples illustrate in more detail the problem of supply constraints in the energy sector that an abundance approach can potentially address. The first example involves the results of the July 2024 capacity

6. *See infra* Part III.

7. *See* Robert Orr, *The Planning of U.S. Physician Shortages*, NISKANEN CTR. (Sep. 8, 2020), https://www.niskanencenter.org/the-planning-of-u-s-physician-shortages/ [https://perma.cc/KLM6-F3UA] (arguing that, from 1980 to the early 2000s, private and public actors took various actions to constrain the supply of U.S. physicians, most notably through a moratorium on the establishment of new medical schools and a reduction in enrollment, which "had the effect of making U.S. health care more intensive and less accessible than it otherwise would have been").

8. *See* Robert Tracinski, *The Unnecessary Crisis of Elite College Admission*, DISCOURSE MAG. (July 8, 2024), https://www.discoursemagazine.com/p/the-unnecessary-crisis-of-elite-college [https://perma.cc/S6KD-Z4TS] (arguing that the opportunity to attend an elite university has been "artificially restricted" because available spots have failed to keep pace with population growth).

9. *See* Gary Leff, *The Path to Abundant Air Travel*, DISCOURSE MAG. (Apr. 28, 2023), https://www.discoursemagazine.com/p/the-path-to-abundant-air-travel [https://perma.cc/VGU7-U9XA] (arguing that supply-side reforms like legalizing new airlines, expanding airport capacity, reducing the 1,500-hour training requirement for commercial pilots, and allowing more foreign investment would "result in more, cheaper and better options for air travelers").

10. *What Is Abundance*, ABUNDANCE CONF., https://www.abundanceconference.org/about [https://perma.cc/59CY-JKGA].

11. *Id.*

auction[12] in the PJM Interconnection, which is the regional transmission organization ("RTO") that operates the electric grid and runs market auctions for energy, capacity, and other electric grid needs across all or parts of thirteen states in the Mid-Atlantic region and portions of the Midwest.[13] Normally an object of interest only for direct participants and policy wonks, this particular auction set off alarm bells throughout the electricity industry and pushed five state governors to issue an unusual joint letter calling on PJM to "take swift action to . . . prevent unnecessary increases in capacity costs that would be passed on to our residents and businesses."[14]

The basic structure of capacity market auctions is that load-serving entities (like utility companies that supply electricity to end-use customers) pay generators (like power plants) to promise to make generating capacity available during a future delivery period.[15] First, the market operator sets a "resource adequacy" requirement, which is the amount of generating capacity needed to meet electric demand and provide a sufficient reserve margin during the delivery period.[16] Next, generators place cost-based offers into the auction. The auction operator then orders the offers based on price, automatically accepting the cheapest ones until the resource adequacy requirement is met.[17] All generators with accepted offers are then paid at the "market clearing price," which is the marginal cost of the last (and therefore most expensive) offer accepted.[18] High clearing prices, which could be caused by low supply or high

12. PJM, 2025/2026 BASE RESIDUAL AUCTION REPORT (2024), https://pjm.com/-/media/markets-ops/rpm/rpm-auction-info/2025-2026/2025-2026-base-residual-auction-report.ashx [https://perma.cc/9TCW-NKW8 (staff-uploaded archive)].

13. *About PJM*, PJM, https://www.pjm.com/about-pjm [https://perma.cc/F597-LS4Y (staff-uploaded archive)].

14. Letter from JB Pritzker, Governor of Ill., Wes Moore, Governor of Md., John Careny, Governor of Del., Phil Murphy, Governor of N.J. & Josh Shapiro, Governor of Pa., to Mark Takahashi, Chair of PJM Bd. of Managers & Manu Asthana, President & CEO of PJM (Oct. 25, 2024), https://www.pjm.com/-/media/DotCom/about-pjm/who-we-are/public-disclosures/2024/20241025-governors-letter-regarding-capacity-auctions [https:/perma.cc/7YC2-4L7W (staff-uploaded archive)]; *see also* Complaint at 3, Pennsylvania v. PJM Interconnection, L.L.C., Docket No. EL25-46-000 (FERC Dec. 30, 2024) (requesting that FERC order PJM to lower its price cap to protect consumers from "runaway" capacity prices).

15. For more details on how capacity markets work and how they differ from energy markets, see Kathleen Spees, Samuel A. Newell & Johannes P. Pfeifenberger, *Capacity Markets—Lessons Learned from the First Decade*, 2 ECON. OF ENERGY & ENV'T POL'Y 1 (2013).

16. *See* DEREK STENCLIK, ESIG, NEW RESOURCE ADEQUACY CRITERIA FOR THE ENERGY TRANSITION: MODERNIZING RELIABILITY REQUIREMENTS 2 (2024), https://www.esig.energy/wp-content/uploads/2024/03/ESIG-New-Criteria-Resource-Adequacy-report-2024.pdf [https://perma.cc/4W8G-5WWM].

17. TODD AAGAARD & ANDREW KLEIT, ELECTRICITY CAPACITY MARKETS 20 (2022).

18. *Id.*

demand, are meant to send a price signal to create incentives for investors to develop new energy generation facilities.[19]

PJM's July 2024 capacity auction was unprecedented. It resulted in a total of $14.7 billion in capacity costs that customers will pay on their bills during the 2025/2026 delivery year, a massive increase over the $2.2 billion in capacity costs in the 2024/2025 delivery year.[20] The PJM-wide baseline capacity price, meanwhile, increased by more than 800%.[21] A primary driver of the capacity auction result was the imbalance between electricity supply and demand—a discrepancy that continues to grow, both in PJM and around the country.[22] At the end of 2023, there were over 286 gigawatts ("GW") of new electric generation projects waiting for PJM's approval to connect to the grid (waiting in the "interconnection queue"), the vast majority of which were renewable resources, like solar and wind plants.[23] By comparison, the *total* existing capacity that cleared the PJM auction was about 135 GW.[24]

While in the interconnection queue, proposed projects must undergo a series of studies to determine how they might impact system reliability, as well as the transmission upgrades and new facilities they would require.[25] Notably, about 38 GW of projects had already cleared PJM's interconnection queue but had not yet been built (and thus could not bid into the auction) due to "external challenges, including financing, supply chain and siting/permitting issues."[26] Subsequent analysis by the Natural Resources Defense Council ("NRDC") found that even if only 7 GW of additional renewable capacity had been able to

19. *Id.* at 2–6; *PJM Capacity Market: Promoting Future Reliability*, PJM (Jan. 29, 2025), https://www.pjm.com/-/media/about-pjm/newsroom/fact-sheets/pjm-capacity-market-promoting-future-reliability-fact-sheet.ashx [https://perma.cc/4WNY-AB29 (staff-uploaded archive)].

20. TIM HORGER & ADAM KEECH, PJM MARKETS & RELIABILITY COMM., 2025/2026 BASE RESIDUAL AUCTION RESULTS 8 (2024), https://pjm.com/-/media/committees-groups/committees/mrc/2024/20240821/20240821-item-08---2025-2026-base-residual-auction---presentation.ashx [https://perma.cc/KHV2-FW6Q (staff-uploaded archive)].

21. *Id.*

22. *See* N. AM. ELEC. RELIABILITY CORP., *supra* note 3.

23. JOSEPH RAND, NICK MANDERLINK, WILL GORMAN, RYAN WISER, JOACHIM SEEL, JULIE MULVANEY KEMP, SEONGEUN JEONG & FRITZ KAHRL, LAWRENCE BERKELEY NAT'L LAB'Y, QUEUED UP: 2024 EDITION: CHARACTERISTICS OF POWER PLANTS SEEKING TRANSMISSION INTERCONNECTION AS OF THE END OF 2023, 9–12 (2024), https://emp.lbl.gov/sites/default/files/2024-04/Queued%20Up%202024%20Edition_R2.pdf [https://perma.cc/F3WP-JLFW] (discussing interconnection queues).

24. HORGER & KEECH, *supra* note 20, at 8.

25. RAND ET AL., *supra* note 23, at 2, 6.

26. *PJM Capacity Auction Procures Sufficient Resources to Meet RTO Reliability Requirement, Tighter Supply/Demand Balance Drives Higher Pricing Across the Region*, PJM (July 30, 2024), https://www.pjm.com/-/media/about-pjm/newsroom/2024-releases/20240730-pjm-capacity-auction-procures-sufficient-resources-to-meet-rto-reliability-requirement.ashx [https://perma.cc/3X9R-HBUN (staff-uploaded archive)].

enter the July 2024 auction, the market clearing price for that auction would have been over sixty percent lower.[27]

The second example of supply constraints in the energy sector involves the well-documented challenges to building the long-distance, electric transmission lines needed to improve grid reliability in the face of more climate change-driven extreme weather, as well as to transport low-cost wind and solar energy from where it can be generated to population centers.[28] In 2011, the Midcontinent Independent System Operator ("MISO"), an RTO covering all or parts of fifteen states in the Midwest and South,[29] approved a portfolio of seventeen high-voltage transmission projects, known as the Multi-Value Projects ("MVPs"), designed to increase grid reliability, lower electricity costs across the region, and help states achieve their statutory renewable energy goals and mandates.[30] One of these MVPs was the 102-mile, 345-kV Cardinal-Hickory Creek transmission line, planned to connect western Wisconsin with northeastern Iowa, bringing wind and solar resources in the upper Midwest to population centers along the Great Lakes.[31]

The line passed through a portion of the Upper Mississippi River National Wildlife and Fish Refuge along the Iowa-Wisconsin border, which prompted a lawsuit from three environmental groups represented by the Environmental Law and Policy Center.[32] They argued that the refuge, which is "a habitat for fish and wildlife and hosts millions of migratory birds each year," should not be turned into a "sacrifice zone" for transmission development, even though two smaller transmission lines already crossed through the refuge and the Cardinal-Hickory Creek project would merely replace one and reroute the other.[33] Notably, other environmental advocacy groups and clean energy nonprofits joined the lawsuit on the side of the developers, arguing that the line was needed to support renewable energy development in the region and to help retire

27. Claire Lang-Ree & Tom Rutigliano, *PJM's Capacity Auction: The Real Story*, NAT. RES. DEF. COUNCIL (Aug. 22, 2024), https://www.nrdc.org/bio/claire-lang-ree/pjms-capacity-auction-real-story [https://perma.cc/RL5L-AU8X (staff-uploaded archive)].

28. For more details on these challenges, see generally Alexandra B. Klass, Joshua Macey, Shelly Welton & Hannah Wiseman, *Grid Reliability Through Clean Energy*, 74 STAN. L. REV. 969, 1022–24 (2022) (evaluating governance-related barriers to grid reliability); *infra* Section IV.B (explaining the structural and regulatory barriers to electric grid expansion and proposed reforms).

29. *About MISO*, MIDCONTINENT INDEP. SYS. OPERATOR, https://www.misoenergy.org/meet-miso/about-miso/ [https://perma.cc/MU8G-F85A (staff-uploaded archive)].

30. Jeff Dennis, *Lessons from MISO on Transmission Planning for a Changing Grid*, ADVANCED ENERGY UNITED (Aug. 24, 2022, at 14:00), https://blog.advancedenergyunited.org/lessons-from-miso-on-transmission-planning-for-a-changing-grid [https://perma.cc/44PY-8PTD].

31. *Cardinal-Hickory Creek Transmission Line Project*, CARDINAL-HICKORY CREEK TRANSMISSION LINE PROJECT, cardinal-hickorycreek.com [https://perma.cc/3GYX-BBBE].

32. Dan Gearino, *A Power Line Debate Pits Environmental Allies Against Each Other in the Upper Midwest*, INSIDE CLIMATE NEWS (Mar. 31, 2024), https://insideclimatenews.org/news/31032024/upper-midwest-transmission-line-debate/ [https://perma.cc/KV5A-P6B5].

33. *Id.*

existing fossil fuel plants.[34] Ultimately, the lawsuit prevented the line's developers from completing construction until 2024, making it the last MVP project to become operational—many years after the other sixteen projects—and contributing to a project cost increase of over $150 million.[35]

These two examples illustrate the permitting and litigation barriers to increasing the supply of clean energy needed to maintain grid reliability, lower electricity costs, and decarbonize the economy. They also illustrate the growing chasm between clean energy advocates and environmental protection advocates, and even among environmental protection advocates, based on conflicts over whether to prioritize electricity sector carbon reduction or avoid localized environmental impacts. These stubborn obstacles to constructing new clean energy infrastructure raise the question of whether an alliance can be formed to bridge the divide between advocates who have a common goal of increasing the supply of carbon-free electricity but differ on their priorities and strategies.

This is where the abundance movement shows promise. The abundance movement, together with the "Yes in My Backyard" ("YIMBY") movement, has had success in the housing realm through local and state-level legislative changes to ease permitting and zoning restrictions for multi-family housing units and accessory dwelling units ("ADUs") to address increasing scarcity and higher prices in residential real estate. A central question for this Article is the extent to which energy abundance can follow the lead of housing abundance and create bipartisan coalitions of advocates and politicians to overcome permitting delays and other roadblocks to building clean energy infrastructure.

Our inquiry in this Article is limited in scope. We do not attempt to address the full extent of the important distributional and place-based challenges associated with building large-scale renewable energy projects in communities that may not welcome them or may be adversely impacted.[36] Neither do we discuss the investment and financing challenges associated with clean energy development, nor the prospect of more limited tax incentives and

34. *Id.*

35. *Id.*; *Three Utility Companies Complete Cardinal-Hickory Creek Transmission Line*, PBS WIS. (Sep. 27, 2024), https://pbswisconsin.org/news-item/three-utility-companies-complete-cardinal-hickory-creek-transmission-line/ [https://perma.cc/ESV6-SCC3].

36. For a discussion of this important topic, see generally Alexandra B. Klass & Hannah Wiseman, *Repurposed Energy*, 109 MINN. L. REV. 219, 307–12 (2024); Ann M. Eisenberg, *Extracting Clean Energy*, 59 U.C. DAVIS L. REV. (forthcoming 2026) (manuscript at 4–5), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5208218 [https://perma.cc/NXK9-CQCU]; Hannah J. Wiseman, Jennifer Baka & Kaitlyn Spangler, *Renegotiating the Energy Transition*, 97 U. COLO. L. REV. (forthcoming 2026) (manuscript at 3–5), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5241997 [https://perma.cc/U383-RV5Z]; Emily Hammond, *The Community Veto and the Clean Energy Transition*, 85 OHIO STATE L.J. 1031 (2025); Christiana Ochoa, Kacey Cook & Hanna Weil, *Deals in the Heartland, Renewable Energy Projects, Local Resistance, and How Law Can Help*, 107 MINN. L. REV. 1055 (2023).

grants for such development resulting from the transition from the Biden administration to the Trump administration.

Instead, our contribution is to define energy abundance and to begin to construct a Law of Energy Abundance to achieve it. To our knowledge, this is the first effort to do so. While abundance advocates have written at some length about the need for energy abundance, they often do so in a way that can gloss over the real differences between abundance proponents who would include natural gas and other fossil fuels in their supply-side efforts and those who would not.[37] This distinction is important. Energy abundance in the United States and the world cannot succeed without a shift to zero-carbon energy because of the local and global environmental harms and socioeconomic costs associated with continuing to burn fossil fuels. Moreover, a platform of energy abundance focused exclusively on building new, carbon-free energy resources has the potential to bring together abundance advocates and environmental protection advocates to create a movement focused on abundant clean energy that can support technological advances and promote domestic prosperity.

The understudied nature of energy abundance stands in contrast to housing abundance, where both advocates and scholars have written at length to define the problem, the solution, and the legal and policy tools to achieve housing abundance.[38] There is a great deal that would-be energy abundance advocates can learn from housing abundance advocates, even though there are important distinctions between the two types of infrastructure that we explore in this Article.

This effort to define and build a movement around energy abundance comes at a critical juncture. Upon his inauguration in January 2025, President Trump immediately began dismantling President Biden's federal clean energy policies by directing federal agencies to create expedited approval processes for fossil fuel projects while simultaneously attempting to bring wind and solar energy development to a halt both on and off federal lands and waters.[39] While

37. *See infra* Section IV.A.

38. *See infra* Part III (describing abundance literature in the housing context).

