

The Cost of Delay: Federal Permitting and America's Energy Challenge

**A Phase I Working Paper Establishing a Factual Foundation for
Permitting Reform Analysis**

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Contents

Executive Summary.....	4
1. Introduction: America’s Energy Build Challenge.....	6
2. What Federal Permitting Is, and Is Not.....	8
2.1 NEPA Is Procedural, Not a Permit.....	8
2.2 Most Federal Actions Are Not the Hard Cases	8
2.3 The Federal Permitting System Is Many Processes, Not One.....	9
2.4 Gas Pipelines and Electric Transmission Are Not the Same Legal Animal.....	11
2.5 Many Important Bottlenecks Are Not Federal Permitting at All	11
2.6 State Considerations: Interstate Variation and the Migration Question	13
2.7 The Critical-Path Discipline	16
3. Where Delay Enters the System	16
3.1 The Sources of Delay	16
3.2 Process Reform That Does Not Touch Standards: FAST-41 and the 2023 NEPA Provisions	18
3.3 The Current Grid-Governance Baseline: FERC Orders 1920 and 2023	19
3.4 The Current Legal Baseline: <i>Loper Bright</i> and <i>Seven County</i>	20
4. The Cost of Delay	21
4.1 Affordability.....	21
4.2 Reliability	22
4.3 Economic Growth and Domestic Production	23
4.4 Emissions Reduction and Environmental Outcomes.....	24
4.5 National Security and Strategic Competition	25
4.6 The Difficulty with Assessing a National Aggregate	25
4.7 Employment and the Limits of Jobs Estimates.....	27
5. Why Delay Is Not Ideologically Neutral	30
6. Emerging Cross-Ideological Common Ground	31
6.1 The Coalitions, and Why Their Reasons Diverge	32
6.2 Bridge Frames and Fragile Terms	34
6.3 Where the Common Ground Is Deepest	34
7. Where Common Ground Breaks Down	35
7.1 What Gets Built: Technology and Values	35
7.2 How Decisions Are Reviewed and Undone	35
7.3 Who Decides, and Whose Objection Counts.....	36
7.4 Why Coalitions Fracture, in Practice.....	37
8. Case Examples: What the Record Shows.....	41

8.1 Transmission: SunZia	41
8.2 Emerging Infrastructure: EPA Class VI Carbon Storage	43
8.3 Critical Minerals: Thacker Pass Lithium	44
8.4 Natural Gas Pipeline: Mountain Valley Pipeline	45
8.5 Clean Energy That Worked: Gemini Solar	47
8.6 Offshore Wind: Vineyard Wind 1 and Revolution Wind.....	47
8.7 Cross-Case Lesson.....	50
9. Conclusion: Toward Timely, Durable, Legitimate Decisions	51
About the Authors	53
Acknowledgments.....	53
About RBI	53

Executive Summary

Delay in building energy infrastructure is, at its core, an affordability problem, and the pressure behind it is intensifying. After roughly two decades of flat electricity demand, U.S. load is rising again, pushed by data centers and artificial intelligence, manufacturing reshoring, electrification, and the need to replace retiring generation. The magnitude is genuinely uncertain and high-end forecasts warrant caution, but the direction is clear. The infrastructure to meet that demand is not being built at the pace, scale, or predictability the moment requires. The cost of that failure is ultimately borne by consumers, who pay for a system that costs more to run than it needs to, by workers whose work is deferred along with the projects, and by communities waiting on the tax base, the employment, and the decisions those projects would bring. Traditional permitting reform remains central to fixing that. Faster and more predictable federal review is necessary to getting projects built, and it has never been sufficient on its own.

The costs of that failure take three forms. Congestion charges arise when a constrained grid cannot deliver lower-cost power to where it is needed. Financing costs rise when long timelines extend the period a project carries its charges before it earns revenue. And entry costs weigh most on small and mid-size developers, who carry multi-year interconnection queues and rising study deposits before a project earns anything. These are documented, mechanism-level costs rather than a speculative national aggregate. Grid congestion cost more than \$12 billion in 2024. At the end of 2025, roughly 8,200 projects representing about 2,061 GW of generation and storage were awaiting interconnection, and the median wait from request to commercial operation had grown to more than five years. Of the capacity that requested interconnection between 2000 and 2020, only about 13 percent had reached commercial operation by the end of 2025. Reducing delay works directly on each of these. It does not by itself lower retail bills, which reflect generation, transmission, distribution, capacity, policy, and weather together. The defensible claim is directional, and it is strong. A faster, more predictable system is a cheaper system at the margin. Cost is not the only consequence. The North American Electric Reliability Corporation's assessments identify growing risk of resource-adequacy shortfalls over the next decade, though the degree of that risk is debated.

The central finding of this paper is that delay has no single cause, and that this is why reform keeps failing. Delay is the accumulation of many separately-defensible obstacles, each with its own logic and each requiring its own distinct remedy. Federal environmental review is one. So are interagency conflict, thin agency capacity, state and local siting, interconnection queues, litigation and its remedies, equipment supply chains, financing, and the reversals that come with each change of administration. A package calibrated to one of these does little about the rest. That finding also limits what can fairly be blamed for delay. An obstacle truly matters to the schedule only when it sits on a project's critical path. A project that has cleared environmental review but waits on transformers, interconnection, or a state siting decision is not held up by federal permitting at that moment.

Several corrections follow. The National Environmental Policy Act (NEPA) is procedural, not a permit, and it is one part of a system that also includes substantive permits, consultations, rights-of-way, leases, and certificates. Long timelines belong to environmental impact statements (EISs) for large and contested projects. Those averaged about 4.5 years from notice of intent to record of decision across the statements the Council on Environmental Quality (CEQ) analyzed from 2010 to 2018, with more recent data showing improvement. The governing baseline is also moving through the courts and the Federal Energy Regulatory Commission (FERC) rather than Congress alone, reshaped by Supreme Court holdings in *Loper Bright* and *Seven County*, as well as FERC Orders 1920 and 2023.

Delay is not ideologically neutral. It slows clean-energy development, including transmission, renewables, storage, geothermal, nuclear, carbon capture, and critical minerals, and conventional development alike, including gas pipelines, liquefied natural gas (LNG), gas generation, crude oil pipelines, and refineries. It can set back environmental goals when delayed clean infrastructure prolongs reliance on higher-emitting alternatives, and it harms consumers, workers awaiting construction jobs, and communities awaiting a decision. That reframes permitting from a contest over which projects to favor into a shared question about whether the system works.

On that question there is real cross-ideological agreement, though narrower than the rhetoric suggests. It is deepest on procedure and capacity: coordination, lead-agency accountability, concurrent review, staffing and technical expertise, digital permitting, and better data. The fault lines are equally persistent, running through technology-neutral versus clean-targeted reform, judicial review and remedies, state authority under Clean Water Act (CWA) Section 401, transmission backstop authority, environmental justice, and tribal consultation. Those fractures explain why the Energy Permitting Reform Act (EPRA) advanced on a bipartisan committee vote in 2024 and never reached the floor, and why none of the SPEED, CERTAIN, and FREEDOM Acts has been enacted, though the SPEED Act has passed the House.

The evidence here is deliberately specific. Six case examples separate federal review from the other forces at work, and none supports a single-cause account. Several show that predictability matters as much as speed, since a permit quickly issued but later vacated or reversed gives sponsors and communities little of the certainty that drives investment. Durability failed a natural gas pipeline and an offshore wind farm alike. One held a valid federal certificate and still lost its accompanying permits to years of litigation. The other completed every stage of review, defeated every challenge through the denial of certiorari, financed and built, and was halted anyway. No quantity of completed process reaches that, which is why a distinct family of reform is now aimed at it. Neither a reliable national price tag nor a reliable count of jobs lost to delay exists, and saying so is a strength rather than an evasion. The federal government counts the workforce that builds this infrastructure. In 2024 it found 326,621 construction workers supporting electric power generation and fuels production, and separately 537,767 construction jobs contributed to transmission, distribution, and storage. The most-cited aggregates are forward projections or pipeline totals rather than measurements of what delay has cost, and no jobs figure separates work that delay destroyed from work that delay moved to another project or another year. This paper relies instead on the primary-sourced measures set out above, each tied to a specific record and each pointing at something fixable.

This Phase I paper establishes a shared factual foundation and maps where agreement is deepest and where it breaks down. It does not endorse a bill or prescribe statutory language. The framing throughout is better review, not weaker review, and faster decisions, not automatic approvals. The country needs decisions that are faster, clearer, more evidence-based, and more durable, without sacrificing the legitimacy that makes them stick. What chronic delay leaves in place is a system that costs more to run than it needs to, and consumers bear that cost.

1. Introduction: America's Energy Build Challenge

For nearly two decades, U.S. electricity demand was essentially flat. Efficiency gains offset growth, utilities planned around modest change, and the dominant policy debate concerned the *generation mix* rather than the *total size* of the system. That era is ending.¹

Several forces are now pushing load upward simultaneously. Data centers, accelerated by artificial intelligence, are driving large, concentrated, fast-arriving demand in specific regions. Manufacturing reshoring and industrial policy (semiconductors, batteries, clean-energy components) are adding new industrial load. Electrification of transport and buildings adds demand more gradually but persistently. And a wave of generation retirements means new capacity is needed simply to hold reliability constant.

These drivers are real but not equally certain, and this paper resists treating the highest demand forecasts as settled fact. Data-center projections in particular vary widely depending on assumptions about efficiency, utilization, and how much announced capacity is actually built. The honest summary is that demand is rising meaningfully, in ways the existing buildout pace was not designed to meet, while the precise magnitude remains uncertain.

Meeting rising demand requires building, and building requires permits. The infrastructure at issue is diverse. It includes high-voltage transmission to relieve congestion and move power between regions, along with renewables and storage. It also includes firm clean resources such as advanced nuclear, geothermal, and hydropower modernization, as well as carbon capture and CO₂ transport and storage, and critical-mineral mines and processing. On the conventional side, it includes oil and petrochemical infrastructure such as crude pipelines, refining, and processing, together with the natural gas pipelines, gas generation, and liquefied natural gas (LNG) export facilities that are central to reliability and affordability.

This is where framing matters. It would be easy to write this as a story about regulation strangling progress, or about industry seeking to gut environmental protection. Neither is accurate, and neither would be credible to a sophisticated reader. The diagnosis this paper defends is more specific, and it is the reason comprehensive permitting reform keeps failing. Delay is real, and the National Environmental Policy Act (NEPA) delay in particular. It is, however, not caused by any single obstacle, and least of all by NEPA alone. It is caused by the accumulation of many separately-defensible obstacles. Federal environmental review is one. So are interagency conflict, thin agency capacity, state and local siting,

¹ U.S. Energy Info. Admin., *Data Center Server Energy Use Grows Across the Commercial Building Stock, Today in Energy* (May 19, 2026), <https://www.eia.gov/todayinenergy/detail.php?id=67704>; U.S. Energy Info. Admin., *After More Than a Decade of Little Change, U.S. Electricity Consumption is Rising Again, Today in Energy* (May 13, 2025), <https://www.eia.gov/todayinenergy/detail.php?id=65264> (documenting relatively flat U.S. electricity consumption from the mid-2000s to the early 2020s, a low point in 2020, and renewed growth the agency expects to surpass the 2024 all-time high); U.S. Energy Info., *Short-Term Energy Outlook* (Jan. 2025), <https://www.eia.gov/outlooks/steo/archives/jan25.pdf>; U.S. Dep't of Energy, *Clean Energy Resources to Meet Data Center Electricity Demand* (last visited Aug. 2, 2026), <https://www.energy.gov/oe/clean-energy-resources-meet-data-center-electricity-demand>.

interconnection queues, litigation and its remedies, equipment supply chains, financing, and the reversals that come with each change of administration.² Each is defensible on its own terms, each sits on a different project's critical path, and each requires its own distinct remedy. So a package calibrated to one of them does little about the rest. This is why the paper resists the single-cause story from either direction, and why it organizes its evidence, in the case studies of Section 8, around types of obstacle rather than types of project.

One implication governs what follows. The object of permitting reform is not the issuance of permits. It is the completion of projects. A permit issued is not a project built, and a project can be stalled, reversed, or abandoned long after every approval is in hand. The reform proposals now before Congress reflect this. They reach past environmental review into interagency coordination, judicial review and remedies, and the question whether an agency may revoke an authorization it has already granted (see Section 7.4). Jobs, infrastructure, and lower system costs come from the completed project, not from the issued permit. Permitting reform is therefore a term of art. It names an agenda far broader than permits, reaching whatever keeps a lawful project from being finished. Traditional permitting reform remains central to this. Faster and more predictable federal environmental review is necessary to getting projects finished, and compressing avoidable delay there is a serious and worthwhile object of reform. It has simply never been sufficient on its own.

That accumulation has an uncomfortable feature. The obstacles do not all yield to the same kind of fix, and some do not yield to procedural reform at all. Capacity can be funded; interagency conflict and staged approvals can be coordinated toward a clean point of finality; duplicative review can be compressed without lowering standards. Legitimacy in a community that bears a project's burdens cannot be scheduled, only earned. And durability across administrations (the assurance that a lawful decision, once made, will hold) is only partly within the reach of the reforms now under discussion. The case record in Section 8 will show this holding without regard to which side a project favors. For a natural-gas pipeline and an offshore wind farm alike, each was nearly undone by a failure of durability that faster review could not have supplied.