39. *See, e.g.*, Exec. Order No. 14,156, 90 Fed. Reg. 8433, 8434 (Jan. 29, 2025) (using statutory emergency authorities to declare an "energy emergency" based primarily on high energy prices, directing federal agencies to "[e]xpedite the completion of all authorized and appropriated infrastructure, energy, environmental and natural resources projects," and defining "energy" to exclude wind and solar resources); Memorandum on Temporary Withdrawal of All Areas on the Outer Continental Shelf from Offshore Wind Leasing and Review of the Federal Government's Leasing and Permitting Practices for Wind Projects, 2025 DAILY COMP. PRES. DOC. 144 (Jan. 20, 2025) (halting all leasing and permitting for offshore and onshore wind projects on federal lands as well as federal permits required for onshore wind projects on private and state lands); *see also* Michael Gerrard, *Trump Executive Orders on Energy and Environment: A Quick Summary*, CLIMATE L.: A SABIN CTR. BLOG (Jan. 21, 2025), https://blogs.law.columbia.edu/climatechange/2025/01/21/trump-executive-orders-on-energy-and-environment-a-quick-summary/ [https://perma.cc/FFP9-JLSA] (summarizing President Trump's executive orders on energy and the environment).

these federal policy developments present significant barriers to a clean energy transition, these threats can also present opportunities for advocates. They provide a moment for clean energy advocates, state and local governments with decarbonization goals, and other interested parties to consider new alliances, regroup, evaluate new directions, and build new movements to achieve shared goals. Developing an approach to energy abundance that unites and realigns interest groups can drive short-term progress at the state and local levels while laying the groundwork for effective federal action when the opportunity arises.

This Article proceeds in four parts. Part I discusses the origins and development of the abundance movement. Part II takes a critical look at opposition to the abundance movement, most notably manifested in the degrowth movement, as well as the de facto anti-growth positions that some environmental advocacy groups take regarding clean energy infrastructure. Part III explores the successes that abundance advocates have achieved to date in the housing sector, especially those associated with the YIMBY movement, and considers the similarities and differences between energy and housing in this context. Part IV defines clean energy abundance and describes how a Law of Energy Abundance should be developed and implemented through targeted legal reforms to the permitting and siting processes for clean energy generation facilities and electric transmission lines.

I. WHAT IS ABUNDANCE?

This Part examines how the abundance movement evolved from a set of influential articles written by journalists and bloggers to an institutionalized policy agenda that many Democratic and Republican leaders have begun to embrace. It begins by tracing the common threads through the early formulations of abundance beginning during the COVID-19 pandemic—specifically, how its advocates have focused on the relationship between supply and demand for goods and services. It then describes the think tanks and conferences that have transformed abundance into a distinctive and bipartisan political faction.

A. *From Supply-Side Progressivism to Abundance*

From its origins, the abundance movement has centered on supply and demand. In 2021, *New York Times* columnist Ezra Klein first wrote about how Democrats should adopt what he called "supply-side progressivism" as an alternative to "cost disease socialism,"[40] and "take innovation as seriously as

40. For a further discussion of "cost disease socialism," see STEVEN M. TELES, SAMUEL HAMMOND & DANIEL TAKASH, NISKANEN CTR., COST DISEASE SOCIALISM (2021).

[they take] affordability."[41] Specifically, he identified how, by subsidizing the costs of goods and services through demand-side social programs without eliminating "choke points" in the supply of those goods and services, Democrats were inadvertently promoting policies that raise prices and decrease accessibility.[42] As one example, Klein speculated that if the Biden administration were to give every American a check to transition to renewables, "the policy would fail, because we haven't built that much renewable capacity, to say nothing of the supply chain needed to deploy and maintain it."[43]

As Klein noted at the time, the term "supply-side" has long been coded as right-wing in American politics, as it summons memories of the Laffer curve and Reagan-era trickle-down economics.[44] "Supply-side progressivism" was explicitly meant to reclaim the term for Democrats. Soon after Klein's article was published, however, his ideas were repackaged and expanded upon in less overtly political language. Blogger and journalist Matthew Yglesias, for example, agreed with Klein's case for supply-side progressivism but took issue with his framing, arguing that both conservatives and progressives should care about supply-side issues like housing scarcity and limited residency slots for physicians.[45] Yglesias characterized these issues as "not well suited to resolution through high-profile partisan warfare."[46] Separately, writer Jerusalem Demsas identified excessive deference to community input and anti-development lawsuits as core reasons why the United States "can't build as efficiently as peer countries" when it comes to housing, renewable energy, and transit.[47]

Around the same time, writer Noah Smith coined another, more politically neutral name for these emerging ideas: "New Industrialism."[48] Smith described New Industrialism as a direct response to four contemporary economic shocks: American manufacturers moving production to China beginning in the early 2000s; the Great Recession, which "prompted a general realization that our economy had become too financialized"; the COVID-19 pandemic, which "drove home the drawbacks of being a country that outsources much of its

41. Ezra Klein, *The Economic Mistake the Left Is Finally Confronting*, N.Y. TIMES (Sep. 19, 2021), https://www.nytimes.com/2021/09/19/opinion/supply-side-progressivism.html [https://perma.cc/4RW9-RTZM (dark archive)].

42. *Id.*

43. *Id.*

44. *Id.*

45. Matthew Yglesias, *The Politics of Abundance*, SLOW BORING (Oct. 27, 2021), https://www.slowboring.com/p/yimbys-keep-winning [https://perma.cc/8U4S-DQRX].

46. *Id.*

47. Jerusalem Demsas, *Community Input Is Bad, Actually*, ATLANTIC (Apr. 29, 2022, at 18:00 ET), https://www.theatlantic.com/ideas/archive/2022/04/local-government-community-input-housing-public-transportation/629625/ [https://perma.cc/7WCQ-98NV (staff-uploaded, dark archive)].

48. Noah Smith, *A New Industrialist Roundup*, NOAHPINION (Feb. 3, 2022), https://www.noahpinion.blog/p/a-new-industrialist-roundup [https://perma.cc/C23W-PDWJ].

manufacturing"; and the housing shortage.[49] According to Smith, "these crises showed Americans what we couldn't build enough of: houses and manufacturing industries."[50]

As Smith pointed out, even the Biden administration had adopted "New Industrialist" rhetoric by this time. At the 2022 Virtual Davos Agenda hosted by the World Economic Forum, Treasury Secretary Janet Yellen drew a contrast between "traditional supply-side economics," with its focus on deregulation and pro-growth tax codes, and "modern supply-side economics," which "seeks to spur economic growth by both boosting labor supply and raising productivity, while reducing inequality and environmental damage."[51] In her remarks, Yellen explained how the Biden administration's growth strategy "exemplifies this modern supply-side approach" by investing in infrastructure, supporting research and development to incentivize innovation, and boosting labor productivity and supply through the Build Back Better framework.[52]

Ultimately, however, the Atlantic columnist Derek Thompson's 2022 article outlining the "abundance agenda" would come to define this burgeoning supply-side movement.[53] Using shortages of COVID-19 rapid tests, masks, and booster shots during the pandemic as a springboard to discuss how "scarcity is the story of the U.S. economy," Thompson argued that America's tendency towards "too much venting and not enough inventing" has led to a "national failure to increase the supply of essential goods."[54] One example he cited was liberal states "say[ing] that we want to save the planet from climate change," but in practice "shutting down zero-carbon nuclear plants and protesting solar-power projects."[55] Thompson therefore proposed an abundance agenda focused on solving the national problem of scarcity that would combine the best elements of several ideologies: "the left's emphasis on human welfare[,] . . . libertarians' obsession with regulation to identify places where bad rules are getting in the way of the common good[,] . . . [and] the right's fixation with national greatness to grow the things that actually make a nation great."[56]

The common thread through all of these early works was (1) a realization that supply-side bottlenecks in a variety of industries were artificially raising

49. *Id.*

50. *Id.*

51. Press Release, Janet Yellen, U.S. Dep't of Treasury, Remarks at the 2022 'Virtual Davos Agenda' Hosted by the World Economic Forum (Jan. 21, 2022), https://home.treasury.gov/news/press-releases/jy0565 [https://perma.cc/BT9E-456V].

52. *Id.*

53. Derek Thompson, *A Simple Plan To Solve All of America's Problems*, ATLANTIC (Jan. 12, 2022), https://www.theatlantic.com/ideas/archive/2022/01/scarcity-crisis-college-housing-health-care/621221/ [https://perma.cc/5XDX-TMBK (staff-uploaded, dark archive)].

54. *Id.*

55. *Id.*

56. *Id.*

prices and holding back growth throughout the economy, (2) a criticism of "scarcity" policies that create demand through consumer-side subsidies without corresponding increases in supply, and (3) an effort to intentionally depoliticize the newly dubbed abundance agenda or abundance movement[57] so that it could appeal to a wider range of voters and policymakers.

B. *The Rise of the Abundance Movement*

Since 2022, the abundance movement has become increasingly institutionalized through supportive think tanks, columnists at mainstream media outlets, academic articles, conferences, and political campaign rhetoric.[58] This process led to the first annual Abundance Conference in October 2024, which was hosted by six different think tanks and organizations: the Inclusive Abundance Initiative, Breakthrough Institute, Foundation for American Innovation, Federation of American Scientists, Institute for Progress, and Niskanen Center.[59] Speakers included scholars, federal government officials, activists, and entrepreneurs who covered a wide-ranging agenda that included housing, energy, artificial intelligence, food production, and "building abundance factions in both parties."[60] In 2025, three high-profile books, including one authored by Ezra Klein and Derek Thompson, have kept the abundance movement in the national news.[61]

What unites these diverse constituencies, and how do they define "abundance"? According to the Abundance Conference's organizers, abundance is "the idea that society's challenges cannot all be resolved merely by regulation or redistribution, but also require the active expansion of material resources, opportunity, and productivity."[62] They argue that this will require shifting away from the "scarcity mindset" that causes "concentrated special interests" to "win out over diffuse beneficiaries," largely through "overly burdensome" regulatory and legislative processes.[63] In other words, the abundance movement is

57. This Article treats these two terms as synonyms.

58. *See* Smith, *supra* note 48 (compiling key works in the abundance movement from about 2022–2024, notwithstanding that Smith still uses the now less common term "New Industrialist"); *see also* Steven Teles, *Varieties of Abundance*, NISKANEN CTR. (Aug. 28, 2025), https://www.niskanencenter.org/abundance-varieties/ [https://perma.cc/4RZW-ET6Y] (describing the abundance movement and categorizing different visions of abundance across the political spectrum).

59. *Abundance 2024 Agenda*, ABUNDANCE CONF., https://www.abundanceconference.org/agenda [https://perma.cc/59CY-JKGA].

60. *Id.*

61. EZRA KLEIN & DEREK THOMPSON, ABUNDANCE (2025); YONI APPLEBAUM, STUCK: HOW THE PRIVILEGED AND THE PROPERTIED BROKE THE ENGINE OF AMERICAN OPPORTUNITY (2025); MARC J. DUNKELMAN, WHY NOTHING WORKS: WHO KILLED PROGRESS—AND HOW TO BRING IT BACK (2025).

62. *See What Is Abundance*, *supra* note 10.

63. *Id.*

concerned with the ability of public institutions to deliver tangible results for constituents by eliminating rent-seeking behavior and enabling markets to increase output.

One sign of the growing influence of the abundance agenda is the role it played in Kamala Harris's 2024 presidential campaign. At an economic speech in Pittsburgh, Harris channeled Klein, Demsas, and Thompson by commenting that, "[i]n America, it takes too long and it costs too much to build."[64] She then promised to promote permitting reforms at the national and state levels to speed up projects of all kinds and "cut red tape."[65] This type of rhetoric is not limited to Democrats. Also in 2024, Republican Governor Spencer Cox of Utah called for an abundance agenda in his state that would focus on affordable housing through "reasonable development," increased energy production, and expanding infrastructure commensurate with population growth.[66]

The abundance movement, therefore, may be here to stay. However, just as its supporters do not fall along traditional political fault lines, its opponents also represent a wide range of groups, and we turn our attention to them next.

II. OPPOSITION TO ABUNDANCE

This Part moves from the abundance movement generally to its applications and contestations both broadly and in the specific context of energy and environmental policy. It begins by introducing the degrowth movement, which we identify as a key ideological touchstone of opponents to the abundance agenda. It provides a sampling of journalists, scholars, and organizations that have articulated a degrowth climate strategy of downsizing the economy and reducing demand for material goods. This Part ends by examining how some environmental advocacy groups have continued to oppose long-distance electric transmission lines, clean energy generation projects, and climate-friendly permitting reforms in ways that make supply-side climate action more difficult.

64. Jordan Weissmann, *How a Wonky, Centrist Catchphrase Explains Harris's Platform*, WASH. POST (Oct. 3, 2024), https://www.washingtonpost.com/opinions/2024/10/03/harris-policy-abundance-agenda/ [https://perma.cc/3R2W-2QVV (staff-uploaded, dark archive)].

65. *Id.*

66. Brigham Tomco, *Will We Be the "Selfish Generation?" Gov. Cox Calls for More Housing as Population Grows*, DESERET NEWS (Nov. 7, 2024, at 11:53 MT), https://www.deseret.com/politics/2024/11/07/utah-gov-spencer-cox-population-growth/ [https://perma.cc/KB4K-ZZ7P]; *see also* Krysten Crawford, '*Our Country Has a Building Problem*,' STANFORD INST. FOR ECON. POL'Y RSCH. (May 27, 2025), https://siepr.stanford.edu/news/our-country-has-building-problem [https://perma.cc/U44J-BSA8] (describing a speech delivered by Governor Cox at a policy forum called "The Abundance Agenda: Bridging Research and Policy to Build More in America," in which he unveiled a strategy to double Utah's power production over the next decade and build 35,000 starter homes in five years).

A. *A Critical Look at the Degrowth Movement*

Imbalances between supply and demand in any industry can be addressed by decreasing demand, increasing supply, or a combination of the two. The abundance movement, as discussed above, mostly revolves around increasing supply. Another group of thinkers representing the degrowth movement instead suggests focusing exclusively on the demand side by "downsizing" the economy, living within the planet's "biophysical limits," and making lifestyle changes like traveling less, consuming less meat, and even using household appliances less frequently.[67] Degrowth proponents believe that even a "green-energy boom" would accelerate climate change and ecological breakdown by increasing the extraction of minerals needed to produce and use electricity at the required scale.[68]

Like the abundance movement, the degrowth movement is backed by a network of supportive institutions, such as the Post-Growth Innovation Lab, Research & Degrowth International, the European Society for Economics, and Degrowth.info, which organize an annual International Degrowth Conference.[69] At their core, these groups oppose the "blind pursuit of infinite economic growth,"[70] arguing that reducing both production and consumption can lead to ecological sustainability and social justice.[71] Some combine this with a broader critique of capitalism and corporate greed, calling for a "radical (re)distribution" that would guarantee "a good life for all within planetary boundaries."[72]

67. Bill McKibben, *To Save the Planet, Should We Really Be Moving Slower?*, NEW YORKER (July 5, 2023), https://www.newyorker.com/news/daily-comment/to-save-the-planet-should-we-really-be-moving-slower [https://perma.cc/WHW2-VDE2] (explaining the degrowth movement and detailing the respective benefits of and drawbacks to pursing a degrowth approach versus a clean energy development approach to addressing climate change); Kelsey Piper, *In Defense of the Washing Machine*, VOX (Sep. 27, 2024, at 09:00 ET), https://www.vox.com/future-perfect/374286/degrowth-economic-growth-washing-machines-electricity-global-poverty [https://perma.cc/YLK9-QH5L (staff-uploaded, dark archive)] (criticizing the degrowth movement as ignoring the significant positive impacts economic and technological growth have on citizens of developing nations).

68. McKibben, *supra* note 67 (explaining the positions of the degrowth movement); Riccardo Mastini, Giorgos Kallis & Jason Hickel, *A Green New Deal Without Growth?*, 179 ECOL. ECON. 1, 5 (2021) ("Degrowth advocates are not only concerned with climate change, but also with the increase in the material throughput of the economic system. Scaling up renewable energy production presents a problem in that the mineral intensity of renewable energy is higher than that of fossil fuels . . . . Increasing the extraction of these minerals will further drive ecological breakdown . . . .").

69. *Organizers*, INT'L DEGROWTH CONF. 2024, https://esee-degrowth2024.uvigo.gal/en/the-conference/about-the-conference/organizers/ [https://perma.cc/Q2QN-WTB6 (staff-uploaded archive)].

70. *About*, POST-GROWTH INNOVATION LAB, https://postgrowth-lab.uvigo.es/about/ [https://perma.cc/DH33-A87L (staff-uploaded archive)].

71. *Who We Are*, RSCH. & DEGROWTH INT'L, https://degrowth.org/about/ [https://perma.cc/JXZ6-GXLL (staff-uploaded archive)].

72. *What Is Degrowth?*, DEGROWTH.INFO, https://degrowth.info/en/degrowth [https://perma.cc/R2MB-JH3F (staff-uploaded archive)].

This theme of a contradiction between capitalism and degrowth has been further developed in recent years by Japanese author Kohei Saito, an "ecological Marxist" who characterizes his own ideas as "degrowth communism."[73] In his book *Slow Down: The Degrowth Manifesto*, Saito dismisses the Green New Deal as "green Keynesianism" and argues that "even green economic growth may cause increases in carbon emissions and resource use in direct proportion to its success."[74] In this respect, Saito relies heavily on the Jevons Paradox, which is the idea that increases in efficiency in resource use will generate increases in resource consumption because the falling cost of use induces increases in demand.[75] Instead, Saito's proposed solution for climate change is a "radical reduction in the actual volume of resource consumption."[76]

Saito also discusses the "planetary boundaries" concept pioneered by Swedish scientist Johan Rockström. This is the idea that if environmental burdens on the planet exceed certain limits, or "tipping points," nature's innate resilience will be lost, and abrupt, irreversible, and destructive changes will occur.[77] Saito says that four of these nine boundaries, including climate change and loss of biodiversity, have already been passed.[78] He agrees with Rockström that the public must choose between two mutually exclusive actions: continuing economic growth or keeping global temperatures from rising more than 2.7 degrees Fahrenheit (1.5 degrees Celsius).[79]

However, the available evidence indicates that this alleged choice between economic growth and decarbonization simply does not exist. Developed nations, including the United States, have continued to grow their economies while reducing CO_2 emissions in recent decades.[80] Specifically, the United States has roughly doubled its gross domestic product ("GDP") since 1990, but

73. Christopher Beam, *Is America Ready for "Degrowth Communism"?*, ATLANTIC (May 28, 2024), https://www.theatlantic.com/ideas/archive/2024/05/kohei-saito-degrowth-communism/678481/ [https://perma.cc/J4QD-Z47P].

74. KOHEI SAITO, SLOW DOWN: THE DEGROWTH MANIFESTO 45 (2024).

75. Mario Giampietro & Kozo Mayumi, *Unraveling the Complexity of the Jevons Paradox: The Link Between Innovation, Efficiency, and Sustainability*, 6 FRONTIERS ENERGY RSCH. 1, 2 (2018), https://www.frontiersin.org/journals/energy-research/articles/10.3389/fenrg.2018.00026/full [https://perma.cc/FR2Z-7EQ3 (staff-uploaded archive)].

76. SAITO, *supra* note 74, at 55.

77. *Id.* at 42–43.

78. *Id.*

79. *See* Johan Rockström, *Önsketänkande med grön tillväxt—vi måste agera* [*Wishful Thinking with Green Growth—We Must Act*], SVENSKA DAGBLADET (Sep. 7, 2019), https://www.svd.se/a/kJbnQa/onsketankande-med-gron-tillvaxt-vi-maste-agera [https://perma.cc/NUF6-SPP3 (staff-uploaded, dark archive)] (elaborating on Rockström's views on this topic in greater detail).

80. Siddharth Singh, *The Relationship Between Growth in GDP and CO2 Has Loosened; It Needs To Be Cut Completely*, INT'L ENERGY AGENCY (Jan. 31, 2024), https://www.iea.org/commentaries/the-relationship-between-growth-in-gdp-and-co2-has-loosened-it-needs-to-be-cut-completely [https://perma.cc/4H2L-WCMK].

its CO_2 emissions have become even lower than they were in that year.[81] On a sub-national level, the World Resources Institute found in 2020 that forty-one U.S. states and the District of Columbia successfully decoupled their CO_2 emissions from GDP growth between 2005 and 2017.[82] Even developing countries like China and India have seen CO_2 emissions and GDP growth diverge since 1990, with GDP rising much faster than emissions.[83] Empirically, therefore, available data does not support the degrowth movement's central premise.

Just as important, shaming people about their lifestyle choices and urging them to become frugal consumers is a problematic political agenda. Degrowth advocates have made headlines for extreme proposals like setting up communal hand washing facilities in every neighborhood, foregoing clothes washing machines, and capping all aviation travel.[84] In a country where forty-three percent of all families fall short of meeting their basic material needs,[85] we believe that calls to learn to live with less will fall on deaf ears.

Certainly, it is critical to educate consumers about the environmental and climate impacts of their actions and create financial and regulatory incentives for them to make choices that protect the environment. However, the degrowth movement's focus on individual behavior takes the focus off the large multinational companies that shape our present-day unsustainable options for electricity consumption, transportation, and consumer products, historically offering us fossil fuels, gas-powered automobiles, inadequate public transportation options, and ubiquitous plastics. As a result, a focus on degrowth is a dangerous distraction from the need to shape corporate and systemic behavior toward more sustainable, decarbonized energy systems and consumer products.

Another key issue that the degrowth movement raises is the distributional effects of resource extraction. Saito, for example, argues that green economic growth in the developed world will shift social and environmental costs onto

81. *Id.*

82. Devashree Saha & Joel Jaeger, *Ranking 41 US States Decoupling Emissions and GDP Growth*, WORLD RES. INST. (July 28, 2020), https://www.wri.org/insights/ranking-41-us-states-decoupling-emissions-and-gdp-growth [https://perma.cc/B3UN-MKTY]. As a caveat, though, the growth in data centers, AI, and electrification may be reversing this trend through increased demand for electricity, and researchers believe that such increased demand may create more CO_2 emissions depending on how quickly the electric grid transitions to carbon-free electricity. Renée Cho, *AI's Growing Carbon Footprint*, STATE OF PLANET (June 9, 2023), https://news.climate.columbia.edu/2023/06/09/ais-growing-carbon-footprint/ [https://perma.cc/7HUC-MZR9].

83. Singh, *supra* note 80.

84. Piper, *supra* note 67; Lottie Limb, *'Get Used to It', Environmental Groups Tell Aviation Industry Fighting Flight Cuts at Schiphol*, EURONEWS (June 9, 2023), [https://perma.cc/B4UF-G7JQ].

85. Jeffrey C. Fuhrer, *How Many Are in Need in the US? The Poverty Rate Is the Tip of the Iceberg*, BROOKINGS INST. (June 20, 2024), https://www.brookings.edu/articles/how-many-are-in-need-in-the-us-the-poverty-rate-is-the-tip-of-the-iceberg/ [https://perma.cc/Q3WY-H6ZM].

resource-rich developing countries.[86] He cites the lithium industry in Chile and the cobalt industry in the Democratic Republic of the Congo as two examples of this.[87] Indeed, as Indian author Siddharth Kara's book *Cobalt Red* has highlighted,[88] human rights abuses in the global mineral supply chain, which are most likely to be found in developing countries with weak regulatory frameworks, need to be addressed head-on.

However, restricting the growth of clean energy production will not solve these distributional issues. First, although minerals like cobalt, nickel, lithium, and copper are essential components of clean energy technologies, failing to rapidly transition to these technologies will only benefit the status quo of fossil fuel extraction and use that already shifts social and environmental costs onto developing countries.[89] Second, continuing to rely on fossil fuels will exacerbate the effects of climate change, which experts agree is already disproportionately harming developing countries.[90]

B. *Other Sources of Opposition to Abundance*

As discussed above, the abundance movement has made a conscious effort to transcend the traditional American political divide between liberal Democrats and conservative Republicans. In the same way, opposition to abundance also does not neatly fall into a conservative versus liberal framework. Local moratoria on solar and wind project development, for example, have been adopted in both Republican and Democratic jurisdictions.[91]

It is well documented that the fossil fuel industry has driven a significant amount of the backlash against clean energy projects, in some cases by using dark money political contributions to spread misinformation and creating "astroturf" campaigns that appear on the surface to represent grassroots

86. SAITO, *supra* note 74, at 54.

87. *Id.* at 52–54.

88. *See* SIDDHARTH KARA, COBALT RED: HOW THE BLOOD OF THE CONGO POWERS OUR LIVES (2023).

89. *See, e.g.*, Augusta C. Nkem, Stephanie M. Topp, Sue Devine, Wendy Wen Li & Daprim Samuel Ogaji, *The Impact of Oil Industry-Related Social Exclusion on Community Wellbeing and Health in African Countries*, 10 FRONTIERS PUB. HEALTH 1, 2 (2022), https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2022.858512/full [https://perma.cc/4EF3-BPGX (staff-uploaded archive)] (concluding that oil extraction has negative social impacts on developing countries in Africa).

90. Ruma Bhargawa & Megha Bhargava, *The Climate Crisis Disproportionately Hits the Poor. How Can We Protect Them?*, WORLD ECON. F. (Jan. 13, 2023), https://www.weforum.org/stories/2023/01/climate-crisis-poor-davos2023/ [https://perma.cc/T2RU-VWE4 (staff-uploaded archive)].

91. MATTHEW EISENSON, JACOB ELKIN, HARMUKH SINGH & NOAH SCHAFFIR, SABIN CTR. FOR CLIMATE CHANGE L., OPPOSITION TO RENEWABLE ENERGY FACILITIES IN THE UNITED STATES: JUNE 2024 EDITION, (2024), https://scholarship.law.columbia.edu/cgi/viewcontent.cgi?article=1227&context=sabin_climate_change [https://perma.cc/46YX-H9AL (staff-uploaded archive)]. For further discussion of local siting issues, see *infra* Subsection IV.B.3.

opposition to specific renewable energy projects.[92] In addition, however, environmental advocacy groups have delayed clean energy projects, resisted permitting reforms that would make them easier to build, increased project costs through litigation, and caused them to be cancelled.

There are plenty of examples that demonstrate this in practice. In the introduction to this Article, we described the lawsuits by environmental advocacy and conservation groups against the Cardinal-Hickory Creek transmission line, which was planned to connect low-cost wind and solar resources in the Midwest to population centers along the Great Lakes.[93] The lawsuits delayed the project for years and contributed to over $150 million in increased costs for the project.[94] The lawsuit featured environmental advocacy groups on both sides, with several groups supporting the project because of its ability to speed grid decarbonization and allow the retirement of coal plants and other fossil fuel generators in the region.[95]

In another example, the Sierra Club, the Natural Resources Council of Maine, and the Appalachian Mountain Club spent years trying to stop the New England Clean Energy Connect transmission line, designed to import Quebec hydropower to 1.2 million homes in New England and reduce carbon emissions by about 3.6 million metric tons annually.[96] The groups alleged that the line would cause harm "not only to aquatic resources but also the surrounding forest and wildlife," and have dismissed hydropower as a "greenwashed energy source."[97] The line was expected to be completed at the end of 2025, but Massachusetts ratepayers will now need to shoulder at least $512 million in additional costs due largely to the delays caused by litigation.[98]

92. Chris Martinez, Laura Kilbury, Joel Martinez, Calee White, Mariel Lutz, Kat So, Kate Petosa, Allison McManus & Anne Christianson, *These Fossil Fuel Industry Tactics Are Fueling Democratic Backsliding*, CTR. FOR AM. PROGRESS ACTION FUND (Dec. 5, 2023), https://www.americanprogress.org/article/these-fossil-fuel-industry-tactics-are-fueling-democratic-backsliding/ [https://perma.cc/BS23-GV66 (staff-uploaded archive)]; *see also* Isaac Slevin, William Kattrup, Charlotte Marcil & J. Timmons Roberts, *Beyond Dark Money: Information Subsidies and Complex Networks of Opposition to Offshore Wind on the U.S. East Coast*, 119 ENERGY RSCH. & SOC. SCI. 1, 1 (Jan. 2025), https://climateadvocacylab.org/system/files/2025-07/BeyondDarkMoney.pdf [https://perma.cc/LSM2-A3CP] (describing the connections between conservative think tanks and local groups that oppose offshore wind projects).

93. *Cardinal-Hickory Creek Transmission Line Project*, *supra* note 31.

94. *Supra* text accompanying note 32; Gearino, *supra* note 32.

95. *Supra* text accompanying note 32; Gearino, *supra* note 32.

96. Nikki Chiappa, *NEPA Nightmares*, BREAKTHROUGH INST. (Aug. 28, 2024), https://thebreakthrough.org/journal/no-20-spring-2024/nepa-nightmares [https://perma.cc/F55Y-Z5LS].

97. *Id.*

98. David Sharp, *Massachusetts Ratepayers To Pay Extra $512M for Transmission Line for Canadian Hydropower*, AP NEWS (Oct. 30, 2024, at 18:15 ET), https://apnews.com/article/new-england-massachusetts-maine-transmission-line-hydro-power-14c3013d2c7190299f79d338f8930c4e [https://perma.cc/PH8C-JU6Q (staff-uploaded archive)].

The Sierra Club has also in recent years organized opposition to a 75-MW solar farm in Florida on the grounds that its failure to properly consult with a nearby African American community constituted environmental racism,[99] a 850-MW project in Nevada that was set to be built on land that shelters endangered tortoises but has since been cancelled,[100] and a 32.5-MW project in Maryland that would have involved cutting down trees.[101] Even the Sunrise Movement, which describes itself as a "climate revolution,"[102] supported a moratorium on large solar projects in Amherst, Massachusetts, because of its concern with the "potential deforestation" that might take place.[103]

It should be emphasized that many environmental advocacy groups support the development of clean energy infrastructure. The NRDC's Sustainable FERC Project, for example, has championed new long-distance transmission line planning efforts and "progressive permitting reforms" that "help meet climate targets."[104]

In the cases cited above where environmental groups opposed clean energy projects, they were motivated by their desire to preserve specific natural areas. Conservation is indeed a valuable goal in and of itself, and we do not suggest that the environmental impact of large-scale energy projects should not be mitigated when such measures are reasonably feasible, proportionate to the risks, and unlikely to significantly delay clean energy projects. However, an

99. Brian Burgess, *Sierra Club Points to "Environmental Racism" to Help Block Solar Plant in Florida*, CAPITOLIST (Oct. 21, 2020), https://thecapitolist.com/sierra-club-points-to-environmental-racism-to-help-block-solar-plant-in-florida/ [https://perma.cc/4HTN-7MQX].

100. Jim Carlton, *Solar Power's Land Grab Hits a Snag: Environmentalists*, WALL ST. J. (June 4, 2021), https://www.wsj.com/articles/solar-powers-land-grab-hits-a-snag-environmentalists-11622816381 [https://perma.cc/A7ZY-NDLB (staff-uploaded, dark archive)]; *see also* Paul A. Smith, *Wisconsin Wildlife Federation Appeals PSC Approval of Solar Farm Next to Wildlife Area*, MILWAUKEE J. SENTINEL (Feb. 12, 2025), https://www.jsonline.com/story/sports/outdoors/2025/02/12/states-largest-solar-farm-would-be-next-to-home-of-threatened-prairie-chickens/78417996007/ [https://perma.cc/K7FZ-5LKU] (describing how the Wisconsin Wildlife Federation appealed the state public service commission's approval of a 1,315-MW solar farm that would be constructed adjacent to the Buena Vista State Wildlife Area, which hosts a threatened prairie chicken population).

101. Noah Telerski, *Here Comes the Sun? Local Environmentalists Oppose University Solar Project*, GEO. VOICE (Dec. 7, 2018), https://georgetownvoice.com/2018/12/07/here-comes-the-sun-local-environmentalists-oppose-university-solar-project/ [https://perma.cc/54FM-WM95].

102. *About Sunrise*, SUNRISE MOVEMENT, https://www.sunrisemovement.org/about/ [https://perma.cc/R7F8-3VX6].

103. Scott Merzbach, *Amherst Residents Voice Support for Moratorium on Large-Scale Solar Projects*, DAILY HAMPSHIRE GAZETTE (Jan. 11, 2022), https://www.gazettenet.com/Proposed-moratorium-on-large-scale-solar-projects-in-Amherst-gets-public-support-44506632 [https://perma.cc/4XLV-HDC2].

104. *About the Project*, SUSTAINABLE FERC PROJECT, https://sustainableferc.org/about-the-project/ [https://perma.cc/UMK7-EHYL]; Nathanael Greene & Cullen Howe, *Down to the Wire: Progressive Permitting Reforms Will Accelerate Renewable Energy and Transmission Buildout and Help Meet U.S. Climate Targets*, NAT. RES. DEF. COUNCIL (Sep. 6, 2023), https://www.nrdc.org/resources/down-wire-progressive-permitting-reforms-will-accelerate-renewable-energy [https://perma.cc/ECM8-38S4 (staff-uploaded archive)].

approach that focuses solely on the localized conservation harms of new clean energy projects is fraught and shortsighted. As discussed further in Part IV, there are ways to minimize the land impacts of wind, solar, and transmission line projects, but the reality is that the clean energy transition will require some trade-offs, and environmental groups should carefully consider the downsides of refusing to make them.

III. HOUSING AND ABUNDANCE

Some of the best lessons for developing a successful theory of energy abundance can come from exploring the rise of housing abundance. Thus, this Part discusses in greater detail how abundance has played a role in the national discourse on housing to evaluate whether successful strategies in the housing abundance movement can be instructive in fashioning a Law of Energy Abundance. It begins by discussing the related YIMBY movement and its successes in pushing for pro-housing legislation in both red and blue states throughout the country. Next, it examines the similarities and differences between housing and energy in the context of abundance and analyzes the lessons that clean energy advocates can draw from zoning reforms the YIMBY movement champions.