The practical problem, stated plainly, is that the current federal permitting system does not reliably produce timely, durable, environmentally sound decisions at the scale the country now requires. It does not say review is worthless. It does not say speed is the only value. It says the system, as it operates

² Michael Mandel, *Reviving Jobs and Innovation: A Progressive Approach to Improving Regulation*, Progressive Policy Inst. (Feb. 2011), https://www.progressivepolicy.org/wp-content/uploads/2024/09/2011_Mandel_A-Progressive-Approach-to-Improving-Regulation.pdf (originating the diagnosis that individually defensible rules compound into an aggregate burden ordinary one-at-a-time review cannot resolve, and proposing an independent commission, modeled on the BRAC base-closing process, to prune accumulated rules in a single package); Michael Mandel & Diana G. Carew, *Regulatory Improvement Commission: A Politically-Viable Approach to U.S. Regulatory Reform*, Progressive Policy Inst. (May 2013), https://www.progressivepolicy.org/wp-content/uploads/2024/09/05.2013-Mandel-Carew_Regulatory-Improvement-Commission_A-Politically-Viable-Approach-to-US-Regulatory-Reform-1.pdf (developing that proposal).

today, struggles to deliver decisions that are simultaneously timely, durable, and high-quality, and that the causes are plural.

The country cannot meet rising demand if major infrastructure decisions are slow, unpredictable, easily reversed, or legally fragile. But it also cannot build durably if it sacrifices legitimacy, community trust, legal accountability, and environmental quality for raw speed. The sections that follow try to hold both truths at once.

2. What Federal Permitting Is, and Is Not

Much confusion in this debate stems from imprecise language. “Permitting reform,” “NEPA reform,” and “cutting red tape” are used interchangeably but refer to different things. Clarity here is the precondition for a reform agenda that targets the actual source of delay.

2.1 NEPA Is Procedural, Not a Permit

NEPA requires federal agencies to consider the environmental effects of major federal actions before taking them, typically through an environmental assessment (EA) or a more detailed environmental impact statement (EIS).³ Crucially, NEPA is *procedural*. It does not, by itself, grant or deny a permit, and it does not require an agency to choose the most protective option. It requires the agency to *study and disclose* reasonably foreseeable effects and to study, develop, and describe a reasonable range of technically and economically feasible alternatives. A project can complete NEPA and still need numerous substantive approvals. Conversely, NEPA litigation can stall a project whose underlying permits are not themselves disputed.

This matters because much of the political energy around “permitting reform” is really about NEPA *litigation* and *timelines*, while much of the actual friction lives in the substantive permits that NEPA review accompanies.

2.2 Most Federal Actions Are Not the Hard Cases

It is easy to generalize from the worst timelines. In fact, the large majority of NEPA actions are categorical exclusions or environmental assessments, resolved relatively quickly. The long, visible delays belong to EIS-level reviews for large, complex, controversial projects. For the environmental impact statements the Council on Environmental Quality (CEQ) analyzed from 2010 to 2018 (1,276 statements), the average completion time from notice of intent to record of decision was about 4.5 years, with a median near 3.5 years and about a quarter exceeding six years.⁴ CEQ’s updated data through 2024 show

³ 42 U.S.C. § 4332(2)(C), <https://www.law.cornell.edu/uscode/text/42/4332> (requiring a detailed environmental statement for major federal actions significantly affecting the quality of the human environment, as amended by the Fiscal Responsibility Act of 2023, Pub. L. No. 118-5, § 321(a)).

⁴ Council on Env’tl. Quality, *Fact Sheet: CEQ Report on Environmental Impact Statement Timelines (2010-2018)* (June 2020), <https://trumpwhitehouse.archives.gov/wp-content/uploads/2020/01/20200612Final-EIS-Timeline-Fact-Sheet.pdf> (reporting an average of about 4.5 years and a median of about 3.5 years from notice of intent to

these timelines improving, with the median from notice of intent to final environmental impact statement falling to 2.4 years for 2021 through 2024 from 3.1 years for 2017 through 2020.⁵ The policy implication is twofold: the worst cases are real and consequential, *and* public debate often overgeneralizes from them.

2.3 The Federal Permitting System Is Many Processes, Not One

Federal involvement can include some or all of the following, depending on project type and location:

- **NEPA review** (EA or EIS), often coordinated by a designated lead agency.⁶
- **Federal Energy Regulatory Commission (FERC) certificates** for interstate gas pipelines (Natural Gas Act Section 7) and siting authority for LNG facilities (Natural Gas Act Section 3), plus FERC roles in hydropower licensing and certain transmission matters.⁷
- **Bureau of Land Management (BLM) rights-of-way** and land-use authorizations for projects crossing federal land.⁸
- **Bureau of Ocean Energy Management (BOEM) approvals** for offshore wind and energy on the Outer Continental Shelf.⁹

record of decision, with about a quarter of statements exceeding six years, across 1,276 statements completed 2010-2018).

⁵ Council on Env'tl. Quality, *Environmental Impact Statement Timelines (2010-2024)* (Jan. 13, 2025), <https://nepa.gov/reports-publications/eis-timelines-report-2025> (a median of 2.4 years from notice of intent to final environmental impact statement for 2021-2024, down from 3.1 years for 2017-2020; the earlier 2010-2018 data, measured to record of decision, showed a median of 3.5 years and an average of 4.5 years (*see supra* note 4)).

⁶ National Environmental Policy Act of 1969, 42 U.S.C. §§ 4332, 4336–4336e, <https://www.law.cornell.edu/uscode/text/42/4332> (§§ 4336–4336e added by the Fiscal Responsibility Act of 2023). The CEQ implementing regulations formerly at 40 C.F.R. pts. 1500–1508 were rescinded; agencies now apply their own NEPA procedures. *See* Council on Env'tl. Quality, Removal of National Environmental Policy Act Implementing Regulations, 91 Fed. Reg. 1041 (Jan. 8, 2026), <https://www.federalregister.gov/documents/2026/01/08/2026-00178/removal-of-national-environmental-policy-act-implementing-regulations>.

⁷ 15 U.S.C. § 717f(c) (certificate of public convenience and necessity for interstate pipelines), (h) (federal eminent domain), <https://www.law.cornell.edu/uscode/text/15/717f>; 15 U.S.C. § 717b(e) (FERC siting authority for LNG terminals), <https://www.law.cornell.edu/uscode/text/15/717b>; 18 C.F.R. pt. 157, <https://www.ecfr.gov/current/title-18/chapter-I/subchapter-E/part-157>.

⁸ Federal Land Policy and Management Act of 1976, 43 U.S.C. §§ 1701–1787, <https://www.law.cornell.edu/uscode/text/43/chapter-35>; 43 C.F.R. pt. 2800, <https://www.ecfr.gov/current/title-43/part-2800>.

⁹ Outer Continental Shelf Lands Act § 8(p), 43 U.S.C. § 1337(p) (authorizing OCS renewable energy leasing), <https://www.law.cornell.edu/uscode/text/43/1337>; 30 C.F.R. pt. 585, <https://www.ecfr.gov/current/title-30/part-585>.

- **Army Corps permits** under Clean Water Act Section 404 and Rivers and Harbors Act Section 10.¹⁰
- **Environmental Protection Agency (EPA) permits and authorities**, including Clean Air Act permits and Underground Injection Control (including Class VI wells for CO₂ sequestration).¹¹
- **Endangered Species Act (ESA) Section 7 consultation** with the Fish and Wildlife Service or NOAA Fisheries.¹²
- **National Historic Preservation Act (NHPA) Section 106 review** and tribal consultation.¹³
- **CWA Section 401 water-quality certifications**, generally issued by states.¹⁴
- **Federal land and mineral approvals**, mining plans of operations, and leases.¹⁵

Several of these can run in parallel, but in practice they are often sequenced, duplicated, or poorly coordinated (see Section 3). The accumulation is measurable on a single project. Revolution Wind, the offshore wind farm off the Rhode Island coast taken up in Section 8.6, obtained more than twenty local, state, and federal permits and approvals, and its sponsor reports spending more than \$100 million to obtain them.¹⁶

¹⁰ Clean Water Act § 404, 33 U.S.C. § 1344 (permitting discharges of dredged or fill material into waters of the United States), <https://www.law.cornell.edu/uscode/text/33/1344>; Rivers and Harbors Act of 1899 § 10, 33 U.S.C. § 403 (permitting structures or work affecting navigable waters), <https://www.law.cornell.edu/uscode/text/33/403>.

¹¹ Clean Air Act § 165, 42 U.S.C. § 7475 (prevention of significant deterioration preconstruction permit), <https://www.law.cornell.edu/uscode/text/42/7475>; Safe Drinking Water Act § 1421, 42 U.S.C. § 300h, <https://www.law.cornell.edu/uscode/text/42/300h>; Class VI well regulations, 40 C.F.R. pt. 146, subpt. H, <https://www.ecfr.gov/current/title-40/part-146/subpart-H>.

¹² Endangered Species Act § 7, 16 U.S.C. § 1536 (requiring federal agencies to consult with the wildlife services to avoid jeopardizing listed species), <https://www.law.cornell.edu/uscode/text/16/1536>; 50 C.F.R. pt. 402, <https://www.ecfr.gov/current/title-50/part-402>.

¹³ National Historic Preservation Act § 106, 54 U.S.C. § 306108, <https://www.law.cornell.edu/uscode/text/54/306108>; Protection of Historic Properties, 36 C.F.R. pt. 800, <https://www.ecfr.gov/current/title-36/part-800> (including consultation with Indian tribes and Native Hawaiian organizations).

¹⁴ Clean Water Act § 401, 33 U.S.C. § 1341, <https://www.law.cornell.edu/uscode/text/33/1341>.

¹⁵ Surface Management regulations, 43 C.F.R. pt. 3809 (governing surface management of locatable-minerals operations, plan of operations, §§ 3809.11, 3809.401), <https://www.ecfr.gov/current/title-43/subtitle-B/chapter-II/subchapter-C/part-3800/subpart-3809>.

¹⁶ Declaration of Melanie Gearon ¶ 15, *Revolution Wind, LLC v. Burgum*, No. 1:25-cv-02999-RCL (D.D.C. Sept. 5, 2025), ECF No. 9-1, <https://storage.courtlistener.com/recap/gov.uscourts.dcd.284486/gov.uscourts.dcd.284486.9.1.pdf> [hereinafter Gearon Declaration]. The figure is the sponsor's own account of its permitting expenditure, given in a declaration filed in support of a motion for preliminary injunction, and it covers approvals at all three levels of government rather than federal approvals alone.

2.4 Gas Pipelines and Electric Transmission Are Not the Same Legal Animal

A structural distinction is easy to miss because the two are so often discussed together. Interstate natural gas pipelines operate under a comparatively strong, centralized federal framework. FERC issues a certificate of public convenience and necessity under the Natural Gas Act, which provides a federal gateway and carries federal eminent domain. Electric transmission siting, by contrast, remains largely *state-centered and fragmented* across state public utility commissions. FERC holds only limited “backstop” siting authority, exercisable in transmission corridors that the Department of Energy (DOE) designates as being in the national interest, and even that is not equivalent to the gas-certificate model.^{17,18,19} No corridor is currently designated, so the authority is not in effect.²⁰ This asymmetry runs through the whole debate. Transmission reform tends to become a *federalism and state-commission* question, while pipeline disputes more often center on the federal certificate, associated permits (Corps, water-quality), and litigation. The paper returns to it in Section 7.

2.5 Many Important Bottlenecks Are Not Federal Permitting at All

A project can clear every federal hurdle and still be delayed for years by forces outside federal permitting entirely. Two are worth quantifying, because they are among the largest sources of delay. Interconnection queues, the multi-year process of studying and connecting a generator or large load to the grid, have grown severe. At the end of 2025, roughly 8,200 projects representing about 2,061 GW of

¹⁷ 15 U.S.C. § 717f(c) (certificate of public convenience and necessity), (h) (federal eminent domain), <https://www.law.cornell.edu/uscode/text/15/717f>; 18 C.F.R. pt. 157, <https://www.ecfr.gov/current/title-18/chapter-I/subchapter-E/part-157>.

¹⁸ 16 U.S.C. § 824p(a) (directing the Secretary of Energy to designate national interest electric transmission corridors), (b) (authorizing FERC to permit construction of transmission facilities within a designated corridor only in limited circumstances, such as where a State lacks siting authority, has not acted within one year, or has denied the application), <https://www.law.cornell.edu/uscode/text/16/824p>; added by Energy Policy Act of 2005, Pub. L. No. 109-58, § 1221(a), and amended by Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, § 40105 (2021). See also FERC, *Explainer on Siting Interstate Electric Transmission Facilities* (last visited Aug. 2, 2026), <https://www.ferc.gov/explainer-siting-interstate-electric-transmission-facilities>.

¹⁹ Fed. Energy Regulatory Comm’n, Applications for Permits to Site Interstate Electric Transmission Facilities, Order No. 1977, 89 Fed. Reg. 46,682 (May 29, 2024) (codified at 18 C.F.R. pts. 50, 380), <https://www.federalregister.gov/documents/2024/05/29/2024-10879/applications-for-permits-to-site-interstate-electric-transmission-facilities> (implementing FERC’s limited backstop transmission-siting authority under 16 U.S.C. § 824p), *on reh’g*, Order No. 1977-A, 89 Fed. Reg. 84,465 (Oct. 23, 2024), <https://www.federalregister.gov/documents/2024/10/23/2024-24526/applications-for-permits-to-site-interstate-electric-transmission-facilities>. For the current regulations, see 18 C.F.R. pt. 50, <https://www.ecfr.gov/current/title-18/chapter-I/subchapter-B/part-50>. See also FERC, *Explainer*, *supra* note 18.