A. *The YIMBY Movement and Its Successes*

The YIMBY movement originated as "local, loosely organized groups of housing supporters linked by social media"[105] and has since evolved into a group of formal chapters centered around the YIMBY Action coalition,[106] as well as unaffiliated groups that advocate for more housing in their communities.[107] On a broad level, YIMBY activists want to make "America's neighborhoods less exclusive and its housing more dense."[108] In practice, this means reforming land use regulations, especially zoning codes and ordinances, to allow more housing to be built, thus making housing more affordable and benefitting the environment through less urban sprawl.[109]

105. Brian J. Connolly, *Putting the "Why" in YIMBY*, 57 ARIZ. STATE L.J. 443, 499 (2025).

106. *About*, YIMBY ACTION, https://yimbyaction.org/about/ [https://perma.cc/8RAQ-L2QJ].

107. *See, e.g.*, *About AHLA*, ABUNDANT HOUS. LA, https://abundanthousingla.org/about-ahla/ [https://perma.cc/B386-JLHC] (explaining how Abundant Housing LA, which is not a chapter of YIMBY Action, advocates for more housing at all levels of affordability in Los Angeles).

108. Conor Dougherty, *The Surprising Left-Right Alliance That Wants More Apartments in Suburbs*, N.Y. TIMES (Mar. 9, 2024), https://www.nytimes.com/2024/03/09/business/economy/yimby-housing-conference.html [https://perma.cc/T6A8-W9EW (staff-uploaded, dark archive)].

109. Michael Witt, *The YIMBY Movement Explained*, TEX. STATE AFFORDABLE HOUS. CORP. (Sep. 22, 2023), https://www.tsahc.org/blog/post/the-yimby-movement-explained [https://perma.cc/W25F-GJMC]. *But see* Rachel Cohen Booth, *The Housing Movement Is Divided Against Itself*, VOX (Dec. 4, 2024, at 12:00 UTC), https://www.vox.com/policy/389431/housing-affordable-homes-yimby-nimby-shortage-construction [https://perma.cc/X43F-AYC9 (staff-uploaded, dark archive)] (explaining how there are some policy divides within the pro-housing camp between those who favor

Strictly speaking, the YIMBY and abundance movements are not one and the same. It is true that YIMBY groups frequently describe their mission as achieving housing "abundance," and that they collaborate with public figures associated with the abundance movement.[110] However, they do not overlap perfectly, as the YIMBY movement concentrates specifically on housing while the abundance movement provides policy recommendations on a much wider range of social issues. Nevertheless, since abundance thinkers overwhelmingly agree with the YIMBY movement's broad support for new housing,[111] this Article treats the two movements as indistinguishable in terms of housing, even if not necessarily so in other sectors.

As its name reveals, the YIMBY movement builds its support around a common enemy: the "Not In My Backyard" ("NIMBY") phenomenon, which arises when land owners or residents oppose "new development or use of the land or resources they view as within their domain."[112] NIMBYs often organize to prevent new housing developments or renewable energy projects that have real or perceived local harms and serve to benefit large but dispersed groups of people.[113] A classic example of this is homeowners trying to stop multifamily housing from being constructed in their neighborhood on the basis that it would reduce property values, increase noise and traffic, strain public services, and "change the character" of the neighborhood.[114]

a "slower-paced, locally driven form of development" and those who "challenge[] this kind of incrementalism"). A detailed treatment of the history, mechanics, and contemporary issues of zoning are beyond the scope of this Article, but for a general overview, see M. NOLAN GRAY, ARBITRARY LINES: HOW ZONING BROKE THE AMERICAN CITY AND HOW TO FIX IT (2022).

110. *See, e.g.*, *Abundance Podcast*, CAL. YIMBY, https://cayimby.org/news-events/abundance-podcast/ [https://perma.cc/3M2L-VAZ9]; *YIMBY Action and Ezra Klein: Abundant Housing in Our Backyards*, YIMBY ACTION, https://yimbyaction.org/events/yimby-action-and-ezra-klein-abundant-housing-in-our-backyards/ [https://perma.cc/8HM3-EY6P].

111. *See, e.g.*, Matthew Yglesias, *YIMBYs Keep Winning*, SLOW BORING (Aug. 9, 2023), https://www.slowboring.com/p/yimbys-keep-winning [https://perma.cc/D88E-QP6Q (staff-uploaded, dark archive)] [hereinafter Yglesias, *YIMBYs Keep Winning*] ("[T]he core YIMBY thesis that quantitative restrictions on housing production are costly to the economy and harmful to society is true."); *see also* Dougherty, *supra* note 108 (observing that housing is "full of dense and wonky material" that cannot easily be weaponized in the era of sound-bite politics).

112. Haiyun Damon-Feng, *NIMBYism at the Border*, HARV. L. REV. BLOG (Mar. 6, 2023), https://harvardlawreview.org/blog/2023/03/nimbyism-at-the-border/ [https://perma.cc/K22Z-PJYW].

113. Barak D. Richman & Christopher Boerner, *A Transaction Cost Economizing Approach to Regulation: Understanding the NIMBY Problem and Improving Regulatory Responses*, 23 YALE J. ON REGUL. 29, 37 (2006).

114. *See, e.g.*, Ben Fiebert, *Character of Neighborhood Threatened*, LI HERALD (Apr. 23, 2023), https://www.liherald.com/stories/character-of-neighborhood-threatened,174450 [https://perma.cc/VC69-U3SM] (describing how a resident of Lynbrook, New York, created a petition to oppose a proposed condominium development on the site of a sushi restaurant in a "landmark building," thus erasing the "local character and history," threatening the "quaint, suburban life," and "exacerbat[ing] the traffic issue").

Unlike many social movements in the United States, the YIMBY movement has succeeded in attracting support from both Democrats and Republicans. Housing is almost exclusively regulated at the local level, taking it largely out of the purview of national politics. More fundamentally, though, pro-housing positions can be made to fit into either party's ideology. Allowing denser housing helps achieve liberal goals of promoting equal opportunity and reducing economic and racial segregation, as well as conservative goals of reducing government regulation and enhancing the rights of landowners to develop their property as they see fit. In general, the YIMBY movement welcomes both perspectives and is results oriented.[115]

Indeed, there has been an increase in pro-housing reforms championed by YIMBY activists in recent years in both blue and red states. In 2018, Minneapolis became the first major city in the country to end single-family zoning citywide, instead allowing duplexes and triplexes to be built in every neighborhood.[116] Among the supporters of this plan was Neighbors for More Neighbors, an independent pro-housing group that "stands up for secure, abundant homes for everyone in the Twin Cities."[117] The following year, Oregon enacted a similar reform on a statewide scale, requiring all cities in the Portland metropolitan area, along with every city in the state with 25,000 or more residents, to permit triplexes and fourplexes on any lots where they would normally approve single-family homes.[118]

On the other side of the political aisle, Montana's Republican Governor Greg Gianforte signed a series of state-level comprehensive zoning reforms in 2023 that allow by right ADUs—smaller, independent dwelling units (such as basements, attics, or outdoor annexes) on existing residential lots—and duplexes on single-family lots.[119] This "Montana Miracle" was "the work of a diverse group of advocates from both the political left and right."[120] Governor Gianforte was later invited to speak at the annual Yimbytown Conference,

115. Yglesias, *YIMBYs Keep Winning*, *supra* note 111.

116. Sarah Mervosh, *Minneapolis, Tackling Housing Crisis and Inequity, Votes to End Single-Family Zoning*, N.Y. TIMES (Dec. 13, 2018), https://www.nytimes.com/2018/12/13/us/minneapolis-single-family-zoning.html [https://perma.cc/NYP6-GKQV (staff-uploaded, dark archive)].

117. *About Us*, NEIGHBORS FOR MORE NEIGHBORS, https://moreneighbors.org/ [https://perma.cc/F38F-786Z].

118. Julia Shumway, *White House: Oregon Single-Family Zoning Law Could Be Model for Nation*, OR. CAP. CHRON. (Oct. 29, 2021, at 16:30), https://oregoncapitalchronicle.com/2021/10/29/white-house-oregon-single-family-zoning-law-could-be-model-for-nation/ [https://perma.cc/WKK2-45NR (staff-uploaded archive)].

119. Eliza Relman, *The Trump-Supporting Governor of Montana Is Staking His Reelection on a Set of "Miracle" YIMBY Housing Policies*, BUS. INSIDER (Mar. 9, 2024), https://www.businessinsider.com/trump-supporting-republican-montana-governor-yimby-housing-policies-lowering-rent-2024-3 [https://perma.cc/VF89-TNEV (staff-uploaded, dark archive)].

120. Kriston Capps, *How YIMBYs Won Montana*, BLOOMBERG (Apr. 28, 2023, at 10:15 ET), https://www.bloomberg.com/news/articles/2023-04-28/montana-s-yimby-revolt-aims-to-head-off-a-housing-crisis [https://perma.cc/M3PS-525Q (staff-uploaded archive)].

which had formerly been "an ideologically safe space [for] liberal young professionals."[121] In 2025, the Texas legislature enacted a law to allow designated multi-family and mixed use projects in commercially-zoned areas in all cities over a certain size,[122] and the same year, California enacted reforms to its environmental review law to exempt a range of housing development projects from the law's coverage.[123] In total, as of July 2025, at least ten states from across the political spectrum had changed their zoning-enabling statutes to facilitate more housing construction.[124]

Importantly, the number of states that have engaged in preemptive zoning reform is still small. More significantly, legal scholars have correctly recognized that zoning reforms are insufficient on their own to address the housing crisis and succeed in building low-cost and abundant housing in the United States.[125] Instead, success will also require significant public investment and market reforms.[126] Nevertheless, the state and local zoning reforms discussed in this Section hold promise for expanding certain types of housing in some circumstances, show the potential for new political coalitions more generally, and provide a potential path forward for similar reforms for clean energy projects.

121. Dougherty, *supra* note 108.

122. Act of June 20, 2025, ch. 1026, § 1, 2025 Tex. Gen. Laws (codified at TEX. LOC. GOV'T CODE ANN. §§ 218.002, 218.101(a)); *see also* Clay Pulliam, *Texas Senate Bill 840: A Game-Changer for Housing Development*, TROUTMAN PEPPER LOCKE (June 25, 2025), https://www.troutman.com/insights/texas-senate-bill-840-a-game-changer-for-housing-development/ [https://perma.cc/U87E-SNLN] (explaining the law's provisions).

123. Act of June 30, 2025, ch. 24, § 2, 2025 Cal. Stat. 96, 96 (codified as amended at CAL. HEALTH & SAFETY CODE § 50245); Sharon Udasin, *Newsom Signs Sweeping Rollbacks of Key California Environmental Review Law*, HILL (July 1, 2025, at 12:17 ET), https://thehill.com/policy/equilibrium-sustainability/5379252-newsom-california-environmental-review-law-ceqa/ [https://perma.cc/4KCB-W6MN (staff-uploaded archive)] (describing reform provisions); *Governor Newsom Signs into Law Groundbreaking Reforms to Build More Housing, Boost Affordability*, GOVERNOR GAVIN NEWSOM (June 30, 2025), https://www.gov.ca.gov/2025/06/30/governor-newsom-signs-into-law-groundbreaking-reforms-to-build-more-housing-affordability/ [https://perma.cc/9Q83-UBTU]; *see also infra* notes 177–81 and accompanying text (discussing California and other states' environmental review laws and their application to energy projects).

124. *See* Connolly, *supra* note 105, at 462–63 (discussing Arizona, California, Colorado, Maine, Massachusetts, Montana, Oregon, Vermont, and Washington); *supra* note 122 and accompanying text (discussing 2025 Texas law).

125. *See*, *e.g.*, Christopher Serkin & Ganesh Sitaraman, *Post-Neoliberal Housing Policy*, U. PA. L. REV. (forthcoming) (manuscript at 15–16), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5227899 [https://perma.cc/DHZ6-M3L7 (staff-uploaded archive)].

126. *Id.* (discussing range of reforms).

B. *Comparing Housing Abundance and Energy Abundance*

It is not surprising that abundance writers often discuss trends in housing and energy in tandem.[127] Both industries face many of the same challenges—namely, the need to increase supply—while facing regulatory barriers at the local level. For this reason, it is important for clean energy advocates to consider both what lessons can be drawn from ongoing efforts to make housing more abundant and affordable and also the ways in which the two types of infrastructure differ.

As discussed in Section III.A, zoning restrictions can pose a major barrier to new housing units. Likewise, in many jurisdictions across the country, local governments have exclusive siting and permitting authority over clean energy generation projects off federal lands.[128] As such, local governments can create setback, height, and land-use requirements for renewable energy projects that make them technologically or economically unfeasible, similar to how they have prevented the development of denser housing. The National Renewable Energy Laboratory has found that strict setback requirements alone, which determine how far away a facility must be from the property line or other structures, can reduce wind resources by up to eighty-seven percent and solar resources by up to thirty-eight percent.[129]

However, there are key differences between housing abundance and energy abundance that are important to recognize. First, for most housing advocates, all new housing is good, even if there may be disputes over whether new housing should be income-restricted, smaller, or denser. By contrast, as detailed in Part IV, the same is not true for energy—advocates, academics, and experts disagree vehemently over whether an "all-of-the-above" approach to

127. *See, e.g.*, *Transcript: Ezra Klein Interviews Jerusalem Demsas*, N.Y. TIMES (Apr. 16, 2024), https://www.nytimes.com/2024/04/16/podcasts/transcript-ezra-klein-interviews-jerusalem-demsas.html [https://perma.cc/7K2U-RYSP (staff-uploaded, dark archive)] (discussing both housing and energy); Noah Smith, *Book Review: "Abundance*," NOAHPINION (Mar. 18, 2025), https://www.noahpinion.blog/p/book-review-abundance [https://perma.cc/4YRQ-PWFB] ("Why does America not have enough housing, green energy, transportation, technological innovation, or health care?"); Dustin Gardiner, Melanie Mason & Blake Jones, *The "Abundance" Movement Comes Home*, POLITICO (Mar. 26, 2025, at 09:00 ET), https://www.politico.com/newsletters/california-playbook/2025/03/26/the-abundance-movement-comes-home-00249968 [https://perma.cc/H7QM-JWUV (staff-uploaded archive)] ("The ways in which supporters of the abundance theory argue California has struggled to deliver: a lack of affordable housing; clean energy, including solar and wind farms; high speed rail; mass transit and safe streets—and the list goes on.").

128. Uma Outka, *Renewable Energy Siting for the Critical Decade*, 69 KAN. L. REV. 857, 862–63 (2021); Alexandra B. Klass, *Eminent Domain Law as Climate Policy*, 2020 WIS. L. REV. 49, 51.

129. *NREL Analysis Quantifies Impacts of Setback Ordinances on Land Available for Renewable Energy Deployment*, NAT'L RENEWABLE ENERGY LAB'Y (Aug. 3, 2023), https://www.nrel.gov/news/press/2023/news-release-nrel-analysis-quantifies-impacts-of-setback-ordinances-on-land-available-for-renewable-energy-deployment.html [https://perma.cc/37RP-2GLV]. In December 2025, the U.S. Department of Energy changed the name of the National Renewable Energy Laboratory to the "National Laboratory of the Rockies."

energy that includes new fossil fuel generation is a good outcome. As a result, the pro-housing movement can unite housing advocates and developers much more easily than is the case in the energy sector.

Second, even though many clean energy projects are permitted at the local level, like new housing development, the regulation of housing in general is far more decentralized than the regulation of energy in general. There are many clean energy projects that need federal permits either because they are on federal lands, impact federally regulated waterways, or receive federal funding and thus trigger federal environmental review, as described in Part IV. This is rarely the case with new housing.

Third, housing NIMBYs tend to focus on specific development projects in particular localities but do not usually possess or exercise significant lobbying power or influence at the state or federal levels. This distinguishes housing NIMBYs from opponents of clean energy projects which, as noted above, are often powerful oil and gas or other industry interests with a broader, national agenda to oppose clean energy projects that would reduce their market share in the energy sector.[130]

Finally, the pro-housing movement has built support around a common enemy: local NIMBYs. Proponents of clean energy do not have the same common enemy to serve as a unifier because advocates face opposition from local landowners, environmental groups, and the oil and gas industry which, among them, operate at the local, state, and national levels. Thus, a law of clean energy abundance needs to overcome both local NIMBYs and powerful lobbying forces, which makes for a more challenging legislative and regulatory endeavor.

Despite these differences, clean energy abundance advocates can learn from YIMBY successes. Following the YIMBY approach, energy abundance advocates can promote renewable-friendly zoning reforms tailored to different audiences' political leanings. For liberal audiences, this means highlighting the dangers of climate change and the importance of rapidly constructing renewable energy projects to replace fossil fuel plants. For conservative audiences, advocates should focus on the economic benefits of renewable energy projects, such as payments to landowners that host wind turbines or solar panels on their property, lower energy bills, manufacturing and construction jobs, property tax payments to local governments and schools, and increased commercial activity. Also, just like in housing, pro-development zoning reforms can focus on the rights of landowners to develop their property as they see fit.

130. *See* Martinez et al., *supra* note 92; Mika Travis, *Fossil Fuel Interests "Heavily Entrenched" in Anti-Wind Efforts—Study*, E&E NEWS (Dec. 23, 2024, at 06:46 ET), https://www.eenews.net/articles/fossil-fuel-interests-heavily-entrenched-in-anti-wind-efforts-study/ [https://perma.cc/7CTE-8FRY (staff-uploaded, dark archive)].

As noted above, however, energy abundance faces a key headwind that the YIMBY movement does not in that broader energy policy is set at the state and national levels, rather than local levels, as shown by the abrupt turn on energy policy from the Biden administration to the Trump administration. Furthermore, while many fights over housing take place in metropolitan areas that mostly vote Democrat, large-scale wind and solar projects are typically built in rural areas that vote Republican, which further heightens the dangers of failing to gain Republican support for renewable energy projects and long-distance electric transmission lines.[131] While there are no easy solutions to these challenges, Part IV begins to sketch out a roadmap of legal reforms that can start to bridge existing divides between current and would-be abundance advocates and environmental protection advocates.

IV. TOWARDS A LAW OF ENERGY ABUNDANCE

This Part evaluates a series of legal reforms at the federal, state, and local levels that can help facilitate clean energy abundance, decarbonize the U.S. electric grid, and reduce electricity prices by better matching supply with demand. It starts by defining the term "clean energy abundance" and presenting a zero-carbon vision of future growth that both the abundance and environmental protection movements can potentially embrace. It then identifies solutions to four key supply-side bottlenecks that are currently holding back clean energy projects: (1) delays in federal permitting and environmental review, (2) similar delays at the state level, (3) local siting and permitting restrictions, and (4) regulatory barriers to expanding the long-distance electric transmission grid.

A. *Defining Clean Energy Abundance*

Within the abundance movement, some advocates have supported an all-of-the-above approach to energy abundance that would include extracting and using more fossil fuels—particularly natural gas—in addition to renewable energy,[132] and have downplayed the health, environmental protection, and

131. David Roberts, *Organizing Local Support for Clean Energy Projects*, VOLTS (Jan. 8, 2025), https://www.volts.wtf/p/organizing-local-support-for-clean [https://perma.cc/ZQQ9-2PNZ].

132. *See, e.g.*, *Can an "All of the Above" Approach to Decarbonization Work?*, BREAKTHROUGH INST. (Oct. 5, 2022), https://thebreakthrough.org/issues/energy/can-an-all-of-the-above-approach-to-decarbonization-work [https://perma.cc/2RQW-KKTC] (a panel discussion featuring speakers who advocate for the "all-of-the-above" approach). Some all-of-the-above energy abundance thinkers have expressed enthusiasm for Chris Wright and Doug Burgum, President Trump's picks to lead the Department of Energy and the Department of the Interior, respectively. *See* Derek Robertson, *Why "Burgum Bros" Are Psyched Right Now*, POLITICO (Nov. 19, 2024, at 16:23 ET), https://www.politico.com/newsletters/digital-future-daily/2024/11/19/why-burgum-bros-are-psyched-right-now-00190469 [https://perma.cc/HUR8-3FNX (staff-uploaded archive)] ("[T]hey're very pro-oil and gas, but they're also excited about forms of clean energy, especially nuclear and geothermal.");

climate costs associated with the extraction of natural gas through hydraulic fracturing technologies.[133] This approach to energy abundance virtually assures that environmental advocacy groups, which are rightly committed to reducing or eliminating carbon-emitting energy sources, will reject an energy abundance agenda. Thus, they will use their not-insignificant legal, financial, and political tools to actively oppose it. This counsels against an all-of-the-above approach to energy abundance.

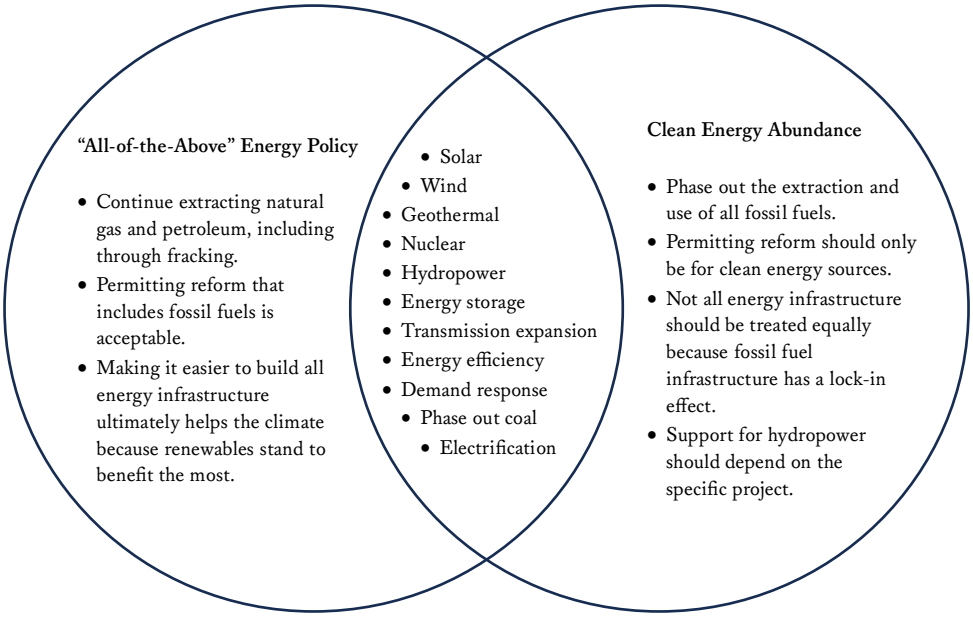
More importantly, there are several reasons to support a clean energy abundance approach separate and apart from the desire to align with environmental advocacy groups. First, an all-of-the-above approach to energy abundance that includes fossil fuels is unnecessary. National laboratories and other experts consistently show that achieving an almost entirely carbon-free electric grid is economically feasible using current technologies, and that further technology developments will only enhance and expedite that transition.[134] As a result, we propose a vision for energy abundance that focuses exclusively on building carbon-free energy and excluding new fossil fuel generation. Figure 1 shows our definition of clean energy abundance and its differences from the "all-of-the-above" approach.

Derek Robertson, *The Unlikely Friends of Chris Wright's "Energy Abundance" Future*, POLITICO (Jan. 15, 2025, at 16:08 ET), https://www.politico.com/newsletters/digital-future-daily/2025/01/15/the-unlikely-friends-of-chris-wrights-energy-abundance-future-00198486 [https://perma.cc/58ZD-73GL (staff-uploaded archive)] (describing how Wright's confirmation hearing created "major excitement" among all-of-the-above energy abundance thinkers).

133. *See, e.g.*, Noah Smith, *Harris Needs To Be Pennsylvania Fracking's Biggest Champion*, NOAHPINION (Sep. 16, 2024), https://www.noahpinion.blog/p/harris-needs-to-be-pennsylvania-frackings [https://perma.cc/9YKM-Y6AV] (claiming that fracking's methane leaks and toxic runoff are "manageable problems" that technological advances have already helped solve).

134. Madeline Geocaris, *Exploring the Big Challenge Ahead: Insights on the Path to a Net-Zero Power Sector by 2035*, NAT'L RENEWABLE ENERGY LAB'Y (Aug. 30, 2022), https://www.nrel.gov/news/program/2022/exploring-the-big-challenge-ahead-insights-on-the-path-to-a-net-zero-power-sector-by-2035.html [https://perma.cc/7PB5-DJ9H] ("The U.S. can get to 80%–90% clean electricity with technologies that are available today, although it requires a massive acceleration in deployment rates . . . To get from there to 100%, there are many potentially important technologies that have not yet been deployed at scale.").

Figure 1: "All-of-the-Above" Energy Policy Versus Clean Energy Abundance Venn Diagram



One potential roadblock to cooperation with some environmental advocacy groups will be clean energy abundance's embrace of nuclear energy. Some environmental advocacy groups remain "unequivocally opposed" to nuclear energy,[135] while others have recognized that closing down existing nuclear plants alone "could result in a cumulative 4 to 6 percent increase in US power sector carbon emissions by 2035."[136] Environmentalists in the latter category have played an important role in advocating to keep existing nuclear plants open by supporting financial assistance and relicensing efforts.[137] While the lack of a permanent repository for nuclear waste in the United States

135. *Nuclear Free Future*, SIERRA CLUB, https://www.sierraclub.org/nuclear-free [https://perma.cc/QCM5-NH2W]; *see also Nuclear Energy*, GREENPEACE, https://www.greenpeace.org/usa/climate/issues/nuclear/ [https://perma.cc/6CLX-KBG7] ("Nuclear energy has no place in a safe, clean, sustainable future.").

136. STEVE CLEMMER, JEREMY RICHARDSON, SANDRA SATTLER & DAVE LOCHBAUM, UNION OF CONCERNED SCIENTISTS, THE NUCLEAR POWER DILEMMA 4 (2018), https://www.ucsusa.org/sites/default/files/attach/2018/11/Nuclear-Power-Dilemma-full-report.pdf [https://perma.cc/5FAU-L22U].

137. Rebecca Tuhus-Dubrow, *The Activists Who Embrace Nuclear Power*, NEW YORKER (Feb. 19, 2021), https://www.newyorker.com/tech/annals-of-technology/the-activists-who-embrace-nuclear-power [https://perma.cc/8P9N-Q3VW].

remains a central concern and must be addressed,[138] Canada and Finland have shown in recent years that political willpower can make solutions possible.[139] At least historically, the safety and health risks of nuclear energy have paled in comparison to the adverse health effects caused by fossil fuels,[140] while its carbon-free nature makes it a crucial source of baseload power in the immediate battle against climate change.[141]

Another reason the abundance movement should focus exclusively on clean energy abundance is that it can more explicitly embrace demand-side policies like energy efficiency, time-of-use rates, and demand response.[142] Although the abundance movement has not disavowed such measures, the movement's heavy focus on supply-side growth can give the impression that it is opposed to any policy that would reduce consumption, equating such policies with a degrowth agenda.

However, systemic demand-side approaches like energy efficiency, time of use rates, and demand response should be central tenets of abundance because they operate on a systemic level rather than requiring individuals to reduce their use of beneficial energy services.[143] As the Rocky Mountain Institute has

138. Charles de Saillan, *Decades of Spent Nuclear Fuel in the United States and Europe: A Persistent Environmental Problem*, 34 HARV. ENV'T L. REV. 461, 486–92 (2010) (discussing how the problem of permanent nuclear waste disposal has "vexed scientists, Congress, and regulatory agencies for the last half-century").

139. *Statement from the Minister of Energy and Natural Resources on Site Decision for Canada's Deep Geological Repository*, NAT. RES. CAN. (Nov. 28, 2024), https://www.canada.ca/en/natural-resources-canada/news/2024/11/statement-from-the-minister-of-energy-and-natural-resources-on-site-decision-for-canadas-deep-geological-repository.html [https://perma.cc/W38W-NYZJ] ("[T]he [Nuclear Waste Management Organization] announced the selection of the Wabigoon Lake Ojibway Nation-Ignace area as the site for Canada's deep geological repository . . . for high-level nuclear by-products."); *Finland To Open the World's First Final Repository for Spent Nuclear Fuel*, VATTENFALL (Aug. 29, 2023), https://group.vattenfall.com/press-and-media/newsroom/2023/finland-to-open-the-worlds-first-final-repository-for-spent-nuclear-fuel [https://perma.cc/MPX7-H3KJ].

140. Joshua Chertok, *Can Nuclear Power and Coal Plant Communities Bail Each Other Out?*, KLEINMAN CTR. FOR ENERGY POL'Y: BLOG (July 12, 2023), https://kleinmanenergy.upenn.edu/commentary/blog/can-nuclear-power-and-coal-plant-communities-bail-each-other-out/ [https://perma.cc/GZ2L-4D86] ("Coal causes 820% more deaths than nuclear per terawatt-hour of electricity produced. It is estimated that in 2018, more than 8 million people worldwide died from air pollution associated with fossil-fuel use.").

141. *Nuclear Explained*, U.S. ENERGY INFO. ADMIN. (Nov. 7, 2022), https://www.eia.gov/energyexplained/nuclear/nuclear-power-and-the-environment.php [https://perma.cc/3N3R-RCGP].

142. For more details on the benefits of demand-side solutions, see generally James Newcomb, Yuki Numata, Will Atkinson, Rushad Nanavatty & Laurens Speelman, *Why Efficiency Matters: Unlocking Benefits Beyond Climate for All*, RMI (Aug. 23, 2024), https://rmi.org/why-efficiency-matters-unlocking-benefits-beyond-climate-for-all/ [https://perma.cc/JC9M-LJAM] (explaining that improving the efficiency of our energy system will increase the rate of emissions reduction, make energy more affordable for low-income households in particular, and protect the environment).

143. *See Demand Response and Time-Variable Pricing Programs*, U.S. DEP'T ENERGY, https://www.energy.gov/femp/demand-response-and-time-variable-pricing-programs

documented, a decarbonized energy system is inherently more efficient than one powered by fossil fuels because it avoids all the energy losses associated with extracting, processing, and converting fossil fuels into usable energy.[144] As a result, it requires less energy *input* to provide the same or more abundant energy *services* like heating, lighting, industrial activity, and transportation benefits that allow people to lead productive and enjoyable lives.[145]

Abundance advocates should support all ways to make energy services more abundant. Providing those services with reduced energy inputs accomplishes that goal by making energy more affordable for consumers and by benefiting the climate and the local environment. One example in the context of the growing electricity demand coming from data centers to power AI is to continue to develop tariffs and other contractual arrangements with data centers and other large electricity consumers to reduce their power use when systemwide demand is very high.[146] Such systemic demand-side solutions must be part of more traditional abundance efforts to reduce the supply-side barriers discussed in the next sections. In this way, our vision differs from the Trump administration's stated goal of "energy dominance," which focuses only on producing more energy inputs (and within energy inputs, prioritizing carbon-producing energy resources) without focusing at all on the ultimate goal of providing consumers with low cost and abundant energy services like heating, electricity, and transportation.[147]

[https://perma.cc/TV4F-VPSX] (explaining demand response and time-of-use rates); *Energy Efficiency Policies and Programs*, U.S. DEP'T ENERGY, https://web.archive.org/web/20250122171745/https://www.energy.gov/scep/slsc/energy-efficiency-policies-and-programs [https://perma.cc/S35R-J48E (staff-uploaded archive)] (describing energy efficiency programs).

144. Daan Walter, Kingsmill Bond, Amory Lovins, Laurens Speelman, Chiara Gulli & Sam Butler-Sloss, *The Incredible Inefficiency of the Fossil Energy System*, RMI (June 4, 2024), https://rmi.org/the-incredible-inefficiency-of-the-fossil-energy-system/ [https://perma.cc/2K2V-4HA5].

145. *Id.*

146. *See*, *e.g.*, TYLER H. NORRIS, TIM PROFETA, DALIA PATINO-ECHEVERRI & ADAM COWIE-HASKELL, NICHOLAS INST. OF ENERGY, ENV'T & SUSTAINABILITY, RETHINKING LOAD GROWTH: ASSESSING THE POTENTIAL FOR INTEGRATION OF LARGE FLEXIBLE LOADS IN US POWER SYSTEMS 11 (2025), https://nicholasinstitute.duke.edu/sites/default/files/publications/rethinking-load-growth.pdf [https://perma.cc/CWL4-RUCM]; Alexandra B. Klass & Dave Owen, *Allocating Electricity*, 94 GEO. WASH. L. REV. (forthcoming 2026), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5399325 [https://perma.cc/WR4X-H7Z3].

147. *See* Exec. Order No. 14,154, 90 Fed. Reg. 8353, 8353–56 (Jan. 29, 2025) (calling on agencies to, *inter alia*, eliminate "restrictions on consumer choice of vehicles and appliances" and pay "particular attention" to actions that might impose an "undue burden" on the development of "oil, natural gas, coal, hydropower, biofuels, critical mineral, and nuclear energy resources"); Ian M. Stevenson, *Trump Energy Adviser Slams Renewables, Says Focus Is on Fossil Fuels*, POLITICO (June 10, 2025, at 16:07 ET), https://www.politico.com/news/2025/06/10/trump-energy-adviser-slams-renewables-focus-fossil-fuels-00396390 [https://perma.cc/8EYQ-MJYJ (staff-uploaded archive)] ("Energy 'dominance' has been a main theme of Trump's second term, and he has wielded an emphasis on oil and gas to jettison clean energy programs and abandon climate goals.").

In sum, we propose that any energy abundance agenda should be centered on low-cost and abundant energy services for all U.S. citizens built on the foundation of a carbon-free electric grid that can support electrification of the transportation, heating, commercial, and industrial sectors of the economy. Such an agenda requires building coalitions between clean energy developers, environmental advocates, academics, economists, and energy experts to construct an inclusive vision of beneficial electrification centered on abundant clean energy resources coupled with energy efficiency, rooftop solar, batteries, demand response, and microgrids.