²⁰ The authority added in 2005 was never used, and the Ninth Circuit vacated the Department of Energy’s first corridor designations in 2011. No Secretary of Energy has designated a corridor since. Three potential corridors identified in December 2024 remained undetermined as of April 2026, so the backstop authority is not in effect. See Cong. Rsch. Serv., R47627, *Electricity Transmission Permitting Reform: Issues and Legislative Proposals* (last updated Apr. 27, 2026), <https://www.congress.gov/crs-product/R47627>.

generation and storage were awaiting interconnection, and the median wait from request to commercial operation had grown to more than five years.²¹ Supply chains for major equipment have tightened. Lead times for large power transformers and generator step-up units have stretched from roughly a year in 2021 to two years or more by 2024, with average prices up on the order of 60 to 80 percent since 2020.²² The upper end runs considerably longer. The Department of Energy reports that 36-month lead times are commonly quoted for large power transformers, with maximum lead times reaching as much as 60 months.²³ *Table 1* below sorts the major bottlenecks, federal and non-federal alike, by whether federal permitting reform can reach them.

Bottleneck	Federal?	Typical examples	Why it matters
NEPA review (EA/EIS)	Yes	Transmission on federal land; offshore wind; pipelines	Procedural; can be long and litigated, but not a permit itself
FERC gas certificate	Yes	Interstate gas pipelines; LNG terminals	Strong federal gateway; subject to challenge and §401
FERC transmission backstop	Limited	Lines in DOE-designated corridors	Narrow; not equivalent to the gas model
BLM right-of-way	Yes	Long-line transmission; solar on public land	Land access often paces western projects
BOEM approval	Yes	Offshore wind	Newer process; evolving policy and litigation
Corps §404 / §10	Yes	Pipelines; water crossings	Frequent litigation hook

²¹ Lawrence Berkeley Nat'l Lab., *Queued Up: 2026 Edition, Characteristics of Power Plants Seeking Transmission Interconnection as of the End of 2025* (2026), <https://emp.lbl.gov/queues>.

²² Nat'l Infrastructure Advisory Council, *Addressing the Critical Shortage of Power Transformers to Ensure Reliability of the U.S. Grid* (June 2024), https://www.cisa.gov/sites/default/files/2024-09/NIAC_Addressing%20the%20Critical%20Shortage%20of%20Power%20Transformers%20to%20Ensure%20Reliability%20of%20the%20U.S.%20Grid_Report_06112024_508c_pdf_0.pdf; Wood Mackenzie, *Supply Shortages and an Inflexible Market Give Rise to High Power Transformer Lead Times* (Apr. 2, 2024), <https://www.woodmac.com/news/opinion/supply-shortages-and-an-inflexible-market-give-rise-to-high-power-transformer-lead-times/> (reporting lead times rising from roughly 50 weeks in 2021 to 120 weeks on average in 2024, and transformer prices rising 60 to 80 percent on average since January 2020).

²³ U.S. Dep't of Energy, *Large Power Transformer Resilience: Report to Congress 2* (July 2024), <https://www.energy.gov/sites/default/files/2024-10/EXEC-2022-001242%20-%20Large%20Power%20Transformer%20Resilience%20Report%20signed%20by%20Secretary%20Granholm%20on%207-10-24.pdf> (reporting that 36-month lead times are commonly quoted for large power transformers, with maximum lead times reaching as much as 60 months).

Bottleneck	Federal?	Typical examples	Why it matters
ESA §7 / NHPA §106	Yes	Most large projects	Consultations extend timelines if started late
CWA §401 certification	State-led	Pipelines; hydropower	State authority; a major fossil-vs-clean fault line
State/local siting	No (mostly)	Transmission; wind; solar	Often the binding constraint; outside federal reach
Interconnection queue	Process under FERC	Renewables; storage; new load	Among the largest sources of generation delay
Transformers / equipment	No	Transmission; substations	Multi-year lead times independent of permits
Financing / offtake	No	All project types	Market and policy uncertainty can pause projects

Table 1. Major bottlenecks in energy-project development, sorted by the extent of federal involvement.

2.6 State Considerations: Interstate Variation and the Migration Question

It is natural to expect that more demanding permitting regimes push energy investment toward states with lighter ones, at a measurable cost in jobs and investment. That intuition is more often asserted than demonstrated. The studies built to quantify what permitting delay costs do not measure relocation. They count what is lost when a project stalls or dies in place, and the most cited of them says directly that where the capital goes instead cannot be traced, since a cancelled project may send its investors elsewhere, including overseas, and not necessarily to another state.²⁴ State siting and permitting regimes do vary meaningfully. A DOE-sponsored inventory of all fifty states finds jurisdictional authority, timelines, and public-process requirements differing widely, with thirty-seven states delegating at least some siting authority to local governments.²⁵ Much of what is described as a state’s posture is therefore

²⁴ Steve Pociask & Joseph P. Fuhr Jr., *Progress Denied: A Study on the Potential Economic Impact of Permitting Challenges Facing Proposed Energy Projects 6* (TeleNomic Research, LLC, Mar. 10, 2011), https://tethys.pnnl.gov/sites/default/files/publications/pnp_economicstudy.pdf (commissioned by the U.S. Chamber of Commerce in conjunction with its Project No Project initiative, cataloguing 351 stalled or cancelled state-level energy projects and estimating the output and employment they would generate if built, and observing at 6 that a cancelled project may lead investors to look elsewhere, including overseas where permitting is more streamlined, though not necessarily in the state where the project was proposed); James Morrone Jr., *A Guide to Unlocking Energy Abundance: The Impact of Permitting Delays on Access to Energy and Economic Development*, Americans for Prosperity (Dec. 2025), <https://americansforprosperity.org/wp-content/uploads/2026/01/A-Guide-to-Unlocking-Energy-Abundance-The-Impact-of-Permitting-Delays-on-Access-to-Energy-and-Economic-Development.pdf> (tracking 30 energy projects across six states, with figures drawn from the projects’ own forecasts). Section 4.6 takes up what such aggregates can and cannot establish.

²⁵ Regulatory Assistance Project & Clean Air Task Force, *Laws in Order: An Inventory of State Renewable Energy Siting Policies* (2024), <https://emp.lbl.gov/publications/laws-order-inventory-state-renewable> (a fifty-state inventory prepared with support from the U.S. Department of Energy and Lawrence Berkeley National Laboratory, finding that a majority of states, 37, delegate to local governments the authority to set siting standards such as

set at the county or municipal level. By the end of 2024, at least 459 counties and municipalities across 44 states had adopted severe local restrictions on renewable siting, a pattern that cuts across any clean red-state versus blue-state sorting.²⁶

A state's posture usually varies by technology rather than being uniformly strict or lax. New York and California expedite renewables through consolidated state review²⁷ while obstructing fossil infrastructure, as New York's Section 401 denial of the Constitution Pipeline illustrates.²⁸ Texas and North Dakota permit oil and gas quickly.²⁹ Yet Texas also leads the nation in both wind and utility-scale solar.³⁰ What reads as a single state posture is better understood as a set of technology-specific choices,

setbacks and turbine heights); *see also* Lawrence Berkeley Nat'l Lab., *Siting Clean Energy: An Inventory of State Policies and Permitting Authorities* (June 13, 2024), <https://emp.lbl.gov/news/siting-clean-energy-inventory-state-policies-and-permitting-authorities>.

²⁶ Sabin Ctr. for Climate Change L., Columbia L. Sch., *Opposition to Renewable Energy Facilities in the United States: June 2025 Edition* (June 2025), https://scholarship.law.columbia.edu/sabin_climate_change/251 (finding that, by the end of 2024, at least 459 counties and municipalities across 44 states had adopted severe local restrictions, defined to include temporary moratoria, outright bans, and standards so restrictive that they operate as de facto bans).

²⁷ New York: Siting of Renewable Energy and Electric Transmission, N.Y. Pub. Serv. Law art. VIII, enacted by the RAPID Act, 2024 N.Y. Laws ch. 58, pt. O (eff. Apr. 20, 2024), which repealed and replaced former N.Y. Exec. Law § 94-c; administered by the Office of Renewable Energy Siting and Electric Transmission (ORES), with consolidated siting of major renewable facilities of 25 MW or greater and a final decision due within one year of a complete application (six months for landfill, brownfield, or similarly disturbed sites). *See* N.Y. Dep't of Pub. Serv., *ORES Overview*, <https://dps.ny.gov/ores-overview>. California: Opt-In Certification Program, Cal. Pub. Res. Code §§ 25545-25545.13, enacted by AB 205, 2022 Cal. Stat. ch. 61, authorizing the California Energy Commission to decide a voluntary application for solar or onshore wind of 50 MW or greater (and storage of 200 MWh or greater) within 270 days of a complete application; program sunsets June 30, 2029. *See* Cal. Energy Comm'n, *Opt-In Certification Program*, <https://www.energy.ca.gov/programs-and-topics/topics/power-plants/opt-certification-program>.

²⁸ The New York State Department of Environmental Conservation denied a Clean Water Act Section 401 water-quality certification to the Constitution Pipeline; the Second Circuit upheld the denial in *Constitution Pipeline Co. v. N.Y. State Dep't of Env'tl. Conservation*, 868 F.3d 87 (2d Cir. 2017), <https://law.justia.com/cases/federal/appellate-courts/ca2/16-1568/16-1568-2017-08-18.html>, cert. denied (2018), and the project was abandoned in 2020. On the broader pattern that New York and California have approved little new interstate gas pipeline capacity, *see* R Street Institute, *State and Local Permitting Restrictions on Oil and Gas* (Sept. 24, 2025), <https://www.rstreet.org/commentary/state-and-local-permitting-restrictions-on-oil-and-gas/>.

²⁹ Texas drilling-permit processing times are published by the Railroad Commission of Texas, Oil & Gas Division (roughly two business days for expedited permits and four business days for standard permits, as posted in early 2025), <https://www.rrc.texas.gov/oil-and-gas/>. On state assumption of Class VI carbon-storage permitting, *see* Section 8.2 and the sources cited there; North Dakota, Louisiana, and Wyoming hold Class VI primacy. For the broader pattern that state oil-and-gas permitting is frequently faster than federal review, *see* R Street Institute, *supra* note 28. Drilling-permit timelines are not comparable to major-facility siting timelines; they illustrate relative posture, not equivalent processes.

³⁰ Texas leads the nation in wind generation and, as of 2025, in utility-scale solar generation, having surpassed California (roughly 58,600 versus 53,700 GWh in 2025), though California retains the lead in small-scale, or rooftop, solar. *See* U.S. Energy Info. Admin., *Texas State Energy Profile and Analysis* (last visited Aug. 2, 2026), <https://www.eia.gov/state/analysis.php?sid=TX>; U.S. Energy Info. Admin., *U.S. Developers Report Half of New*

with states expediting what they favor and slowing what they do not. This is the state-level echo of a point the paper makes throughout, that delay is not ideologically neutral.

The larger difficulty is causal. Where a project locates is determined jointly by resource quality, land cost, interconnection-queue speed, transmission access, market design, and tax policy, and these move together rather than separately. Texas is the clearest illustration. Its share of active interconnection capacity grew in 2025 even as most regions' shrank.³¹ Developers and analysts attribute that pull to open land, strong resources, an energy-only market, and fast interconnection, none of which is a measure of permitting stringency. Interconnection speed in particular is a grid-connection process, distinct from the permitting rigor at issue here (see Sections 2.5 and 2.7).³² Because these variables are entangled, a clean causal claim that permitting stringency relocates projects between states, still less a dollar figure attached to it, is not supportable from the available evidence, and this paper does not assert one.

Direct evidence on what state permitting produces points the same way. A Berkeley Lab study of wind and solar projects across nineteen states found that ninety percent of those reaching an outcome received a permit, with an average of roughly one year from application to decision. The exception is instructive. Ohio recorded a twenty percent cancellation rate, and the most cancellations in the sample, after a 2021 change barred its siting board from approving projects a county had precluded through zoning, and the authors suggest that change may explain it. The pattern relocates the constraint rather than dissolving it. Where state review governs, it is comparatively fast and it approves. Where local authority controls and the state cannot override it, projects fail (see Section 2.5). The study covers nineteen states, wind and solar only, and projects under state permitting authority, and it excludes local permitting by design.³³

Electric Generating Capacity Will Come from Solar (2025), <https://www.eia.gov/todayinenergy/detail.php?id=65964> (Texas driving national solar and storage additions); Dan Gearino, *Texas Seizes the Solar Crown from California*, *Inside Climate News* (Mar. 5, 2026), <https://insideclimatenews.org/news/05032026/inside-clean-energy-texas-utility-scale-solar/>.

³¹ Lawrence Berkeley Nat'l Lab., *Queued Up: 2026 Edition*, *supra* note 21 (active queue capacity highest in the non-ISO West, followed by ERCOT; capacity declined in 2025 in all regions except ERCOT and SPP); *see also* Am. Pub. Power Ass'n, *Backlog of Power Plants Seeking Transmission Grid Connection Eased Somewhat in 2025* (2026), <https://www.publicpower.org/periodical/article/backlog-power-plants-seeking-transmission-grid-connection-eased-somewhat-2025-lbnl>.