B. *Supply-Side Bottlenecks and Abundance Solutions*

Technological and economic constraints are no longer the primary barriers to a clean energy transition. The costs of installing wind turbines, solar panels, and battery storage have dramatically decreased over the past decade,[148] and a 2023 Energy Innovation study demonstrated that ninety-nine percent of existing domestic coal plants are more expensive to run than to replace with local wind, solar, and energy storage resources.[149] Likewise, advanced geothermal systems have the potential to make carbon-free geothermal energy far more accessible than in the past.[150]

Instead, some of the energy transition's greatest challenges are structural and regulatory in nature. Ways to approach solutions to these challenges are set out in the subsections that follow and include reforms at the federal, state, and local levels of government to both permitting clean energy generation plants and building out the electric transmission grid. Each of these reforms can help build a clean energy future that aligns with abundance principles.

148. Press Release, BloombergNEF, Cost of Clean Energy Technologies Drop as Expensive Debt Offset by Cooling Commodity Prices (June 7, 2023), https://about.bnef.com/blog/cost-of-clean-energy-technologies-drop-as-expensive-debt-offset-by-cooling-commodity-prices/ [https://perma.cc/89PD-CRN7] (containing a graph showing the decline of global levelized cost of electricity from 2009 to 2023).

149. MICHELLE SOLOMON, ERIC GIMON, MIKE O'BOYLE, UMED PALIWAL & AMOL PHADKE, ENERGY INNOVATION, COAL COST CROSSOVER 3.0, at 1–2 (2023), https://energyinnovation.org/wp-content/uploads/Coal-Cost-Crossover-3.0-2.pdf [https://perma.cc/CH8R-E3EP]; MICHELLE SOLOMON, ENERGY INNOVATION, COAL POWER 28 PERCENT MORE EXPENSIVE IN 2024 THAN 2021, at 3 (2025), https://energyinnovation.org/wp-content/uploads/Coal-Cost-Update.pdf [https://perma.cc/WR8K-YSX8] (updating earlier analysis).

150. *See* Maria Gallucci, *America's First 'Enhanced' Geothermal Plant Just Got Up and Running*, CANARY MEDIA (Nov. 28, 2023), https://www.canarymedia.com/articles/geothermal/americas-first-enhanced-geothermal-plant-just-got-up-and-running [https://perma.cc/6QYF-SA4P].

1. Federal Permitting and Environmental Review

The National Environmental Policy Act of 1969 ("NEPA")[151] is frequently targeted by abundance advocates as one of the primary roadblocks to clean energy projects specifically and economic growth generally.[152] Beyond NEPA, other permitting requirements under federal laws to protect water, air, species, and other resources can also delay clean energy projects.[153]

NEPA requires federal agencies to prepare a detailed statement evaluating the environmental impacts of proposals for "major federal actions significantly affecting the quality of the human environment."[154] A "major federal action" includes not only federal projects but also any project requiring a federal permit or receiving federal funding.[155] Federal agencies are also required to inform the public of NEPA reviews, provide opportunities for public comment, and carefully consider and respond to comments.[156]

Historically, there have been three options for NEPA review depending on the potential environmental effects of the proposed federal action.[157] First, a federal action may be "categorically excluded" from NEPA review by regulation

151. National Environmental Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (1970) (codified as amended at 41 U.S.C. §§ 4321–70).

152. *See, e.g.*, Ted Nordhaus & Nikki Chiappa, *Permitting Reform for Me and Not for Thee*, BREAKTHROUGH INST. (Jan. 27, 2025), https://thebreakthrough.org/journal/no-20-spring-2024/permitting-reform-for-me-and-not-for-thee [https://perma.cc/BL98-B8Q5] (arguing that "[t]he weaponization of NEPA" interferes with public policy and "undermines state capacity to deliver public goods that have broad public approval"); Brian Potter, Arnab Datta & Alec Stapp, *How To Stop Environmental Review from Harming the Environment*, INST. FOR PROGRESS (Sep. 13, 2022), https://ifp.org/environmental-review/ [https://perma.cc/G4TE-BFX5] (arguing that NEPA delays both fossil fuel and clean energy projects); Ezra Klein, *Government Is Flailing, in Part Because Liberals Hobbled It*, N.Y. TIMES (Mar. 13, 2022), https://www.nytimes.com/2022/03/13/opinion/berkeley-enrollment-climate-crisis.html [https://perma.cc/7P23-5YF2 (staff-uploaded, dark archive)] (describing NEPA and similar state laws as "rendering government plodding and ineffectual and making it almost impossible to build green infrastructure at the speed we need").

153. *See, e.g.*, J.B. Ruhl & Jim Salzman, *The Greens' Dilemma: Building Tomorrow's Climate Infrastructure Today*, 73 EMORY L.J. 1, 28 (2023) (discussing relevant federal environmental protection statutes).

154. 42 U.S.C. § 4332(C) (2023); John C. Ruple, Jamie Pleune & Erik Heiny, *Evidence-Based Recommendations for Improving National Environmental Policy Act Implementation*, 47 COLUM. J. OF ENV'T L. 273, 276 (2022); Sierra Club v. U.S. Army Corps of Eng'rs, 803 F.3d 31, 36–37 (D.C. Cir. 2015) ("NEPA's mandate . . . serves the twin purposes of ensuring that (1) agency decisions include informed and careful consideration of environmental impact, and (2) agencies inform the public of that impact and enable interested persons to participate in deciding what projects agencies should approve and under what terms.").

155. KRISTEN HITE, CONG. RSCH. SERV., R47205, JUDICIAL REVIEW AND THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969, at 3–4 (2022).

156. Ruple et al., *supra* note 154, at 282; *see also What Is the National Environmental Policy Act*, U.S. ENV'T PROT. AGENCY (Apr. 11, 2025), https://www.epa.gov/nepa/what-national-environmental-policy-act [https://perma.cc/PF96-BM3Y].

157. For more detailed information on the NEPA review process, see *National Environmental Policy Act Review Process*, U.S. ENV'T PROT. AGENCY (Apr. 11, 2025), https://www.epa.gov/nepa/national-environmental-policy-act-review-process [https://perma.cc/7FYK-B354].

if that category of action normally does not have a significant effect on the quality of the human environment.[158] If the proposed action is not subject to a categorical exclusion, the agency may then prepare an Environmental Assessment ("EA") to determine whether or not a federal action has the potential for significant environmental effects.[159] If the agency determines from the EA that the action does not have the potential for significant environmental effects, or that those effects can be mitigated, it issues a finding of no significant impact.[160] If the agency determines the project does have the potential to cause significant environmental effects, the agency then prepares a more extensive analysis in the form of an Environmental Impact Statement ("EIS").[161] For projects that clearly have significant environmental effects, the agency does not prepare an EA but instead proceeds directly to the EIS process.[162]

Whether a particular project is subject to a categorical exclusion, requires solely an EA, or requires a full EIS can significantly impact a project's timeline, financing, and ultimate success. A report by the Council on Environmental Quality in 2020 found that EISs issued across all federal agencies between 2010 and 2018 took a median of three and a half years to complete, and one quarter took more than six years.[163] One key factor driving these lengthy reviews, which regularly run many hundreds of pages, is the risk of litigation, as reviewing agencies try to "bulletproof" their documents against lawsuits claiming that they failed to complete the proper level of NEPA review, inadequately considered the proposed action's potential environmental effects, or failed to properly consult with other relevant agencies or public stakeholders.[164] Other factors include insufficient agency resources and the need to comply with other laws like the Endangered Species Act and the Clean Water Act.[165]

158. *National Environmental Policy Act Review Process*, *supra* note 157. In the Fiscal Responsibility Act of 2023, Congress amended NEPA by, among other things, allowing federal agencies to adopt categorical exclusions promulgated by other agencies without going through notice and comment rulemaking. *See* Fiscal Responsibility Act of 2023, Pub. L. No. 118-5, §§ 321, 106–11, 137 Stat. 10, 38–46 (codified as amended at 42 U.S.C. §§ 4336, 4336(a)–(e) (introducing amendments to NEPA). *See also generally* OWEN MINOTT, XAN FISHMAN & JOHN JACOBS, BIPARTISAN POL'Y CTR., HOW DOES THE FISCAL RESPONSIBILITY ACT REFORM PERMITTING AND ENVIRONMENTAL REVIEW?, (2023), https://bipartisanpolicy.org/blog/fiscal-responsibility-act-permit-reform [https://perma.cc/M8ZY-4L73 (staff-uploaded archive)].

159. 42 U.S.C. § 4336(b)(2) (2023); *National Environmental Policy Act Review Process*, *supra* note 157; Daniel R. Mandelker, *The National Environmental Policy Act: A Review of Its Experience and Problems*, 32 WASH. U. J.L. & POL'Y 293, 297–98 (2010).

160. *National Environmental Policy Act Review Process*, *supra* note 157.

161. 42 U.S.C. § 4336(b)(2); *National Environmental Policy Act Review Process*, *supra* note 157.

162. 42 U.S.C. § 4336(b)(1) (2023); *National Environmental Policy Act Review Process*, *supra* note 157.

163. COUNCIL ON ENV'T QUALITY, ENVIRONMENTAL IMPACT STATEMENT TIMELINES (2010–2018), at 1 (2020), https://ceq.doe.gov/docs/nepa-practice/CEQ_EIS_Timeline_Report_2020-6-12.pdf [https://perma.cc/7FSV-ZN52].

164. HITE, *supra* note 155 (executive summary).

165. Federico Holm, *Deconstructing a Myth*, 41 ENV'T F. 25, 30–31 (2024).

NEPA's effects on the timing and success of clean energy projects are disputed. Writers at the Institute for Progress have contended that NEPA will "tax" clean energy, while reforming the law would benefit the climate.[166] They argue that, in contrast to fossil fuels, "the vast majority of infrastructure needed for a clean energy transition hasn't been built yet" and federal funding triggering NEPA flows overwhelmingly to clean energy projects.[167]

On the other hand, Professor David Adelman has called NEPA reform a "false choice" because, between 2010 and 2021, "less than 5 percent of wind and solar projects required a comprehensive environmental review or project-specific permit," while federal litigation during this period only involved twenty-one wind projects, eight solar projects, and fourteen transmission lines.[168] Instead, as Adelman points out, most clean energy projects are either exempt from federal environmental review because they are built on private lands or minor enough to qualify for streamlined procedures like EAs and categorical exclusions.[169] Adelman concludes that there is no need to "sacrifice" the protections of environmental laws because they are not holding back decarbonization in the way that the abundance movement claims, even though targeted NEPA reform may be appropriate for certain types of clean energy projects.[170] Other experts have focused on reducing or eliminating the need for federal environmental permits for small projects, freeing up valuable agency resources to focus on the projects with potentially larger environmental impacts.[171]

166. Aidan Mackenzie & Santi Ruiz, *No, NEPA Really Is a Problem for Clean Energy*, INST. FOR PROGRESS (Aug. 17, 2023), https://ifp.org/no-nepa-really-is-a-problem-for-clean-energy/ [https://perma.cc/C56Z-BACL].

167. *Id.*; *see also* Michael Bennon & Devon Wilson, *NEPA Litigation Over Large Energy and Transport Infrastructure Projects*, 53 ENV'T L. REP. 10836, 10856 (2023) (finding that solar, wind, and transmission line projects "exhibit high rates of [NEPA-related] litigation" within the energy sector).

168. David E. Adelman, *Permitting Reform's False Choice*, 51 ECOLOGY L.Q. 129, 129, 158–59, 175 (2024).

169. *Id.* at 134–36, 139–40, 154.

170. *Id.* at 129, 175 (suggesting reforms for environmental review and permitting for the most vulnerable projects like offshore wind in the Atlantic Coast area, solar projects in the desert southwest, and threats to endangered species like bats in the Midwest); *see also* David E. Adelman, Sommer Engels, Andrew Mergen & Jamie Pleune, *Dispelling the Myths of Permitting Reform and Identifying Effective Pathways Forward*, 55 ENV'T L. REP. 10038, 10055 (2025) (arguing that deregulatory approaches to permitting reform like limiting the scope of NEPA review are "fundamentally misconceived and misdirected," whereas solving practical problems like "insufficient budgets, a lack of staff to process permits, antiquated data management systems, and onerous procurement policies for external contractors" would more effectively address project delays).

171. *See* Timothy Male & Dave Owen, *We Need To Simplify Environmental Permits to Boost Their Impact*, HILL (May 30, 2025, at 15:30 ET), https://thehill.com/opinion/5325230-permitting-reform-america/ [https://perma.cc/QT7G-NFYD] (discussing permitting reform for smaller projects that include defining such projects as not being "major federal actions" and thus not triggering NEPA review in the first place).

As for permitting reform more generally, one of this Article's authors has argued in the past that states that wish to promote clean energy projects and disincentivize fossil fuel projects should change their longstanding eminent domain laws to prohibit fossil fuel companies from being statutorily eligible to take private property for oil and gas pipelines and other fossil fuel infrastructure and expand such rights for clean energy projects.[172] The same goes for environmental permit requirements more generally in terms of reducing barriers for clean energy projects while maintaining or increasing such barriers for fossil fuel projects. There is no reason the federal government could not adopt these principles in a political environment more favorable to clean energy projects than exists today.

Importantly, we suggest energy abundance advocates should embrace targeted NEPA and permitting reforms for clean energy projects without supporting similar reforms for fossil fuel projects. These can include new categorical exclusions for clean energy projects and opportunities for such projects to access streamlined consultations in exchange for using technologies that mitigate environmental impacts. Procedural protections enshrined in NEPA and federal and state permitting laws should continue to serve as an important check on fossil fuel projects that, if built, will contribute to climate change and harm human health and the environment. By contrast, while all energy projects, including clean energy projects, have localized environmental impacts, the short and long-term climate benefits of producing carbon-free energy weigh heavily in favor of streamlining procedural barriers for clean energy projects.

Regarding NEPA, federal agencies during the Biden administration began that process. For instance, in 2024, the Bureau of Land Management adopted a categorical exclusion for geothermal energy exploration on public lands.[173] The Department of Energy ("DOE") adopted a categorical exclusion for certain solar, transmission line, and battery storage projects on previously disturbed or developed federal land.[174] In 2025, former President Biden issued an Executive Order directing the DOE and Department of Defense to apply or establish categorical exclusions to expedite the siting of data centers and related clean

172. Alexandra B. Klass, *Eminent Domain Law as Climate Policy*, 2020 WIS. L. REV. 49, 51 (2020).

173. Press Release, BLM, BLM Adopts Categorical Exclusions to Expedite Geothermal Energy Permitting (Apr. 15, 2024), https://www.blm.gov/press-release/blm-adopts-categorical-exclusions-expedite-geothermal-energy-permitting [https://perma.cc/9MAU-TMXP]; Press Release, BLM, Biden-Harris Administration Takes Major Steps to Accelerate Clean Energy Geothermal Development on Public Lands (Oct. 17, 2024), https://www.blm.gov/press-release/biden-harris-administration-takes-major-steps-accelerate-clean-energy-geothermal [https://perma.cc/SA75-U6LA].

174. National Environmental Policy Act Implementing Procedures, 89 Fed. Reg. 34,074 (Apr. 30, 2024) (codified at 10 C.F.R. pt. 1021).

energy generation projects on federal lands.[175] While the Trump administration has undertaken NEPA regulatory reform measures to benefit primarily fossil fuel projects, it is important for abundance advocates to both resist these efforts in the short term while continuing to support the expansion of categorical exclusions and other reforms for clean energy projects in the long term.

Selective reform of NEPA and permitting requirements to expedite solely clean energy projects is consistent with abundance principles. This is because increasing fossil fuel development contributes to climate change, which results in more extreme weather and a less reliable electric grid, which in turn reduces access to abundant energy services such as lighting, heating, and commercial and industrial output. NEPA and environmental permits remain important procedural protections that can prevent such environmentally and economically harmful projects. By contrast, streamlining such processes for carbon-free energy projects accelerates the process for decarbonizing the grid and our economy, which will lower energy prices and result in more reliable, and thus more abundant, energy services.[176]

2. State Permitting and Environmental Review

Virtually all states have permitting requirements for a range of energy projects, and some states have also enacted environmental review statutes that are analogous to NEPA. These include the California Environmental Quality Act ("CEQA"),[177] the Minnesota Environmental Policy Act,[178] and the New York State Environmental Quality Review Act.[179] These state environmental review laws generally require detailed environmental impact reviews to be prepared for any state agency action, including permitting or funding, that

175. WHITE HOUSE, STATEMENT BY PRESIDENT BIDEN ON THE EXECUTIVE ORDER ON ADVANCING U.S. LEADERSHIP IN ARTIFICIAL INTELLIGENCE INFRASTRUCTURE (Jan. 14, 2025), https://bidenwhitehouse.archives.gov/briefing-room/statements-releases/2025/01/14/statement-by-president-biden-on-the-executive-order-on-advancing-u-s-leadership-in-artificial-intelligence-infrastructure/ [https://perma.cc/D88M-HX6S]; Robert Walton, *Biden Orders Energy, Defense Departments To Lease Sites for AI Data Centers, Clean Energy Generation*, UTIL. DIVE (Jan. 14, 2025), https://www.utilitydive.com/news/biden-doe-dod-lease-sites-ai-data-centers-clean-energy/737257/ [https://perma.cc/5LT4-KSCR].

176. *See infra* note 228 and accompanying text (discussing the benefits of super-abundant renewables).

177. Environmental Quality Act of 1970, ch. 1433, 1970 Cal. Stat. 2780 (codified as amended at CAL. PUB. RES. CODE §§ 21000 to 21151).

178. Act of May 19, 1973, ch. 412, 1973 Minn. Laws 895 (codified as amended at MINN. STAT. §§ 116D.01 to 116D.11).

179. Act of August 1, 1975, ch. 612, 1975 N.Y. Laws 895 (codified as amended at N.Y. ENV'T CONSERV. LAW §§ 8-0101 to 8-0117); *States and Local Jurisdictions with NEPA-like Environmental Planning Requirements*, NAT'L ENV'T POL'Y ACT, https://ceq.doe.gov/laws-regulations/states.html [https://perma.cc/DWD8-VZL9].

would significantly impact the environment.[180] While each state law differs in some respects from NEPA, they typically also allow for the equivalent of categorical exclusions, findings of no significant impact, and opportunities for litigation.[181]

Here, abundance advocates should support targeted reforms rather than wholesale elimination of state environmental review or permitting requirements, like those discussed in the prior section. In 2024, Minnesota and Massachusetts adopted such reforms, both of which make it easier to permit and build clean energy projects while not doing the same for fossil fuels.[182] Moreover, as discussed in the prior section, states can reform their eminent domain laws to make it easier to build clean energy projects and more difficult to build fossil fuel projects.[183] They can also reform their general permitting requirements to do the same. Notably, in the wake of Congress's elimination of most clean energy tax credits in the 2025 One Big Beautiful Bill Act,[184] multiple states took steps to accelerate permitting of clean energy projects so they could start or complete construction before the tax credits expired.[185] Such efforts should continue separate and apart from tax credit deadlines.

There are, however, two additional aspects worth considering at the state level. First, as discussed in the next section, state-level efforts to reform clean energy permitting often involve transferring permitting authority from the local level to the state level. However, in some cases it is more effective to move

180. *See* Patrick Marchman, "Little NEPAs": State Equivalents to the National Environmental Policy Act in Indiana, Minnesota and Wisconsin 3–4 (Sep. 2012) (capstone paper, Nicholas School of the Env't at Duke Univ.), https://dukespace.lib.duke.edu/server/api/core/bitstreams/8da30384-3c4f-4816-a262-5e89b1e43c56/content [https://perma.cc/H4CU-K9R8] (describing how the Indiana Environmental Policy Act, the Minnesota Environmental Policy Act, and the Wisconsin Environmental Policy Act all function in this way).

181. *Id.* at 6–8.

182. *See generally* An Act Promoting a Clean Energy Grid, Advancing Equity and Protecting Ratepayers, ch. 239, 2024 Mass. Acts 1389 (codified in scattered sections of MASS. GEN. LAWS) (providing procedures for and funds to build clean energy infrastructure, and disincentivizing building new fossil fuel infrastructure); Minnesota Energy Infrastructure Permitting Act, ch. 126, 2024 Minn. Laws 2720. For more information on these two state reforms, see Carrie Klein, *Massachusetts Passes Bill to Speed Clean Energy and Slow Gas Expansion*, CANARY MEDIA (Nov. 15, 2024), https://www.canarymedia.com/articles/policy-regulation/massachusetts-passes-bill-to-speed-clean-energy-and-slow-gas-expansion [https://perma.cc/R82M-HNUM]; Mel Mackin, *Minnesota's Permitting Reforms Will Accelerate Its Clean Energy Boom and Can Serve as a National Model*, UTIL. DIVE (June 5, 2024), https://www.utilitydive.com/news/minnesota-permitting-reform-clean-energy-grid-infrastructure-google-rei-holcim/718055/ [https://perma.cc/YM3Z-77FS].

183. *See supra* note 172 and accompanying text (discussing use of eminent domain for energy projects).

184. Act of July 4, 2025, Pub. L. No. 119-21, 139 Stat. 72.

185. *See* Jason Plautz, *Democratic-Led States Aim To Outrun Trump's Clean Energy Assault*, ENERGYWIRE (Sep. 2, 2025, at 06:36 ET), https://subscriber.politicopro.com/article/eenews/2025/09/02/democratic-led-states-aim-to-outrun-trumps-clean-energy-assault-00535925 [https://perma.cc/UU79-M2LJ] (discussing efforts in Colorado, Minnesota, and California).

existing review processes from the state level to the local level. For example, the lead agency for the CEQA review process for geothermal exploration projects, the California Geologic Energy Management Division, had such severe resource constraints and backlogs that lawmakers decided in 2024 to designate host county governments as the lead agencies.[186] Other states with overburdened review agencies can consider similar reforms where local governments are motivated to support clean energy projects.

Second, tribal governments can be partners in mutually beneficial projects that bypass state permitting processes entirely. In general, state law does not apply on tribal lands except where Congress has authorized it.[187] This could enable tribes to capture development opportunities from over-regulated states through more business-friendly policies. For example, automaker Tesla has been opening more showrooms in tribal venues like the Mohegan Sun Casino in Connecticut and on the lands of the Oneida Indian Nation in upstate New York to avoid state laws prohibiting vehicle manufacturers from also being retailers.[188] A similar dynamic has emerged in Vancouver, Canada, where the Squamish Nation has approved high-rise housing developments on downtown land that it controls, free of the city's zoning rules.[189]

These state-level reforms can focus on streamlining environmental review and permitting requirements for clean energy projects and evaluating which level of government can overcome existing regulatory barriers. Such reforms reduce regulatory hurdles and encourage supply-side growth consistent with foundational abundance principles.

3. Reforming Local Siting for Clean Energy Projects

In Part III, we detailed how clean energy generation projects are primarily sited and permitted at the local level, and how many local governments in recent years have enacted ordinances restricting or outright prohibiting their development through zoning restrictions or other barriers.[190] As of December

186. Press Release, Office of Assemblymember Diane Papan, Papan Bill To Streamline Geothermal Energy Production (Aug. 30, 2024), https://a21.asmdc.org/press-releases/20240830-papan-bill-streamline-geothermal-energy-production [https://perma.cc/Q7A7-K5ZW].

187. Matthew L.M. Fletcher, *In 5–4 Ruling, Court Dramatically Expands the Power of States To Prosecute Crimes on Reservations*, SCOTUSBLOG (June 29, 2022), https://www.scotusblog.com/2022/06/in-5-4-ruling-court-dramatically-expands-the-power-of-states-to-prosecute-crimes-on-reservations/ [https://perma.cc/TW6Q-R8G8].

188. Susan Haigh, *Automaker Tesla Is Opening More Showrooms on Tribal Lands to Avoid State Laws Barring Direct Sales*, TECHXPLORE (July 29, 2023), https://techxplore.com/news/2023-07-automaker-tesla-showrooms-tribal-state.html?utm_source=substack&utm_medium=email [https://perma.cc/ZE5X-EDK2].

189. Michelle Cyca, *Vancouver's New Mega-Development Is Big, Ambitious and Undeniably Indigenous*, MACLEAN'S (Mar. 11, 2024), https://macleans.ca/society/senakw-vancouver/?utm_source=substack&utm_medium=email [https://perma.cc/4BUF-4ARW(staff-uploaded archive)].

190. *See supra* Section III.B.

2023, there were 395 local restrictions on renewable energy projects across forty-one states that were so severe as to prohibit such projects entirely.[191] These restrictions have delayed, canceled, or otherwise prevented innumerable projects.[192] Moreover, local zoning and permitting restrictions are only part of the problem. Local opposition to individual projects, whether justified or not, results in project delays and cancellations. Likewise, project developers' failures to adequately consult with and engage communities in the planning process can result in otherwise-avoidable project failures.[193] In this Section, we examine two potential solutions that can facilitate clean energy abundance in the face of such local hurdles.

First, state legislatures can shift siting and permitting authority for new wind and solar energy facilities from the local level to the state level. Local governments' legal powers derive from the state, and states can reclaim that authority if it interferes with state policies, such as state decarbonization goals and mandates.[194] State legislatures in California, New York, Maryland, Michigan, and Illinois, among others, have fully or partially preempted local authority for clean energy projects over a certain size in recent years to meet state decarbonization mandates, while other states, like Minnesota, have long designated state regulators as the primary permitting authority for large energy generation projects.[195] Even some states, like Florida, that have rejected state climate and decarbonization policies, have similarly preempted local governments from prohibiting certain renewable energy projects to encourage project development for economic and other reasons.[196]

191. EISENSON ET AL., *supra* note 91, at 5.

192. *Id.*; *see also* Elizabeth Weise, Stephen J. Beard, Suhail Bhat, Ramon Padilla, Carlie Procell & Karina Zaiets, *US Counties Are Blocking the Future of Renewable Energy: These Maps, Graphics Show How*, USA TODAY (Feb. 4, 2024, at 10:40 ET), https://www.usatoday.com/story/graphics/2024/02/04/us-renewable-energy-grid-maps-graphics/72042529007/ [https://perma.cc/86PV-VJYE] (showing dramatic increase in numbers of counties blocking clean energy projects).

193. *See generally* Klass & Wiseman, *supra* note 36; Wiseman et al., *supra* note 36; Hammond, *supra* note 36; Ochoa et al., *supra* note 36.

194. Kenneth Stahl, *Home Rule and State Preemption of Local Land Use Control*, 50 URB. L. 179, 183–85 (2020); *see also Database of State Incentives for Renewables & Efficiency*, NC CLEAN ENERGY TECH. CTR., https://www.dsireusa.org/ [https://perma.cc/W2WU-GEAD] (information regarding state decarbonization goals and mandates).

195. *See* Klass & Wiseman, *supra* note 36, at 307–12 (discussing state preemption in greater detail).

196. FLA. STAT. § 163.3205(3) (2024) ("A solar facility shall be a permitted use in all agricultural land use categories in a local government comprehensive plan and all agricultural zoning districts within an unincorporated area."); Florida Electrical Power Plant Siting Act, 1973 Fla. Laws 73, 77 (codified as amended at FLA. STAT. §§ 403.501 to 403.518) (granting permitting authority to Florida Public Service Commission for solar facilities over 75 MW); *see also* Alexander C. Kaufman, *Florida Is Now a Solar Superpower. Here's How It Happened*, CANARY MEDIA (Mar. 11, 2025), https://www.canarymedia.com/articles/solar/florida-is-now-a-solar-superpower-heres-how-it-happened [https://perma.cc/YHB2-NXC8] (describing Florida's solar policies in greater detail).

One compromise approach is that of Michigan's Public Act 233 enacted in 2023.[197] The legislation gave the Michigan Public Service Commission the power to override local-level clean energy project denials, but it did not eliminate all local autonomy since it allowed municipalities with "compatible" renewable energy ordinances that were not more restrictive than state standards to continue to exercise siting authority.[198] The State also created a "Renewables Ready Communities" program that monetarily rewards developers and communities for reaching agreement on proposed clean energy projects, with up to $5,000/MW in grants available for such communities to fund projects like road and bridge repairs, public safety, and parks and playgrounds.[199] Through January 2025, the program had issued grants of over $19 million, over one-third of its $30 million budget allocation, "to 23 counties, cities, and townships across the state's two peninsulas that are hosting enough solar and battery storage to power nearly 2.5 million households."[200]

Second, more clean energy projects should be built on already-disturbed or under-utilized lands like marginal farmlands, brownfields, closed landfills, closed coal mines, and closed or closing fossil fuel-fired power plant sites.[201] These "marginal lands" constitute as much as ten percent of all contiguous U.S. lands.[202] Similarly, Planet Reimagined's Common Grounds initiative has proposed the idea of "enabling and incentivizing the use of up to 18 million acres of federal lands that are already leased for fossil fuel production."[203]

197. Public Act 233, 2023 Mich. Pub. Acts 130 (codified as amended at MICH. COMP. LAWS §§ 460.1013, 460.1221 to 460.1232); *Renewable Energy and Energy Storage Facility Siting Workgroup*, MICH. PUB. SERV. COMM'N, https://www.michigan.gov/mpsc/commission/workgroups/2023-energy-legislation/renewable-energy-and-energy-storage-facility-siting [https://perma.cc/TH6M-MTYE].

198. Sarah Mills, Madeleine Krol, Olivia Stoetzer & Zona Martin, *What Local Governments Should Know About Michigan's New Renewable Energy Siting Policies*, GRAHAM SUSTAINABILITY INST. (July 22, 2025), https://graham.umich.edu/media/files/FAQ-How-HB5120-Works.pdf [https://perma.cc/KR4D-L528 (staff-uploaded archive)]; *see also* Dan Gearino & Aydali Campa, *Illinois Put a Stop to Local Governments' Ability To Kill Solar and Wind Projects. Will Other Midwestern States Follow?*, INSIDE CLIMATE NEWS (Feb. 27, 2023), https://insideclimatenews.org/news/27022023/illinois-solar-local-government/ [https://perma.cc/7E5K-Q9KY] (describing Illinois legislation creating statewide siting requirements for utility-scale wind and solar projects and barring local governments from enforcing regulations that are more restrictive).

199. *Renewables Ready Communities Award*, MICH. DEP'T OF ENV'T, GREAT LAKES & ENERGY, https://www.michigan.gov/egle/about/organization/materials-management/energy/rfps-loans/renewables-ready-communities-award [https://perma.cc/PH7F-NRGC].

200. Press Release, Jeff Johnston, Mich. Dep't of Env't, Great Lakes & Energy, Nearly $5 Million for Hosting Renewable Energy Projects Will Fund Community Projects in Seven Cities and Townships (Jan. 23, 2025), https://content.govdelivery.com/accounts/MIDEQ/bulletins/3ce5157 [https://perma.cc/2NCR-P3XU] (reporting on third round of funding from the grant program).

201. Klass & Wiseman, *supra* note 36, at 233–36 (describing opportunities for such "repurposed energy" projects and highlighting projects underway in Minnesota, Kentucky, Maryland, and Nebraska).

202. *Id.* at 226–27, 239–41.

203. *Common Grounds*, PLANET REIMAGINED, https://www.planetreimagined.com/

Targeting such lands for priority development or expedited permitting can accelerate clean energy project growth with potentially less opposition from community groups, local governments, and environmental advocates.

Preempting local siting authority and directing clean energy projects to already-disturbed lands are consistent with abundance advocates' efforts to reduce the number of veto points for projects. Preemption of local authority prevents local governments from stopping projects that benefit entire regions. Steering projects to already-disturbed lands can reduce the reasons communities may object to projects by avoiding prime farmland or other properties that can more easily be used for housing or commercial development.

4. Building Out the High-Voltage Transmission Grid

Expanding the regional and interregional electric transmission grid is critical to integrating the nation's low-cost and abundant wind and solar energy that, coupled with energy storage, can decarbonize the electric grid and save hundreds of billions of dollars in electricity costs for consumers.[204] A significantly expanded grid is needed to achieve these benefits because many of the country's renewable resources, like solar and wind, are located in areas that are geographically remote from urban centers.[205]

Given the clear benefits of building out the long-distance, high-voltage transmission grid, why is it expanding slower than ever? We identify several permitting-related barriers to grid expansion, all of which can be addressed at least in part through legal reforms. This Article does not attempt to catalog all the planning, financing, and permitting barriers and potential solutions to new transmission lines, which are well-documented in the literature.[206] Instead, we

commongrounds [https://perma.cc/VWQ6-RQ3F].

204. U.S. DEP'T OF ENERGY, GRID DEPLOYMENT OFF., NATIONAL TRANSMISSION PLANNING STUDY: EXECUTIVE SUMMARY 11–12 (2024), https://www.energy.gov/sites/default/files/2024-10/NationalTransmissionPlanningStudy-ExecutiveSummary.pdf [https://perma.cc/DA9S-PSRR]; Ethan Howland, *DOE Transmission Planning Study Identifies 'High Opportunity' Interregional Interfaces*, UTIL. DIVE (Oct. 3, 2024), https://www.utilitydive.com/news/doe-interregional-national-transmission-planning-study/728781/ [https://perma.cc/CY5K-VMGP] (describing hundreds of billions of dollars in cost savings associated with electric grid expansion).