³² Energy & Envtl. Econ., *ERCOT Wind Economics* (Feb. 2026), https://www.ethree.com/wp-content/uploads/2026/02/E3_2026_ERCOT-Wind-Economics.pdf (attributing ERCOT's attractiveness to resource quality combined with rapid permitting and interconnection); Ethan Howland, *Can ERCOT Show the Way to Faster and Cheaper Grid Interconnection?*, *Utility Dive* (Nov. 27, 2023), <https://www.utilitydive.com/news/connect-and-manage-grid-interconnection-ferc-ercot-transmission-planning/698949/> (ERCOT interconnection roughly 3.5 years versus six or more years in the slowest regions).

³³ Robi Nilson et al., *Outcomes and Timelines for State-Based Energy Facility Permitting in the United States*, 5 *Front. Sustain. Energy Policy* 1715811 (Feb. 26, 2026), <https://www.frontiersin.org/journals/sustainable-energy-policy/articles/10.3389/fsuep.2026.1715811/full> (a Berkeley Lab study funded by the Department of Energy,

What can responsibly be said is narrower, and it runs through system cost rather than relocation. Reducing avoidable delay plausibly improves a state's attractiveness at the margin, and it connects to affordability, but through the grid rather than through projects changing states. Chronic delay raises system costs through congestion, financing, and reduced competition (Sections 4.1 and 4.3), which consumers ultimately bear. The affordability problem is real and it is a system problem, not a relocation problem.

2.7 The Critical-Path Discipline

One project-management idea keeps the federal-vs-total distinction honest. A permitting delay matters most when it sits on the project's critical path, the chain of dependencies that determines the overall completion date. If a project has cleared NEPA but is waiting on high-voltage transformers, an interconnection study, financing close, or a state siting decision, then federal permitting is not the binding constraint at that moment, however long the earlier review took. Attributing the entire timeline to permitting in such cases overstates what permitting reform could deliver, and points reform energy at the wrong target.

The takeaway is not that federal permitting is unimportant. It is that "permitting" is a system of many parts, only some federal, only some of them NEPA, and binding only when on the critical path. A diagnosis that conflates these will produce a cure that misses.

3. Where Delay Enters the System

If federal permitting were uniformly slow, the fix would be simple. The harder reality is that delay enters at many points, for different reasons, and not all of it is avoidable, or undesirable. Some time in review is legitimate and valuable. It improves routing, identifies mitigation, surfaces affected communities, and builds a record that can survive legal challenge. The problem is *avoidable, duplicative, poorly coordinated, or open-ended* delay.

3.1 The Sources of Delay

Sequential rather than concurrent review. When agencies analyze one after another rather than in parallel, total elapsed time grows even if no single agency is slow. Proponents of concurrent review argue that enforceable schedules can compress timelines without reducing scrutiny; critics worry that hard deadlines can pressure quality.

Multiple agencies with unclear leadership. Large projects can involve a half-dozen or more federal agencies with overlapping jurisdiction and no single accountable decision-maker. Lead-agency reforms target this directly; their effectiveness depends on whether the lead has real authority over the others.

collecting all state-permitted utility-scale wind and solar projects across nineteen states regardless of outcome, and reporting a ninety percent approval rate across 365 projects with an outcome, an average of approximately one year from application to decision, and a twenty percent cancellation rate in Ohio following the 2021 restriction on the state siting board's authority to approve projects precluded by county zoning).

Understaffed agencies and limited technical expertise. Reviews take longer when agencies lack the staff, scientists, and specialized expertise to process applications and write defensible documents (see Section 8.2). This is among the least ideological sources of delay, and correspondingly an area of broad agreement (Section 6). The Inflation Reduction Act (IRA) included agency-capacity funding aimed in part at this problem.³⁴

Incomplete or changing applications. A meaningful share of “permitting delay” originates with sponsors, applications that arrive incomplete, change scope mid-review, or require multiple rounds of supplementation. This is uncomfortable for the “regulation is the problem” narrative but important to an honest diagnosis.

Litigation and remands. NEPA and related statutes are enforced primarily through litigation. A court that finds an analysis inadequate may remand, and in some cases vacate, the underlying permit. The *threat* of litigation also lengthens timelines indirectly, as agencies write longer, more defensive documents. Litigation is a legitimate accountability mechanism. The policy question is whether its current form produces proportionate review or defensive over-documentation. (Remedies and standing, see Section 7.)

State and local siting conflicts. Frequently the binding constraint and largely outside federal control (see Section 2.5). Federal reform cannot fix a state siting impasse.

Tribal consultation and community concerns handled too late. When consultation occurs after routing and key design decisions are effectively locked in, it tends to produce conflict and litigation rather than better projects. Early, genuine engagement is widely cited as both better for communities and faster overall.³⁵

³⁴ Inflation Reduction Act of 2022, Pub. L. No. 117-169, §§ 50301-50303, 60115, 70007, 136 Stat. 1818 (2022), <https://www.govinfo.gov/content/pkg/PLAW-117publ169/pdf/PLAW-117publ169.pdf> (appropriating funds to the Department of Energy, the Department of the Interior and its bureaus, EPA, and the Federal Permitting Improvement Steering Council’s Environmental Review Improvement Fund for hiring and training personnel, developing programmatic environmental documents, procuring technical and scientific services, building environmental-data systems, and conducting stakeholder engagement, to support timely and efficient environmental review and permitting). See also CEQ, *E-NEPA Report to Congress* (last visited Aug. 2, 2026), https://ceq.doe.gov/docs/ceq-reports/CEQ-E-NEPA-Report-to-Congress_Final-%28508%29.pdf (describing technology and capacity improvements to modernize NEPA and permitting reviews).

³⁵ See, e.g., *Full Committee Hearing to Examine the Section 106 Consultation Process Under the National Historic Preservation Act*, S. Comm. on Energy & Nat. Res., 119th Cong. (Oct. 29, 2025), <https://www.energy.senate.gov/hearings/2025/10/full-committee-hearing-to-examine-section-106-of-the-national> (written testimony of Steven Concho, Tribal Historic Preservation Officer, Pueblo of Acoma, stating that many delays attributed to tribal consultation stem from late or incomplete agency initiation of the process, and that consultation begun early produces better fieldwork, more thoughtful design, and fewer conflicts) [hereinafter *Section 106 Hearing*].

Statutory overlaps and duplicative documentation. Different statutes can require overlapping analyses, and documents can grow to thousands of pages without proportionate gains in protection or decision quality. The 2023 page limits (below) responded to this.

Administration-to-administration reversals. Energy and environmental policy now swings sharply between administrations: offshore wind, pipelines, and CEQ's own NEPA regulations have all seen reversals. This whipsaw is itself a source of delay and, more importantly, of *unpredictability*, which raises the cost of capital regardless of any single decision's speed.

Sponsor and market changes. Interest rates, commodity prices, and corporate strategy can pause or kill projects for reasons unrelated to any permit (see Section 2.5).

3.2 Process Reform That Does Not Touch Standards: FAST-41 and the 2023 NEPA Provisions

Against these sources of delay, a baseline of existing reforms and recent law already shapes the terrain any proposal must reckon with. Congress did not arrive at FAST-41 in the abstract. The American Recovery and Reinvestment Act of 2009 (ARRA) had exposed permitting, rather than funding, as a constraint on building. ARRA provided \$48.1 billion to Department of Transportation programs, \$27.5 billion of it for highways, but infrastructure spending moved more slowly than other forms of stimulus, and President Obama later acknowledged that there was “no such thing as shovel-ready projects.”³⁶ The pattern was neither new nor confined to energy. A 2016 study prepared for the Treasury Department found that the average time to complete a NEPA review of a transportation project rose from 2.2 years in the 1970s to 4.4 years in the 1980s, 5.1 years between 1995 and 2001, and 6.6 years by 2011.³⁷ That the same four-decade climb appears in highway permitting, under different agencies and a different politics, suggests the accumulation this paper describes is structural rather than particular to energy.

Two concrete reform efforts show that timelines can be addressed without weakening substantive environmental law. FAST-41, the Fixing America's Surface Transportation Act of 2015, created the Federal Permitting Improvement Steering Council (FPISC), a coordinated-project framework with a lead agency, published “covered project” schedules, interagency coordination, and a public Permitting Dashboard. Available evidence suggests it improved transparency and schedule discipline for covered projects, though the covered sample is selective and the effect should not be overstated. It changed

³⁶ Cong. Rsch. Serv., R46343, *Transportation Infrastructure Investment as Economic Stimulus: Lessons from the American Recovery and Reinvestment Act of 2009* (May 5, 2020), <https://www.congress.gov/crs-product/R46343> (reporting that ARRA provided \$48.1 billion for Department of Transportation programs, including \$27.5 billion for highways, and finding that infrastructure spending moved more slowly than other categories of stimulus); Peter Baker, *The Education of a President*, *N.Y. Times Mag.* (Oct. 12, 2010).

³⁷ AECOM et al., *40 Proposed U.S. Transportation and Water Infrastructure Projects of Major Economic Significance* 7 (U.S. Dep't of the Treasury 2016), https://downloads.regulations.gov/CEQ-2019-0003-171879/attachment_16.pdf (relaying studies conducted for the Federal Highway Administration finding that the average time to complete a NEPA study rose from 2.2 years in the 1970s to 4.4 years in the 1980s, 5.1 years from 1995 to 2001, and 6.6 years in 2011).

process, not environmental standards.³⁸ The Fiscal Responsibility Act of 2023 codified NEPA changes, lead-agency designation, statutory time limits (commonly described as one year for EAs, two for EISs), page limits, categorical-exclusion sharing, and an “E-NEPA” portal, alongside DOE e-permitting efforts (e.g., CITAP). Implementation evidence remains emerging.³⁹ The same law included the Mountain Valley Pipeline provision (Sections 7 and 8).

3.3 The Current Grid-Governance Baseline: FERC Orders 1920 and 2023

Two recent FERC actions belong in any current picture and should be sharply distinguished from federal permitting. Order 1920 (2024) requires long-term regional transmission planning and addresses cost allocation; later orders (1920-A) refined it. Order 2023 (2023) overhauls the generator interconnection process, moving toward cluster studies and a “first-ready, first-served” queue.^{40,41} Neither is NEPA

³⁸ Fixing America’s Surface Transportation Act, Pub. L. No. 114-94, tit. XLI, 129 Stat. 1312 (Dec. 4, 2015) (FAST-41), (codified at 42 U.S.C. §§ 4370m to 4370m-12), <https://uscode.house.gov/view.xhtml?path=/prelim@title42/chapter55/subchapter4&edition=prelim> (establishing the Federal Permitting Improvement Steering Council (§ 4370m-1); directing a coordinated project plan and permitting timetable for each covered project (§ 4370m-2(c)); and requiring a public online Permitting Dashboard (§ 4370m-2(b))); made permanent by Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, § 70801(h), 135 Stat. 429, 1294 (Nov. 15, 2021) (removing the FAST-41 sunset). *See also* Permitting Dashboard (last visited Aug. 2, 2026), <https://www.permits.performance.gov/> (current FAST-41 covered projects and schedules).

³⁹ National Environmental Policy Act, 42 U.S.C. §§ 4336-4336e, as added by the Fiscal Responsibility Act of 2023, Pub. L. No. 118-5, § 321, 137 Stat. 10 (2023), <https://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title42-section4336a&num=0&edition=prelim> (codifying lead-agency designation (§ 4336a(a)); a two-year deadline for an environmental impact statement and a one-year deadline for an environmental assessment (§ 4336a(g)); page limits of 150 pages for an environmental impact statement, 300 for one of extraordinary complexity, and 75 for an environmental assessment (§ 4336a(e)); adoption of another agency’s categorical exclusions (§ 4336c); and an online E-NEPA portal (§ 4336d)). On the Department of Energy’s separate e-permitting effort, *see* U.S. Dep’t of Energy, Grid Deployment Office, *Coordinated Interagency Transmission Authorizations and Permits (CITAP) Program* (last visited Aug. 2, 2026), <https://www.energy.gov/gdo/coordinated-interagency-transmission-authorizations-and-permits-program>.

⁴⁰ Fed. Energy Regulatory Comm’n, Building for the Future Through Electric Regional Transmission Planning and Cost Allocation, Order No. 1920, 89 Fed. Reg. 49,280 (June 11, 2024) (codified at 18 C.F.R. pt. 35), <https://www.federalregister.gov/documents/2024/06/11/2024-10872/building-for-the-future-through-electric-regional-transmission-planning-and-cost-allocation>; *on reh’g*, Order No. 1920-A, 89 Fed. Reg. 97,174 (Dec. 6, 2024), <https://www.federalregister.gov/documents/2024/12/06/2024-27982/building-for-the-future-through-electric-regional-transmission-planning-and-cost-allocation> (requiring long-term regional transmission planning and ex ante regional cost-allocation methods, and strengthening the role of state entities on rehearing). *See also* FERC, *Explainer on the Transmission Planning and Cost Allocation Final Rule* (last visited Aug. 2, 2026), <https://www.ferc.gov/explainer-transmission-planning-and-cost-allocation-final-rule>.

⁴¹ Fed. Energy Regulatory Comm’n, Improvements to Generator Interconnection Procedures and Agreements, Order No. 2023, 88 Fed. Reg. 61,014 (Sept. 6, 2023) (codified at 18 C.F.R. pt. 35), <https://www.federalregister.gov/documents/2023/09/06/2023-16628/improvements-to-generator-interconnection-procedures-and-agreements>; *on reh’g*, Order No. 2023-A, 89 Fed. Reg. 27,006 (Apr. 16, 2024), <https://www.federalregister.gov/documents/2024/04/16/2024-06563/improvements-to-generator-interconnection-procedures-and-agreements> (adopting a first-ready, first-served cluster-study process with

reform; both are *grid-governance* reforms aimed at bottlenecks, planning and interconnection, that account for much of the delay popularly attributed to “permitting.” Their very existence reinforces the paper’s central distinction: a large share of clean-energy delay in particular is interconnection and planning delay, not environmental-review delay.⁴² That distinction has only sharpened as demand-side interconnection has become its own bottleneck. On June 18, 2026, under Section 206 of the Federal Power Act, FERC issued show-cause orders to all six of its jurisdictional regional transmission organizations (RTOs) and independent system operators (ISOs), directing them to justify or reform the tariffs governing how large loads such as data centers connect to the grid. The action extends the Commission’s interconnection focus from new generation to the data-center demand now driving load growth.⁴³

3.4 The Current Legal Baseline: *Loper Bright* and *Seven County*

Two recent Supreme Court developments reshape the legal backdrop and caution against assuming the courts are a one-way ratchet toward more litigation. First, in overruling *Chevron* deference (*Loper Bright*, 2024), the Court directed judges to exercise independent judgment on the meaning of ambiguous statutes rather than defer to agency interpretations.⁴⁴ In the abstract this cuts in several directions for permitting, making some agency rules more vulnerable to challenge regardless of which side sues. Second, and specific to NEPA, *Seven County Infrastructure Coalition v. Eagle County* (2025) narrowed the scope of effects agencies must analyze, particularly upstream and downstream impacts of separate projects outside the agency’s authority, and emphasized substantial judicial deference to agencies’ procedural choices about how far review must reach.^{45, 46}

The nuance matters because “post-*Chevron*” does not simply mean courts will second-guess everything. In NEPA specifically, *Seven County* points toward *more* restraint on how agencies bound the scope of

readiness and site-control requirements, and refining it on rehearing). See also FERC, *Explainer on the Interconnection Final Rule* (last visited Aug. 2, 2026), <https://www.ferc.gov/explainer-interconnection-final-rule>.

⁴² Lawrence Berkeley Nat’l Lab., *Queued Up: 2026 Edition*, *supra* note 21.

⁴³ Fed. Energy Regulatory Comm’n, *Fact Sheet: FERC Takes Action to Supercharge America’s Grid for Efficiency, Reliability, and a Bold Energy Future* (June 18, 2026), <https://www.ferc.gov/news-events/news/fact-sheet-ferc-takes-action-supercharge-americas-grid-efficiency-reliability-and> (issuing Section 206 show-cause orders to all six jurisdictional RTOs and ISOs, Docket Nos. EL26-67-000 et al., directing them to justify or reform their large-load interconnection tariffs), following the Secretary of Energy’s directive to expedite large-load interconnection under Section 403 of the Department of Energy Organization Act (Oct. 23, 2025), Docket No. RM26-4.

⁴⁴ *Loper Bright Enterprises v. Raimondo*, 603 U.S. 369 (2024), https://www.supremecourt.gov/opinions/23pdf/22-451_7m58.pdf.

⁴⁵ *Seven County Infrastructure Coalition v. Eagle County*, 605 U.S. 168 (2025), https://www.supremecourt.gov/opinions/24pdf/23-975_m648.pdf.

⁴⁶ Erika Kranz & Hannah Perls, *The Future of NEPA and Federal Permitting After Eagle County*, Harv. L. Sch. Envtl. & Energy L. Program (June 30, 2025), <https://eelp.law.harvard.edu/the-future-of-nepa-and-federal-permitting-after-eagle-county/>.

review, which could shorten and harden some EIS processes, even as *Loper Bright* invites sharper scrutiny of substantive statutory interpretations elsewhere. A factual foundation written today has to account for a baseline that is moving through the courts, not only through Congress and the agencies.

4. The Cost of Delay

Delay is costly, but the costs must be stated with discipline. The weakest versions of the reform argument attach enormous, precise national figures, specific GDP losses, job numbers, consumer savings, to permitting delay alone. Those rarely survive scrutiny, because permitting is one variable among many and counterfactuals are hard to establish. This section organizes the discussion by domain.

4.1 Affordability

Transmission constraints and congestion can raise wholesale costs by preventing lower-cost generation from reaching demand. Congestion and redispatch costs are real and measurable in organized markets.⁴⁷ Delayed infrastructure can also lock in higher-cost local generation.

Reducing avoidable delay works directly on those costs. A faster, more predictable system relieves congestion by bringing new generation and transmission into service sooner. A shorter schedule also lowers what a project pays to carry itself, since financing charges accrue for every month between the commitment of capital and the day the asset begins earning revenue. FERC has gone further, identifying the long lead times required to plan and build new transmission as a drag on cash flow and on a utility's ability to attract capital at reasonable prices, and it built rate mechanisms around that finding.⁴⁸ It also

⁴⁷ U.S. Dep't of Energy, *National Transmission Needs Study* (final report, Dec. 2023), https://www.energy.gov/sites/default/files/2023-12/National%20Transmission%20Needs%20Study%20-%20Final_2023.12.1.pdf [hereinafter *National Transmission Needs Study*]. For the measured magnitude of these congestion costs in organized wholesale markets, see Section 4.6.

⁴⁸ Fed. Energy Regulatory Comm'n, Promoting Transmission Investment Through Pricing Reform, Order No. 679, 71 Fed. Reg. 43,294 (July 31, 2006), <https://www.federalregister.gov/documents/2006/07/31/06-6495/promoting-transmission-investment-through-pricing-reform>; *on reh'g*, Order No. 679-A, 72 Fed. Reg. 1152 (Jan. 10, 2007), <https://www.federalregister.gov/documents/2007/01/10/E6-22693/promoting-transmission-investment-through-pricing-reform> (establishing transmission rate incentives under Federal Power Act Section 219, including inclusion of construction work in progress in rate base and recovery of prudently incurred abandoned plant costs, with Order No. 679-A explaining at P 112 that the long lead times required to plan and construct new transmission can negatively affect cash flow and a utility's ability to attract capital at reasonable prices). The authors did not identify a study quantifying the effect of permitting delay on the cost of capital for energy infrastructure in the United States. Federal agencies, national laboratories, and ratings-agency methodologies describe the mechanism without isolating or measuring it, and the cost-of-capital movements documented in the offshore wind sector between 2022 and 2024 are attributed to benchmark interest rates rather than to permitting. The academic literature that decomposes the renewable-energy cost of capital into component risks generally does not treat permitting as one of them, and the empirical work that does study permitting directly tends to model it as a cost subtracted from project value rather than as a change in the rate at which project cash flows are discounted. This appears to be a gap in the available literature rather than a settled negative finding, and it is an area where empirical work would be useful.

eases a burden that falls unevenly, since the study deposits and carrying costs that come with multi-year timelines weigh most on the small and mid-size developers least able to float them (see Section 4.3).

Permitting is also something Congress can change directly. Congress cannot legislate resource quality, interest rates, or the lead time on a large power transformer. It can, however, legislate process, agency capacity, interagency coordination, and finality.

None of this reaches a household's monthly bill directly. Rather, retail bills reflect generation, transmission, distribution, capacity, policy, and weather together. Those bills are not felt evenly. Preliminary federal survey estimates for 2024 show that of the 6.23 million households reporting annual income below \$10,000, 3.97 million reported at least one form of energy insecurity, meaning they had gone without food or medicine to pay an energy bill, kept the home at a temperature they considered unsafe, received a disconnection notice, or been unable to run heating or cooling equipment because of cost. Among the 14.32 million households at \$200,000 or more, 1.07 million reported any of those conditions.

Reform can even cut the other way. Where it accelerates expensive projects recovered from ratepayers, it could raise certain bills. The defensible claim is directional, and it is strong. Chronic, avoidable delay raises system costs, and consumers bear them. A faster system is a cheaper system at the margin.

4.2 Reliability

Reliability concerns are growing as demand rises, dispatchable generation retires, and the mix shifts. The North American Electric Reliability Corporation's (NERC) 2025 Long-Term Reliability Assessment flags elevated or high risk of resource-adequacy shortfalls in 13 of 23 assessment areas over the next decade, with the higher-risk designations concentrated where shortfalls appear under normal, not merely extreme, conditions.⁴⁹ 2026 analysis prepared for several environmental groups contends the assessment is too pessimistic, arguing among other things that it overstates how much data-center demand will actually materialize.⁵⁰ Presenting both reads is the calibration this section argues for. Transmission and generation delays can worsen resource-adequacy risk. There is also moderate evidence that delayed gas infrastructure can affect regional reliability and fuel constraints, with New England's winter fuel dependence the standard example.

⁴⁹ *National Transmission Needs Study*, *supra* note 47; North American Electric Reliability Corporation (NERC), *2025 Long-Term Reliability Assessment* 6 (Jan. 2026), https://www.nerc.com/globalassets/our-work/assessments/nerc_ltra_2025.pdf; NERC, *2024 Long-Term Reliability Assessment* (corrected July 2025), https://www.nerc.com/globalassets/our-work/assessments/2024-ltra_corrected_july_2025.pdf.

⁵⁰ Grid Strategies LLC, *Review of NERC's 2025 Long-Term Reliability Assessment* (Mar. 2026), <https://gridstrategiesllc.com/wp-content/uploads/FINAL-2025-LTRA-Review.pdf> (prepared for Earthjustice, Natural Resources Defense Council, Sierra Club, and Environmental Defense Fund); *see also* Ethan Howland, *NERC Overstates Reliability Risks in Long-Term Assessment: Grid Strategies*, *Utility Dive* (Mar. 10, 2026), <https://www.utilitydive.com/news/nerc-overstates-reliability-risks-ltra-grid-strategies/814292/>.

This is among the more robust cost arguments, because reliability shortfalls have direct consequences. The necessary caution is causal: reliability risk arises from the *combination* of demand growth, retirements, weather extremes, fuel dependencies, and slow buildout. Permitting delay is one contributor, not the whole story.

4.3 Economic Growth and Domestic Production

Project delay defers economic activity: construction jobs, local tax revenue, capital deployment, and the operations that depend on the infrastructure. When a major project slips by years, those benefits slip with it.

These regional and project-level effects are real and often well documented at the project scale, but they should not be aggregated into national GDP or jobs figures, which are not reliable for reasons taken up in Section 4.6.

The record for a single project shows what those categories hold. Revolution Wind anticipates paying \$178 million in rents and operating fees to the federal government over the life of the project. Its parent companies have invested more than \$100 million in an offshore wind construction hub at the Port of Providence and contributed more than \$100 million toward the Connecticut Port Authority and the State of Connecticut's redevelopment of the State Pier Terminal in New London.⁵¹ The federal figure is a projection across the asset's life rather than a payment already made. The port investments are capital already deployed, and they sit in fixed facilities that outlast any one project.

The attrition is severe. Of the capacity that requested interconnection between 2000 and 2020, only about 13 percent had reached commercial operation by the end of 2025, while roughly three-quarters had withdrawn from the queue. That record describes a cost structure as well as a timeline. A developer entering the queue commits study deposits and carrying costs long before it learns whether the project will proceed, and the wait before that answer arrives has lengthened. In 2025 most withdrawals came during the system impact or cluster study phase, and later-stage withdrawals can be the most expensive, because sunk costs and deposits are already committed. An executed interconnection agreement does not end the exposure. Of the capacity that signed agreements between 2000 and 2022, 41 percent had withdrawn by the end of 2025.⁵² Recent federal reform raised the deposits required to

⁵¹ Declaration of Paul Murphy ¶ 38, *Revolution Wind, LLC v. Burgum*, No. 1:25-cv-02999-RCL (D.D.C. Sept. 5, 2025), ECF No. 9-6, <https://storage.courtlistener.com/recap/gov.uscourts.dcd.284486/gov.uscourts.dcd.284486.9.6.pdf> (anticipating \$178 million in rents and operating fees to the federal government over the lifetime of the project) [hereinafter Murphy Declaration]; Gearon Declaration, *supra* note 16, ¶ 47 (reporting more than \$100 million invested in an offshore wind construction hub at the Port of Providence and more than \$100 million contributed toward the Connecticut Port Authority and the State of Connecticut's redevelopment of the State Pier Terminal in New London). Both are declarations of the project sponsor's employees, filed in support of a motion for preliminary injunction.

⁵² Lawrence Berkeley Nat'l Lab., *Queued Up: 2026 Edition*, *supra* note 21, slide 35 (13 percent of capacity requesting interconnection from 2000 through 2020 had reached commercial operation, and 75 percent had been withdrawn, as of the end of 2025), slide 38 (41 percent of the capacity executing interconnection agreements from 2000 through 2022 had withdrawn as of the end of 2025; sample dominated by MISO at 31 percent and ERCOT at

enter and remain in the queue and imposed withdrawal penalties that escalate at each stage. That is a defensible response to queue congestion, and it also raises the cost of entry. FERC acknowledged the tradeoff, cautioning that deposits should not be set so high that viable projects from smaller developers cannot enter the queue. Multi-year studies and rising deposit costs fall hardest on the small and mid-size developers least able to carry that float.⁵³

4.4 Emissions Reduction and Environmental Outcomes

Clean-energy deployment is build-intensive. Emissions reductions on the scale of most decarbonization pathways depend on rapidly expanding transmission, renewables, storage, firm clean power (nuclear, geothermal), carbon capture and CO₂ infrastructure, hydropower modernization, critical minerals, and industrial decarbonization.⁵⁴ To the extent permitting delay slows this buildout, it slows emissions reductions and can prolong reliance on higher-emitting alternatives. Several analyses identify transmission as a binding constraint on realizing the emissions benefits of recent clean-energy investment.