205. Lucas W. Davis, Catherine Hausman & Nancy L. Rose, *Transmission Impossible? Prospects for Decarbonizing the US Grid*, 37 J. ECON. PERSP. 155, 160–61 (2023).

206. *See, e.g.*, Klass et al., *supra* note 28, at 1022–42 (discussing statutory, regulatory, and political challenges to planning, cost allocation, and permitting associated with expanding the electric grid and potential solutions to those challenges); STEPHEN ANSOLABEHERE, JASON BECKFIELD, HANNAH DOBIE, MAJOR EASON, PRANAV MOUDGALYA, JEREMY ORNSTEIN, ARI PESKOE, ELIZABETH THOM & DUSTIN TINGLEY, CROSSED WIRES: A SALATA INSTITUTE-ROOSEVELT PROJECT STUDY OF THE DEVELOPMENT OF HIGH-VOLTAGE TRANSMISSION LINES IN THE UNITED STATES 3–4 (2024), https://salatainstitute.harvard.edu/wp-content/uploads/2024/06/Crossed-Wires_Full-Report.pdf [https://perma.cc/862N-6PC8] (describing the study as examining "the legal and political institutions and the social context within which transmission lines are built in the U.S., and the challenges that an aggressive expansion of the grid face" as well as the process for overcoming those

highlight select reforms we believe abundance advocates and environmental protection advocates can support to address existing barriers to grid expansion.

First, unlike interstate natural gas pipelines that can seek regulatory approval and eminent domain authority from a single agency—the Federal Energy Regulatory Commission ("FERC")—a developer seeking to construct an interstate electric transmission line must obtain regulatory approval and eminent domain authority from all the states in the line's path.[207] This requires filings with multiple state public utility commissions, multiple regulatory proceedings using different approval standards, and the potential for litigation in multiple jurisdictions.[208]

While Congress could transfer siting and eminent domain authority from the states to FERC or another federal agency as it did for interstate natural gas pipelines in the 1930s, so far it has declined to do so, opting instead for more limited, shared authority between the federal and state governments. For instance, in the Energy Policy Act of 2005, Congress granted DOE authority to designate national interest electric transmission corridors ("NIETCs") for regions of the country with documented transmission congestion[209] and authorized FERC to exercise "backstop" siting authority over the siting and eminent domain for transmission lines in NIETCs.[210] However, lawsuits by states and environmental advocacy groups in the Ninth and Fourth Circuits delayed early efforts to both designate NIETCs and establish rules for FERC to exercise backstop siting authority.[211]

It was not until 2021, in the Infrastructure Investment and Jobs Act,[212] that Congress provided additional authority to FERC to approve transmission lines needed to enhance grid reliability and reduce consumer electricity costs. While DOE and FERC in the Biden administration took actions to implement this

challenges); TED BOLING, KERENSA GIMRE, MEGAN GIBSON, JOHAN CAVERT, ALEX BRECKEL & NICOLE PAVIA, NISKANEN CTR., EVIDENCE-BASED RECOMMENDATIONS FOR OVERCOMING BARRIERS TO FEDERAL TRANSMISSION PERMITTING (2024), https://www.niskanencenter.org/evidence-based-recommendations-for-overcoming-barriers-to-federal-transmission-permitting/ [https://perma.cc/GX9S-TLG5]; NATALIE MANITIUS, JOHAN CAVERT & CASEY KELLY, NISKANEN CTR., CONTEXTUALIZING ELECTRIC TRANSMISSION PERMITTING: DATA FROM 2010 TO 2020 (2024), https://www.niskanencenter.org/contextualizing-electric-transmission-permitting-data-from-2010-to-2020/ [https://perma.cc/AJ37-QRM8]; Alex McWard, *Electric Transmission Planning: A Primer for State Legislatures*, NAT'L CONF. OF STATE LEGIS. (Dec. 19, 2023), https://www.ncsl.org/environment-and-natural-resources/electric-transmission-planning-a-primer-for-state-legislatures [https://perma.cc/3GUD-6VVZ (staff-uploaded archive)].

207. Klass et al., *supra* note 28, at 1039.

208. *Id.*

209. *Id.* at 1039–40; Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (codified as amended in scattered sections of 42 U.S.C.).

210. Klass et al., *supra* note 28, at 1039–40.

211. *Id.* at 1040; Cal. Wilderness Coal. v. U.S. Dep't of Energy, 631 F.3d 1072, 1079 (9th Cir. 2011); Piedmont Env't Council v. FERC, 558 F.3d 304, 310 (4th Cir. 2009).

212. Pub. L. No. 117-58, 135 Stat. 429 (2021).

new authority,[213] abundance advocates should work with environmental advocates[214] to continue to support enhanced federal authority for large-scale transmission planning, financing, and permitting, as has been proposed in multiple transmission-specific reform bills in Congress.[215]

Second, incumbent utility companies often have significant financial incentives to oppose new long-distance transmission lines that would allow low-cost renewable generation resources from neighboring regions to compete with the incumbent utility's existing fossil fuel power plants.[216] One prominent example is Entergy's efforts to lobby Louisiana and Mississippi lawmakers to block the 320-mile, 525-kV Southern Spirit line that would link Texas's power grid to the Southeast and allow low-cost wind energy from Texas to compete with Entergy's natural gas plants in Mississippi.[217]

This level of political influence, which utilities wield throughout the country, is funded by the over $215 million in dark-money political contributions by utilities in recent years.[218] The abundance movement correctly

213. *See generally* Applications for Permits to Site Interstate Electric Transmission Facilities, Order No. 1977, Docket No. RM22-7-000, (FERC May 29, 2024) (codified at 18 C.F.R. § 50.38) (enacting regulations for backstop siting authority pursuant to authority granted in Infrastructure Investment and Jobs Act); U.S. DEP'T OF ENERGY, NATIONAL TRANSMISSION NEEDS STUDY (2023), https://www.energy.gov/sites/default/files/202312/National%20Transmission%20Need%20Study%20-%20Final_2023.12.1.pdf [https://perma.cc/N2M3-6WLD] (assessing national electric transmission capacity constraints and congestion); Notice of Early Public and Governmental Engagement for Potential Designation of Tribal Energy Access, Southwestern Grid Connector, and Lake Erie-Canada National Interest Electric Transmission Corridors, 89 Fed. Reg. 101,597 (Dec. 16, 2024) (proposing three NIETCs based on the National Transmission Needs Study).

214. The Natural Resources Defense Council's Sustainable FERC Project is a good example of environmental advocacy groups proactively supporting long-distance transmission line expansion to support integration of renewable energy into the electric grid. *About the Project*, *supra* note 104 (describing benefits of an expanded grid and the NRDC's Sustainable FERC Project).

215. For examples of recent bills that would enhance FERC's transmission authority, see generally Building Integrated Grids With Inter-Regional Energy Supply Act (BIG WIRES Act), S. 2827, H.R. 5551, 118th Cong. (2023) (requiring minimum interregional transfer capabilities); Clean Electricity and Transmission Acceleration Act of 2023 (CETA Act), H.R. 6747, 118th Cong. (2023) (accelerating deployment of electricity transmission); ASHLEY J. LAWSON, CONG. RSCH. SERV., R47627, ELECTRICITY TRANSMISSION PERMITTING REFORM PROPOSALS (2024), https://crsreports.congress.gov/product/pdf/R/R47627 [https://perma.cc/Y5YK-XUNS] (describing Congressional bills).

216. *See* Catherine Hausman, *Power Flows: Transmission Lines, Allocative Efficiency, and Corporate Profits* 2–3, 30 (Nat'l Bureau of Econ. Rsch., Working Paper No. 32091, 2025), https://www.nber.org/system/files/working_papers/w32091/w32091.pdf [https://perma.cc/M5CV-WPW6] (describing the incentives and power that incumbent firms have to block new transmission lines and other reforms).

217. Gautama Mehta, *Who's Afraid of a 300-Mile Transmission Line that Could Help Decarbonize the Southeast?*, GRIST (Apr. 17, 2024), https://grist.org/energy/southern-spirit-transmission-line-louisiana-mississippi-texas/ [https://perma.cc/VQS4-DBWV].

218. Mario Alejandro Ariza, *Power Companies Quietly Pushed $215M into US Politics via Dark Money Groups*, FLOODLIGHT (June 15, 2023), https://floodlightnews.org/power-companies-quietly-pushed-215m-into-us-politics-via-dark-money-groups/ [https://perma.cc/Y6MP-H3RH].

identifies how concentrated special interests often stymie supply-side growth by "win[ning] out over diffuse beneficiaries."[219] Thus, it should support legislation enacted and proposed in states across the country that would prohibit regulated utilities from using customer funds to support political activity.[220]

Another important reform is to accelerate efforts to create new RTOs or expand existing ones for the parts of the country that do not yet have them—much of the Southeast and Intermountain West. Such actions would better centralize regional and interregional transmission line planning and enhance wholesale energy generation market participation.[221] These efforts are underway, particularly in the Intermountain West,[222] and abundance advocates should join environmental advocates in supporting the growth of RTOs.[223] FERC will also need to play a stronger role in preventing the exercise of market power within and outside of RTOs and guiding regional and interregional transmission planning.[224]

Third, expanding electric transmission capacity does not always require building new lines. Implementing grid-enhancing technologies such as dynamic line ratings and advanced power flow controls coupled with advanced reconductoring of existing transmission lines can together provide up to forty

219. *See What Is Abundance*, *supra* note 10 and accompanying text.

220. *See* Shelby Green, *Tracking State Legislation To Get Politics Out of Utility Bills*, ENERGY & POL'Y INST. (May 30, 2025), https://energyandpolicy.org/tracking-states-getting-politics-out-of-utility-bills/ [https://perma.cc/25L8-S6CS] (showing status of legislation in eleven states, including legislation enacted in three states).

221. *See Project RTOGov*, NICHOLAS INST. FOR ENERGY, ENV'T & SUSTAINABILITY, https://nicholasinstitute.duke.edu/project/rtogov [https://perma.cc/6AHM-UZYM] (showing map of current RTOs and describing their functions).

222. For more details about these efforts, see generally Lincoln L. Davies, Stephanie Lenhart & Anne E. Ralph, *Remaking the Western Grid*, 58 U.C. DAVIS L. REV. ONLINE 61 (2025) (detailing the potential paths forward for organized wholesale electricity markets in the West); MICHAEL GIBERSON, AN RTO FOR THE WEST: OPPORTUNITIES AND OPTIONS 1, 15 (2024), https://www.rstreet.org/research/an-rto-for-the-west-opportunities-and-options/ [https://perma.cc/VDH8-YMXF] (describing the current state of the electric power industry in the West); Rebekah de la Mora, *The Expanding Influence of Wholesale Electricity Markets in the United States*, DSIREINSIGHT: BLOG (Dec. 17, 2024), https://www.dsireinsight.com/blog/2024/12/17/the-expanding-influence-of-wholesale-electricity-markets-in-the-united-states [https://perma.cc/RNA6-876A] (discussing the expansion of wholesale markets and the competition in the West); Ethan Howland, *FERC Approves SPP's Markets+ Western Power Market, Plus 3 Other Open Meeting Takeaways*, UTIL. DIVE (Jan. 17, 2025), https://www.utilitydive.com/news/ferc-spp-western-market-caiso-edam/737663/ [https://perma.cc/7FEM-EQZZ] (reporting on FERC's conditional approvals).

223. Kelsie Gomanie, *Expanding the Massive Benefits of a Decade of Western Grid Integration*, SUSTAINABLE FERC PROJECT (Nov. 6, 2024), https://sustainableferc.org/expanding-the-massive-benefits-of-a-decade-of-western-grid-integration/ [https://perma.cc/Q2RD-YXHQ].

224. *See* Shelley Welton, *Rethinking Grid Governance for the Climate Change Era*, 109 CALIF. L. REV. 209, 213–14, 230–31, 238–40 (2021) (elaborating on the type of role that FERC can play with regard to RTOs).

percent more power flow capacity using the existing grid.[225] Wide-scale reconductoring alone could save $85 billion in energy system costs.[226] Importantly, investing in these technologies would also avoid disputes over transmission line siting because they use already-existing infrastructure.[227]

Efforts to facilitate electric grid expansion and enhancement are entirely consistent with abundance theory. Experts have shown that the most cost-effective way to create low-cost, abundant electricity resources is to massively overbuild renewable energy, particularly solar energy, because of its low cost, and then curtail that energy when it is not needed.[228] Creating such abundant electricity resources requires a significant buildout of the regional and interregional electric grid. By contrast, overbuilding fossil fuel resources will result in significantly higher utility bills for consumers and wasted finite resources, in addition to adverse climate and environmental impacts.[229]

225. Jeff St. John, *Smart Tech Could Help Fix the Biggest Barrier to Building Clean Energy*, CANARY MEDIA (Feb. 22, 2024), https://www.canarymedia.com/articles/transmission/smart-tech-could-help-fix-the-biggest-barrier-to-building-clean-energy [https://perma.cc/6Y4U-ARD5] (explaining how different grid enhancing technologies optimize space in existing transmission lines); EMILIA CHOJKIEWICZ, UMED PALIWAL, NIKIT ABHYANKAR, CASEY BAKER, RIC O'CONNELL, DUNCAN CALLAWAY & AMOL PHADKE, GRIDLAB, 2035 AND BEYOND: RECONDUCTORING WITH ADVANCED CONDUCTORS CAN ACCELERATE THE RAPID TRANSMISSION EXPANSION REQUIRED FOR A CLEAN GRID 16–18, 26, 30 (2024), https://www.2035report.com/wp-content/uploads/2024/04/GridLab_2035-Reconductoring-Technical-Report.pdf [https://perma.cc/29ZX-HB7N] (explaining how advanced reconductoring, which replaces the components within existing transmission lines, can increase power flow capacity).

226. CHOJKIEWICZ ET AL., *supra* note 225, at 7.

227. *See* Brad Plumer, *The U.S. Urgently Needs a Bigger Grid. Here's a Fast Solution*, N.Y. TIMES (Apr. 9, 2024), https://www.nytimes.com/2024/04/09/climate/electric-grid-more-power.html [https://perma.cc/WAK8-THM9 (staff-uploaded, dark archive)].

228. *See* Sarah Wang, Brian Tarroja, Lori Smith Schell & Scott Samuelsen, *Determining Cost-Optimal Approaches for Managing Excess Renewable Electricity in Decarbonized Electricity Systems*, 178 RENEWABLE ENERGY 1187, 1196 (2021); *Can We Do Anything Useful with Excess Solar and Wind Energy, Besides Store It?*, MIT CLIMATE PORTAL (Aug. 14, 2024), https://climate.mit.edu/ask-mit/can-we-do-anything-useful-excess-solar-and-wind-energy-besides-store-it [https://perma.cc/2EPU-BRXA (staff-uploaded archive)] (discussing economic and technological benefits of overbuilding renewables); *see also* Devonie Oleson, *Reframing Curtailment: Why Too Much of a Good Thing Is Still a Good Thing*, NAT'L RENEWABLE ENERGY LAB'Y (July 18, 2022), https://www.nrel.gov/news/program/2022/reframing-curtailment.html [https://perma.cc/9MHU-AGE6]; David Roberts, *The Energy Transition's 5 Supervillains and 5 Superheroes*, VOLTS (May 1, 2024), https://www.volts.wtf/p/the-energy-transitions-5-supervillains [https://perma.cc/MUY7-NU7C (staff-uploaded archive)] (explaining the need to create a regulatory environment that enables excess renewable capacity).

229. BRENDAN PIERPONT, ENERGY INNOVATION, CLEAN ENERGY ISN'T DRIVING POWER PRICE SPIKES 10–13 (2024), https://energyinnovation.org/wp-content/uploads/Clean-Energy-Isnt-Driving-Power-Price-Spikes.pdf [https://perma.cc/P7WF-HFNK] (describing how volatile fossil fuel prices contribute to higher electricity bills).

CONCLUSION

Transitioning to a nearly carbon-free electric grid is already economically and technologically feasible, and continued technology developments will make the case for transition even stronger. Moreover, a decarbonized grid is the only path to an affordable, reliable, and resilient electric grid that can support a thriving economy. However, at a time when domestic electricity demand is growing, our ability to replace retiring coal plants with carbon-free energy is constrained by supply-side bottlenecks. With its focus on supply-side solutions and antagonism towards special interests that preserve their advantages through anti-competitive behavior, the burgeoning abundance movement provides a framework to address this problem.

For the abundance movement to most effectively support the clean energy transition, it should seek new alliances with environmental protection advocates. While there are growing policy obstacles at the federal level, the shift from the Biden administration to the Trump administration can be an opportunity to create such alliances to construct a movement around abundant carbon-free electricity resources that can power a new age of carbon-free technologies. This movement can gain momentum at the local and state levels in the short term while simultaneously engaging at the federal level as national politics evolve in the wake of continuing economic and technology developments in the energy sector.