But the relationship runs both ways. Environmental review is not merely a hurdle to be cleared. At its best, it changes projects, routing, mitigation, construction practices, consultation commitments, and monitoring, in ways that can reduce harm and improve legal durability. The categories are familiar even where specific records still need verification: routing changes that avoid sensitive habitat or culturally significant areas; mitigation for protected species or wetlands; tribal consultation that reshapes design or adds binding conditions; offshore-wind layouts and construction windows shaped by fisheries, navigation, and marine-mammal concerns; and public-lands solar projects where siting and mitigation made the eventual approval more durable against challenge.⁵⁵ The right formulation is therefore not

22 percent), slide 39 (majority of 2025 withdrawals occurred in the system impact or cluster study phase; later-stage withdrawals can be more costly for developers because of sunk costs and deposits; based on 47 percent of withdrawn requests), slide 41 (duration from interconnection request to withdrawal has risen, indicating that projects wait longer before withdrawing).

⁵³ Order No. 2023, *supra* note 41, at PP 502-505 (adopting a tiered initial study deposit ranging from \$55,000 to \$250,000 by facility size, collected once at entry), 690-693 (adopting commercial readiness deposits rising to 5 percent and then 10 percent of assigned network upgrade costs), 704 (Commission cautioning that deposits should not be set so high that viable projects from smaller developers are unable to enter the queue), 714 (interconnection agreement deposit bringing the total to 20 percent of estimated network upgrade costs), 791 (withdrawal penalty structure escalating by stage, with caps declined).

⁵⁴ Eric Larson et al., *Net-Zero America: Potential Pathways, Infrastructure, and Impacts* (Princeton Univ. Oct. 29, 2021), <https://netzeroamerica.princeton.edu/the-report> (modeling five economy-wide decarbonization pathways spanning renewables, storage, firm clean power, carbon capture and CO₂ transport, expanded transmission, and industrial decarbonization); National Transmission Needs Study, *supra* note 47 (transmission expansion as a decarbonization enabler and, in many scenarios, a binding constraint).

⁵⁵ On review-driven project changes, see Section 8.1 (SunZia route changes) and Section 8.5 (Gemini Solar hybrid alternative). On the offshore-wind category, see Bureau of Ocean Energy Mgmt., *Vineyard Wind 1*, <https://www.boem.gov/renewable-energy/state-activities/vineyard-wind-1>. See also U.S. Dep't of the Interior,

“review versus climate” but “timely, high-quality review for the infrastructure decarbonization requires.”

4.5 National Security and Strategic Competition

Permitting connects to national strategy through several channels. These include critical minerals and supply chains for batteries, magnets, and the grid, along with grid resilience, domestic manufacturing, AI and data-center power demand, LNG exports as a tool of alliance energy security, and the nuclear supply chain.⁵⁶ These are legitimate national-security considerations, and the frame is a genuine bridge across ideological lines (Section 6).

It should remain a *consideration, not a trump card*. National security does not erase local environmental impacts, water constraints in arid regions, tribal concerns, or concentrated community burdens, and treating it as dispositive tends to generate exactly the litigation and backlash that undermine durability. Used carefully, it strengthens the case for *timely* decisions; used as an override, it weakens the legitimacy on which durable decisions depend.

4.6 The Difficulty with Assessing a National Aggregate

A reasonable reader wants a single number: what does permitting delay cost the country as a whole, in dollars and in jobs? The demand is legitimate, and several organizations have supplied an answer. This paper surveys those answers rather than adopting one, because none of the most-cited national aggregates measures what it is taken to measure.

The best-known figure comes from Common Good’s 2015 report *Two Years, Not Ten Years*, which estimated that a six-year delay in starting construction on public infrastructure costs the nation more than \$3.7 trillion, a total the group later revised upward to roughly \$3.9 trillion.⁵⁷ The same report projects that upwards of two million jobs could be created by a modernized infrastructure program, a figure describing employment a build-out would generate rather than employment delay has cost.⁵⁸ An earlier estimate reaches a similar total by a different route. A 2011 study commissioned by the U.S.

Biden-Harris Administration Advances SunZia Southwest Transmission Project (May 18, 2023), <https://www.doi.gov/pressreleases/biden-harris-administration-advances-sunzia-southwest-transmission-project>.

⁵⁶ U.S. Geological Survey, *Mineral Commodity Summaries 2026* (2026), <https://pubs.usgs.gov/publication/mcs2026>.

⁵⁷ Philip K. Howard, Common Good, *Two Years, Not Ten Years: Redesigning Infrastructure Approvals* (2015), <https://www.commongood.org/s/2YearsNot10Years-wfmy.pdf> (estimating that a six-year delay in starting construction on public infrastructure costs the nation over \$3.7 trillion). Common Good subsequently updated the estimate to nearly \$3.9 trillion. See *Cost of Delay in Rebuilding America’s Infrastructure: \$3.9 Trillion*, *Global Trade Mag.* (May 25, 2018), <http://www.globaltrademag.com/global-logistics/cost-of-delay-in-rebuilding-americas-infrastructure-3-9-trillion/>.

⁵⁸ Howard, *Two Years, Not Ten Years*, *supra* note 57, at 1, 3, 24 (stating the figure in the executive summary, repeating it in the report’s opening section, and stating it again in the conclusion; the report contains no calculation supporting it and the sentence carries no endnote in either place).

Chamber of Commerce catalogued 351 energy projects identified as delayed or cancelled, and estimated that building and operating all of them for twenty years would generate roughly \$3.4 trillion in economic output, including \$1.4 trillion in employment earnings and more than a million jobs a year. The study states that it does not assume all 351 projects would or should have been approved.⁵⁹ A second genre of estimate comes from industry. The American Clean Power Association has projected that a failure to reform permitting will mean about \$100 billion less invested in clean energy this decade, on the order of 100,000 to 150,000 jobs not created, and 550 million metric tons of additional carbon emissions.⁶⁰ Larger still is the Business Roundtable's estimate, drawn from McKinsey, that roughly \$1.5 trillion in investment is awaiting federal permits and that the projects now in federal review would generate \$1.7 to \$2.4 trillion in induced GDP once built.⁶¹

The numbers are large, and they point in the same direction. But none of them measures what delay has actually cost. Two problems recur. The first is the counterfactual. Permitting is one variable among many that determine whether and when a project is built, alongside interconnection, financing, equipment supply, state siting, and market conditions, so a figure becomes a permitting cost only by assuming permitting is the reason a project is not yet built. The Business Roundtable's \$1.5 trillion, for instance, is the size of the investment pipeline now in federal review; it describes a cost of delay only if those projects are assumed to be held up by permitting rather than by anything else. The second is the reliance on stacked assumptions. The Common Good total posited a uniform six-year delay across whole categories of infrastructure and then monetized the lost output and added pollution across all of them, and the report itself concedes its figures could be scaled down by a factor of two or three without changing its conclusion.⁶² The American Clean Power Association's number is a forward projection from

⁵⁹ Pociask & Fuhr *supra* note 24 (the figures are present discounted value, combine direct, indirect, and induced effects using Bureau of Economic Analysis regional multipliers, and assume all 351 projects commence simultaneously, an assumption the study identifies as unrealistic).

⁶⁰ Am. Clean Power Ass'n, *IRA Implementation: Clean Energy and Permitting Reform* (Sept. 2022), https://cleanpower.org/wp-content/uploads/gateway/2022/09/ACP_FactSheet_PermittingReform_220922.pdf (deriving, from an estimated 100 GW of clean capacity at risk of delay, projections of \$100 billion less clean-energy investment this decade, the failure to create roughly 100,000 jobs, and 550 million metric tons of additional carbon); *see also* Am. Clean Power Ass'n, *U.S. Permitting Delays Hold Back Economy, Cost Jobs* (Apr. 2023), <https://cleanpower.org/resources/u-s-permitting-delays-hold-back-economy-cost-jobs/>. The 150,000-job variant appears in Progressive Policy Inst., *Bureaucracy Blocks Green Progress: 9 Ideas for Democratic Permitting Reform 4* (Nov. 2025) (citing ACPA).

⁶¹ Business Roundtable, *Building a Prosperous Future* (Sept. 2025), <https://www.businessroundtable.org/building-a-prosperous-future> (estimating that roughly \$1.5 trillion in investment awaits federal permits and that infrastructure now in federal review would generate \$1.7 to \$2.4 trillion in induced GDP once built, figures the report attributes to McKinsey & Company); *see also* Progressive Policy Inst., *Bureaucracy Blocks Green Progress: 9 Ideas for Democratic Permitting Reform 4* (Nov. 2025), https://www.progressivepolicy.org/wp-content/uploads/2025/11/PPI_9-Ideas-for-Democratic-Permitting-Reform.pdf (relaying the figures). The \$1.5 trillion is the capital currently in the federal permitting queue, not a measure of loss caused by permitting.

⁶² Howard, *Two Years, Not Ten Years*, *supra* note 57, at 12 (acknowledging in its cost-of-delay methodology that the totals could be adjusted down by a factor of two or three without altering the report's conclusion).

an estimated 100 GW of clean capacity assumed to be at risk. None of these is a measurement of realized loss; each is a projection or a pipeline total that becomes a permitting figure through an assumption.

None of this means the cost of delay is small. It means the reliable evidence is specific rather than national. Transmission congestion, the cost of dispatching more expensive generation because the grid cannot move cheaper power to load, has exceeded \$10 billion a year for four consecutive years and passed \$12 billion in 2024, a figure built from the congestion the grid operators' own market monitors report rather than from a projection of what delay might cost.⁶³ The value of the transmission that delay holds back is similarly concrete: Princeton's REPEAT Project estimated, with its assumptions stated openly, that more than 80 percent of the Inflation Reduction Act's projected 2030 emissions reductions are lost if transmission expansion stays near its recent pace of about one percent a year.⁶⁴ These sit alongside several figures already established above. Those include the roughly 8,200 projects and 2,061 GW in interconnection queues, the 13 percent of capacity requesting interconnection between 2000 and 2020 that had reached commercial operation by the end of 2025, the four-and-a-half-year average for an environmental impact statement in 2010-2018, and the multi-year lead times for large transformers.⁶⁵ Each is specific, tied to a primary record, and points at something fixable.

That is why the paper does not headline a national aggregate. A single trillion-dollar figure is a liability. A debunked headline number becomes the story and takes the argument down with it, while a set of specific, separately-sourced figures cannot be dismissed all at once.

4.7 Employment and the Limits of Jobs Estimates

The employment question fails for the same reason the dollar aggregates do, and it is worth separating because the demand for a jobs number is persistent and the available evidence is unusually clear about what it can and cannot support. To claim that delay has cost a specific number of jobs, three things must hold. The permit must have been delayed. The delay must have moved the construction schedule rather

⁶³ Nathan Shreve et al., Grid Strategies LLC, *Transmission Congestion for 2024* 1 (Nov. 2025), https://gridstrategiesllc.com/wp-content/uploads/GS_Transmission-Congestion-for-2024.pdf (prepared for the Connected Grid Initiative, finding nationwide grid-congestion costs above \$10 billion per year for four consecutive years and exceeding \$12 billion in 2024, drawn from RTO and ISO market-monitor reports. The market monitors of the seven organized markets reported \$8.3 billion in 2024. The report scales that figure by peak load share to estimate costs in regions without transparent congestion data, which have no comparable reporting).

⁶⁴ Jesse D. Jenkins et al., REPEAT Project, *Electricity Transmission Is Key to Unlock the Full Potential of the Inflation Reduction Act* (Sept. 2022), https://repeatproject.org/docs/REPEAT_IRA_Transmission_2022-09-22.pdf (modeling, with stated assumptions, that over 80 percent of the IRA's projected 2030 emissions reductions are lost if transmission expansion holds near its recent pace of roughly one percent per year, against a needed pace of about 2.3 percent).

⁶⁵ See Lawrence Berkeley Nat'l Lab., *Queued Up: 2026 Edition*, *supra* note 21 (interconnection queues and build-rate); Council on Env'tl. Quality, *Fact Sheet: CEQ Report on Environmental Impact Statement Timelines (2010-2018)*, *supra* note 4 (EIS duration); U.S. Dep't of Energy, *Large Power Transformer Resilience: Report to Congress*, *supra* note 23 (equipment lead times).

than running alongside financing, interconnection, procurement, or a sponsor's own decision, which is the critical-path discipline set out in Section 2.7 applied to employment. And there must be a counterfactual for what employment would otherwise have been. Most figures in circulation establish the first and attach to it an employment estimate prepared for a different purpose.

What can be measured is the size of the workforce that builds energy infrastructure, and the federal government measures it directly. The U.S. Energy and Employment Report, mandated by Congress and published annually since 2016, found 326,621 construction workers supporting electric power generation and fuels production technologies in 2024, ninety-three percent of them engaged in constructing and installing new generation rather than maintaining existing plant, and 537,767 construction jobs contributed to transmission, distribution, and storage. Unlike the aggregates surveyed above, these are counts of direct employment, with no indirect or induced estimates layered on. They describe the workforce that exists, not employment at risk. No federal source measures how much of that work delay defers, and none of the three links above can be established from the data the government collects.⁶⁶

At project scale the picture is different, because the work is recorded as it happens. Construction of the Revolution Wind project off Rhode Island had drawn more than 2,000 workers and roughly two million labor hours by September 2025, including more than 800 local union labor full-time equivalents, with a further 200 or more supporting the redevelopment of the State Pier in New London under an initiative shared with other projects.⁶⁷ Those are hours worked on a project under construction, not hours at risk. They exist because construction wages and benefits are paid and reported hourly, which makes hours the unit the trades themselves track.⁶⁸ Compensation is documented at the same resolution. The

⁶⁶ U.S. Dep't of Energy, *United States Energy & Employment Report 2025*, app. F at A-75, app. G at A-80 (Aug. 2025), <https://www.energy.gov/sites/default/files/2025-08/USEER%20Appendices%200828%202.0.pdf> [hereinafter *USEER*] (a report mandated by Congress at 42 U.S.C. § 18841, combining Bureau of Labor Statistics Quarterly Census of Employment and Wages data for the second quarter of 2024 with a stratified survey of approximately 42,800 business establishments, and reporting direct employment only; Appendix F counts workers supporting electric power generation and fuels technologies, while Appendix G counts jobs contributed by construction firms to transmission, distribution, and storage activities, so the two figures are not summed here).

⁶⁷ Gearon Declaration, *supra* note 16, ¶ 46 (reporting over 2,000 workers involved in construction, approximately two million labor hours to date, more than 800 local union labor full-time equivalents, and more than 200 additional union full-time equivalents supporting the State Pier redevelopment as part of an initiative shared with other projects; the same paragraph reports the Final Environmental Impact Statement's projection of thousands of full-time equivalent jobs through direct, indirect, and induced effects during construction and an estimated 236 annually for operations and maintenance).

⁶⁸ *Hearing to Examine the Federal Environmental Review and Permitting Processes, Part II: Hearing Before the S. Comm. on Env't & Pub. Works*, 119th Cong. 69 (2026) (testimony of Brent Booker, General President, Laborers' International Union of North America) (stating that the trades are paid by the hour rather than by the job), https://www.epw.senate.gov/public/_cache/files/f/8/f8b6f07a-a8db-4ee5-bd20-c456d93eee53/280709E5910BA2EE52845006467FEA496B7D049256949BECE93045167F81B0DD.spw-01282026-hearing-to-examine-federal-environmental-review-and-permitting-process-part-ii.pdf [hereinafter *EPW Permitting Hearing, Part II*].

National Offshore Wind Agreement governing the project's offshore work sets total wages and benefits between \$55.00 and \$140.88 an hour, and the developer's parent companies committed one million dollars to a local training partnership.⁶⁹ The same declaration also reports a projection of thousands of full-time equivalent jobs from direct, indirect, and induced effects, which is the kind of figure this paper declines for the reasons given above. The distinction is not between good sources and bad ones. It is between what was counted and what was modeled. The project was halted by executive action in August 2025, and what that halt cost is taken up in Section 8.6.

There is a further complication, and it is the objection a serious reader raises first. In a tight construction labor market, delaying one project moves the crew to another. Employment is displaced in time and place rather than destroyed, and the market is currently tight, with more than half of construction employers in the 2025 federal survey describing hiring as very difficult.⁷⁰ That is an argument about totals, and totals are not how the cost is experienced. A crew on a halted project has a gap. The work that replaces it may be in another state. For apprentices the gap is not only a matter of income. Federal regulation defines the term of a registered apprenticeship in hours of on-the-job learning, at least 2,000 of them where the program measures progress by time, so advancement toward the credential accrues only while the work is there.⁷¹

The building trades describe this in their own terms, and their accounts are statements of position rather than measurements. They are worth reporting because they are the level at which the cost is felt. The United Association of Union Plumbers and Pipefitters, with more than 396,000 members, has said that in its industry permitting uncertainty goes by another name, unemployment. North America's Building Trades Unions has said that projects its members are eager to build are tangled in red tape that inhibits their ability to practice their craft and earn a middle-class sustaining wage. The International Brotherhood of Electrical Workers has said that projects cut short by politics or delayed by government red tape hurt skilled workers. And the Laborers' International Union of North America, writing to Congress on behalf of more than 540,000 members, has said that large-scale energy projects translate to tens of thousands of union jobs in construction, that the energy sector is among the largest employers of its members, and that lawfully issued permits can be revoked with the swipe of a pen,

⁶⁹ Brief for North America's Building Trades Unions as Amicus Curiae at 5, *Revolution Wind, LLC v. Burgum*, No. 1:25-cv-02999-RCL (D.D.C. Sept. 15, 2025), ECF No. 21 (stating that the National Offshore Wind Agreement sets total wages and benefits between \$55.00 and \$140.88 per hour) [hereinafter NABTU Brief]. NABTU is an interested amicus, and the rate range is offered to describe the terms of its own agreement rather than as an independent measurement. On the training partnership, see Gearon Declaration, *supra* note 16, ¶ 47.

⁷⁰ *USEER*, *supra* note 66 (reporting that 52 percent of construction employers described hiring as very difficult).

⁷¹ 29 C.F.R. § 29.5(b)(2), <https://www.ecfr.gov/current/title-29/subtitle-A/part-29/section-29.5> (providing that the term of a registered apprenticeship may be measured through completion of the industry standard for on-the-job learning, at least 2,000 hours, under the time-based approach, through attainment of competency, or through a blend of the two); see also 29 C.F.R. § 29.4(c) (defining an apprenticeable occupation as one that would require at least 2,000 hours of on-the-job learning to attain). Regulatory text paraphrased.

putting members out of a job and sending them home without a paycheck.⁷² The same union's general president has since told the Senate committee with jurisdiction over federal permitting that delay reaches other stakeholders as numbers on a spreadsheet and reaches his members as another day without a paycheck, without healthcare eligibility, and without a pension credit, and that a project halted at the stroke of a pen however far along it is puts to Congress the question of what permitting reform is worth.⁷³

One thing follows from all of this. What cannot be measured is not therefore in doubt. The workers who build this infrastructure and the employers who hire them agree that permitting delay reaches employment, and they describe it in much the same terms. That agreement is not a measurement, and this paper does not offer it as one. But the absence of a reliable national figure is a fact about the state of the evidence, not about whether the cost is real.

5. Why Delay Is Not Ideologically Neutral

One of the most clarifying facts in this debate is that permitting delay does not respect ideological boundaries. Each side is tempted to frame delay as a problem only for the projects it favors, conservatives emphasizing stalled pipelines and LNG, progressives emphasizing stalled transmission and renewables. The record does not support a one-sided story.

Clean-energy development. Transmission lines that would carry wind and solar across regions have taken a decade or more to permit and build. Renewables and storage sit in multi-year interconnection queues. Offshore wind has been buffeted by review and policy reversals. Geothermal, advanced nuclear, and carbon-capture projects face their own friction, sometimes in processes (like EPA Class VI wells) not built for current volumes.

Conventional-energy development. Natural gas pipelines have been delayed and in some cases canceled after years of review and litigation. LNG facilities face FERC and DOE processes and periodic policy shifts. Gas generation faces siting and air-permit timelines. Crude oil pipelines, refineries, and petrochemical facilities face the same review and litigation friction, and belong in any full accounting of the energy mix and of permitting reform. The same procedural friction that slows a transmission line can slow a pipeline.

Consumers, workers, and communities. As Section 4 details, consumers face reliability and affordability pressure when supply and delivery lag demand. For building-trades and construction constituencies in

⁷² Press Release, Rep. Scott Peters, *Labor and Industry Groups Back Bipartisan Federal Permitting Overhaul* (May 13, 2026), <https://scottpeters.house.gov/press-releases/labor-and-industry-groups-back-bipartisan-federal-permitting-overhaul> (collecting statements in support of H.R. 8308 from ten organizations, including the United Association of Union Plumbers and Pipefitters, North America's Building Trades Unions, and the International Brotherhood of Electrical Workers, and reproducing a letter to the sponsors from the Laborers' International Union of North America).

⁷³ *EPW Permitting Hearing, Part II*, *supra* note 68, at 18-19, 21 (testimony of Brent Booker). Statements of position by an interested party, reported as such.

particular, a delayed project is delayed work, delayed wages, delayed apprenticeship hours, and delayed regional economic activity, though labor's alignment varies by project type and region, and can itself conflict with environmental-justice or local-opposition concerns in specific cases. Host communities wait for tax base, employment, or mitigation commitments, or simply for a decision, so they can plan.

Environmental goals. As Section 4.4 develops, delayed clean infrastructure can prolong reliance on higher-emitting alternatives, so a process meant to protect the environment can, through chronic delay, produce worse outcomes than timely, well-reviewed approval would have.

This reframes permitting from a left vs. right fight over which projects to favor into a shared problem about *whether the system works*. The system needs to work better, not because ideological battles should be set aside, but because chronic delay has real costs for real people regardless of which projects it holds up.

The claim is about the system, not about any particular project. Three points explain why speed alone would not be an improvement:

- **Some communities experience infrastructure as burden, not benefit.** A pipeline or line through a community may bring risk and disruption without local benefit. Those concerns are stakes, not obstruction.
- **Some projects should be redesigned, mitigated, relocated, or rejected.** A faster system that approves bad projects is not an improvement. Review exists in part to catch genuinely harmful proposals.
- **A system that accelerates everything without legitimacy will not be durable.** Speed purchased by stripping accountability tends to generate backlash, litigation, and reversal, the opposite of durability.

The goal is not to clear the field for all projects. It is to ensure that the *good* decisions, approvals and denials alike, are reached in a timely, durable, legitimate way.

6. Emerging Cross-Ideological Common Ground

A striking feature of the moment is that constituencies who agree on little else have converged on the proposition that the buildout system is broken. The convergence is real but must be read carefully. Groups support reform for *overlapping but not identical* reasons, and the overlap is sometimes rhetorical rather than substantive.

6.1 The Coalitions, and Why Their Reasons Diverge

The center-right, market, and EcoRight case. A cluster of market-oriented and EcoRight organizations, among them C3 Solutions,⁷⁴ CRES,⁷⁵ the R Street Institute,⁷⁶ ClearPath,⁷⁷ and American Conservation Coalition⁷⁸ argues that permitting delay undermines affordability, reliability, competitiveness, domestic production, and even environmental quality. Its themes run to energy abundance, private investment and regulatory certainty, property rights, national security and China competition, and technology-neutral reform that picks no winners, explicitly counting nuclear, carbon capture, critical minerals, gas, and LNG alongside renewables and transmission.

⁷⁴ Nick Loris, *Permitting Reform Is Back On. What Should It Include?*, C3 Solutions (Apr. 15, 2026), <https://c3solutions.org/policy-paper/permitting-reform-is-back-on-what-should-it-include/> (urging comprehensive reform across NEPA, the Clean Water Act, the Clean Air Act, the Endangered Species Act, and the National Historic Preservation Act, and endorsing the SPEED, ePermit, PERMIT, and ESA Amendments Acts).

⁷⁵ CRES Forum, *Permitting Modernization and Reform* (2023), <https://cresforum.org/publications/permitting-modernization-and-reform/>; see also Heather Reams, *America Can't Build Fast Enough. Judicial Review Reform Can Help.*, Citizens for Responsible Energy Solutions (May 11, 2026), <https://cresenergy.com/in-the-news/icymi-heather-reams-america-cant-build-fast-enough-judicial-review-reform-can-help/> (urging a 150-day statute of limitations, tighter standing, and centralized NEPA judicial review).

⁷⁶ Olivia Manzagol & Philip Rossetti, *Emission Benefits of Permitting Reform*, R Street Inst. Policy Study No. 320 (Apr. 24, 2025), <https://www.rstreet.org/research/emission-benefits-of-permitting-reform/> (estimating that faster permitting could abate up to roughly 10 percent of U.S. energy-related CO2 emissions and arguing reform is climate-improving on net).

⁷⁷ Lisa Epifani, *Time to Fix America's Permitting Problems and Let America Build*, ClearPath (Nov. 18, 2025), <https://clearpath.org/our-take/time-to-fix-americas-permitting-problems-and-let-america-build/> (calling to modernize NEPA, reform NEPA litigation and judicial review, increase permitting transparency, and expand transmission).

⁷⁸ American Conservation Coalition, *We Cannot Lead If We Cannot Build: Our Need for Permitting Reform* (Oct. 22, 2025), <https://acc.eco/blog/2025/10/22/we-cannot-lead-if-we-cannot-build-our-need-for-permitting-reform/> (calling to streamline reviews, set firm approval timelines, and empower states, and framing reform as a conservative, all-of-the-above priority).

The center-left, build-clean case. On the center-left, a growing body of climate and energy advocates, among them the Progressive Policy Institute,⁷⁹ Third Way,⁸⁰ C2ES,⁸¹ Citizens' Climate Lobby,⁸² and the Clean Air Task Force,⁸³ embraces reform as essential to implementing decarbonization, on the logic that recent clean-energy investment cannot cut emissions if the transmission, renewables, and storage it funds cannot be built. Its themes run to transmission expansion, clean deployment, electrification, industrial decarbonization, clean firm power, agency capacity, earlier and better engagement, environmental justice done seriously, critical minerals with safeguards, and a recurring concern about fossil lock-in.

The abundance, or supply-side, bridge. A partly distinct current, abundance or supply-side progressivism, holds that progressive goals require building more of the physical world and that proceduralism has become an obstacle to progressive ends. It spans a center-left node, the Inclusive Abundance Initiative,⁸⁴ and a right-of-center one, the Foundation for American Innovation,⁸⁵ overlapping

⁷⁹ Colin Mortimer, *Bureaucracy Blocks Green Progress: 9 Ideas for Democratic Permitting Reform*, Progressive Policy Inst. (Nov. 2025), https://www.progressivepolicy.org/wp-content/uploads/2025/11/PPI_9-Ideas-for-Democratic-Permitting-Reform.pdf (proposing review shot clocks, codification of *Seven County*, a 150-day statute of limitations, a single coordinating agency, and limits on unilateral permit revocation).

⁸⁰ Maya Gibbs & Ryan Fitzpatrick, *Picking Up the PACE: A Comprehensive Analysis of Available Pathways to Accelerating Clean Energy*, Third Way (Nov. 6, 2025), <https://www.thirdway.org/memo/picking-up-the-pace-a-comprehensive-analysis-of-available-pathways-to-accelerating-clean-energy-pace> (finding, from more than 200 industry interviews, that NEPA drives the longest delays and recommending a centralized permitting portal, cross-jurisdictional standardization, shot clocks, expanded categorical exclusions, and a lead agency).

⁸¹ Center for Climate & Energy Solutions, *Permitting Reform* (last visited Aug. 2, 2026), <https://www.c2es.org/permitting-reform/> (organizing reform principles into efficiency and transparency, grid reliability, linear-infrastructure deployment, and critical minerals, and endorsing the ePermit, CERTAIN, and REWIRE Acts).

⁸² Citizens' Climate Lobby, *Permitting Reform 101* (last visited Aug. 2, 2026), <https://citizensclimatelobby.org/our-climate-solutions/clean-energy-permitting-reform-2/> (backing transmission expansion and NEPA streamlining while preserving community input, and supporting the BIG WIRES Act and the Energy Permitting Reform Act of 2024).

⁸³ Clean Air Task Force, *National Environmental Policy Act* (last updated Jan. 23, 2026), <https://www.catf.us/infrastructure-deployment/national-environmental-policy-act/> (arguing that most permitting delay stems from agency staffing, funding, and coordination gaps rather than NEPA itself, and backing evidence-based streamlining that preserves public participation and scientific rigor); see also Clean Air Task Force & Niskanen Ctr., *Evidence-Based Recommendations for Overcoming Barriers to Federal Transmission Permitting* (2024), <https://www.catf.us/resource/evidence-based-recommendations-overcoming-barriers-federal-transmission-permitting/> (finding that although only a small share of transmission projects require federal review, those projects account for roughly a quarter of new line miles from 2010 to 2020).

⁸⁴ Inclusive Abundance Initiative (last visited Aug. 2, 2026), <https://www.inclusiveabundance.org/> (advancing a center-left abundance agenda that treats proceduralism as an obstacle to progressive ends).

⁸⁵ Foundation for American Innovation, *Energy and Infrastructure* (last visited Aug. 2, 2026), <https://www.thefai.org/energy-and-infrastructure> (framing energy abundance around permitting reform, targeted

the center-right abundance argument in its emphasis on building while weighting climate, equity, and public investment more heavily. It is a bridge between the coalitions, not a merger.

6.2 Bridge Frames and Fragile Terms

National security and China competition function as cross-ideological bridge frames: critical minerals, grid resilience, domestic manufacturing, AI/data-center load, semiconductors, LNG for allies, and the nuclear supply chain. Labor and construction arguments also bridge constituencies. A stalled project means delayed work, wages, apprenticeships, and local benefit. Labor interests, however, can conflict with environmental-justice or local-opposition concerns depending on the project.

A caution the paper carries throughout is that several key terms are *fragile*, meaning different things to different groups: “streamlining,” “modernizing NEPA,” “technology neutral,” “energy security,” “clean energy,” “abundance,” “environmental justice,” “durability,” “federalism,” and “certainty.” The most reliable bridging formulations remain “better review, not weaker review” and “faster decisions, not automatic approvals.”

6.3 Where the Common Ground Is Deepest

The strongest agreement is not about which projects to favor but about how the system decides. But that agreement has depth, and the depth varies. *Table 2* ranks the main governance-quality reforms from deepest common ground to shallowest, reforms that supporters frame as improving decision-making without obviously tilting toward fossil or clean.

Reform area	Depth of common ground	Notes
Agency capacity / staffing	Deep	Few principled objections; largely a funding question
Interagency coordination / lead agency	Deep	Broad support; disputes are about design, not goal
Digital permitting, dashboards, data	Deep	Low-controversy, transparency-enhancing
Single environmental documents	Moderate–Deep	Agreement on duplication; tension over what’s lost
Concurrent review with schedules	Moderate–Deep	Agreement on concept; tension over deadlines vs. quality
Programmatic review / categorical exclusions	Moderate	Agreement in principle; fights over scope and eligibility

investment, and trade). On the overlap, the Inclusive Abundance Initiative features FAI’s infrastructure lead among its abundance contributors.

Reform area	Depth of common ground	Notes
Reuse of existing rights-of-way	Moderate	Attractive; less helpful for genuinely new corridors
Durability of lawfully issued permits	Moderate	Agreement on goal; sharp disagreement on <i>how</i> (judicial review)
Transmission expansion	Moderate–Shallow	Agreement it’s needed; deep fights over siting and cost allocation
Critical minerals	Moderate–Shallow	Agreement on need; disagreement on safeguards and access
Technology scope (fossil inclusion)	Shallow	Core fault line (Section 7)
Judicial review / remedies	Shallow	Core fault line (Section 7)

Table 2. Permitting reform areas, ranked from deepest to shallowest cross-ideological common ground.

Table 2 makes the pattern plain. The deepest common ground is procedural and capacity-related, while the deepest disagreements are substantive and legal: what gets built, who decides, who can challenge it, and under what standards.

7. Where Common Ground Breaks Down

If governance-quality reforms are the area of agreement, the following are the recurring fault lines that have fractured reform coalitions. Understanding them is the point of a Phase I paper, not to resolve them, but to explain why durable reform is hard.

7.1 What Gets Built: Technology and Values

Technology-neutral versus clean-targeted reform. The center-right generally wants reform that speeds *all* energy infrastructure (including gas, LNG, and pipelines), while much of the center-left wants reform that preferentially speeds *clean* infrastructure and transmission. A package read as a fossil giveaway loses the left; one read as discriminating against conventional energy loses the right. This is the master fault line beneath many others.

Fossil inclusion versus fossil lock-in. Even where the left accepts some conventional infrastructure, it worries that long-lived fossil assets permitted today will lock in emissions for decades. The right tends to see this as ideological exclusion of needed reliable supply. There is no obvious technical compromise, rather it is a values disagreement about the future energy system.

7.2 How Decisions Are Reviewed and Undone

Judicial review, statutes of limitations, and standing: the “durability paradox.” Proposals to shorten the window for challenging permits, narrow standing, or limit which courts hear cases are among the most contested. The disagreement is sharper than “speed versus accountability.” Sponsors argue that

long, uncertain litigation windows and the risk of late vacatur make capital allocation difficult and raise financing costs, *undermining the very durability reform is meant to provide*. Advocates argue that judicial review is precisely the mechanism that keeps agencies honest, and that compressing it trades durable approvals for durable harms. The analytically important distinction is between *compressing the time window* for bringing claims (for example, the often-discussed 150-day limitations periods) and *eliminating substantive judicial accountability* altogether. Proposals along these lines should be read as contested reform ideas, not settled fixes.⁸⁶

Vacatur and remedies. This is a narrower but consequential fight. When a court finds a defect, should it vacate the permit (stopping the project) or remand without vacatur (letting work continue while the agency fixes the record)? Reformers favor limiting vacatur, while opponents see it as essential leverage.⁸⁷

NEPA scope: cumulative impacts and climate analysis. How much analysis NEPA should require, especially of cumulative effects and greenhouse-gas impacts, is itself contested. As Section 3.4 set out, *Seven County* has narrowed the range of effects an agency must consider. Narrowing scope speeds review but reduces disclosure, while expanding it does the reverse.

7.3 Who Decides, and Whose Objection Counts

Clean Water Act Section 401 and state authority. Section 401 lets states certify or block projects on water-quality grounds and has been used to stop interstate pipelines. The right often favors narrowing it. However, many states and environmental groups defend it as cooperative federalism. This sets *federal speed* against *state sovereignty* and scrambles the usual left-right alignment.

Transmission backstop authority and federal preemption. Because electric transmission siting is state-centered (Section 2), expanding interregional lines may require some federal ability to override state siting refusals, a “backstop.” Transmission advocates see this as necessary; states and some conservatives see federal overreach into a traditionally state domain. The institutional dimension is easy to underrate. State public utility commissioners, and bodies like NARUC, may resist federal backstop authority or regional cost allocation not on ideological grounds but because they are charged with protecting their own ratepayers, and may object when those ratepayers are asked to pay for benefits flowing to other regions.⁸⁸ This ratepayer-protection politics, layered on top of FERC’s Order 1920 cost-

⁸⁶ Energy Permitting Reform Act of 2024, S. 4753, 118th Cong. § 101(b) (2024) (barring a civil action seeking judicial review of a final agency action granting or denying an authorization unless filed within 150 days of the action), <https://www.congress.gov/bill/118th-congress/senate-bill/4753/text>. See also C2ES, *Federal Permitting Reform in the 119th Congress* (last visited Aug. 2, 2026), <https://www.c2es.org/document/federal-permitting-reform-in-the-119th-congress/>; Bipartisan Policy Center, *What’s in the SPEED Act?* (last updated Dec. 19, 2025), <https://bipartisanpolicy.org/issue-brief/whats-in-the-speed-act/>.

⁸⁷ *Seven County*, *supra* note 45; Harv. L. Sch. Envtl. & Energy L. Program, *NEPA Environmental Review Requirements* (last updated Apr. 9, 2026), <https://eelp.law.harvard.edu/tracker/nepa-environmental-review-requirements/>.

⁸⁸ NARUC, *Order No. 1920 Materials and Comments* (last visited Aug. 2, 2026), <https://pubs.naruc.org/pub/8C00058D-C77C-CF18-2742-96F5BF2B6F07>; FERC, *What State Regulators Need to*

allocation framework, helps explain why transmission reform is hard *even when nearly everyone agrees more transmission is needed*.

Federalism and local control. Beyond Section 401 and the transmission backstop, a general tension runs through the debate: faster federal decisions can mean less state and local control, and actors across the spectrum resist that.

Environmental justice as a durability question, not just a hurdle. Reforms that compress timelines or limit review can be read as reducing the voice of communities, often lower-income or minority, that bear infrastructure burdens. However, environmental justice is not only a political objection or a procedural hurdle. It is part of whether an approval is *durable and legitimate*. For communities that bear concentrated infrastructure burdens, speed without meaningful engagement can look less like efficiency than exclusion, and exclusion invites the litigation and political reversal that defeat durability. A durable permitting system has to treat environmental justice and community engagement as part of decision quality, not as an afterthought. Doing engagement earlier and better is common ground; doing less of it is not.

Tribal consultation. Tribal nations have distinct legal status and treaty rights. Consultation is both a legal obligation and, when done late, a source of conflict and litigation. Reform must navigate genuine sovereignty concerns, not merely process timing.

7.4 Why Coalitions Fracture, in Practice

Two structural dynamics recur. The first is attachment. Standalone permitting bills are hard to pass, so reform is often carried on must-pass vehicles, debt-limit, appropriations, or energy bills. This creates leverage but also brinkmanship, and deals struck under deadline pressure can satisfy neither side. The 2022 attempt shows the pattern on two successive must-pass vehicles. As part of the Inflation Reduction Act, Senator Manchin secured a commitment from the Senate majority leader, the Speaker, and the President to pass a comprehensive permitting package before the end of the fiscal year. The vehicle was to be the continuing resolution funding the government past September 30. Text was released on September 21 and withdrawn six days later.⁸⁹ In December he released a revised version and urged his colleagues to add it to the defense authorization by amendment.⁹⁰ Manchin forced a floor

Know About Order No. 1920-B (Apr. 22, 2025), <https://www.ferc.gov/what-state-regulators-need-know-about-order-no-1920-b>; see also Order No. 1920, *supra* note 40 (regional cost-allocation framework).

⁸⁹ Press Release, U.S. Sen. Comm. on Energy & Nat. Res., *Manchin Releases Comprehensive Permitting Reform Text To Be Included In Continuing Resolution* (Sept. 21, 2022), <https://www.energy.senate.gov/2022/9/manchin-releases-comprehensive-permitting-reform-text-to-be-included-in-continuing-resolution> (stating that, as part of the Inflation Reduction Act, Chairman Manchin secured a commitment from Leader Schumer, Speaker Pelosi, and President Biden to pass the package before the end of the fiscal year on September 30, and releasing the Energy Independence and Security Act of 2022, which was never introduced as a numbered bill); Press Release, Sen. Joe Manchin, *Manchin Asks Schumer to Remove Permitting Language from Continuing Resolution* (Sept. 27, 2022).

⁹⁰ Press Release, U.S. Sen. Comm. on Energy & Nat. Res., *Manchin Releases Permitting Text and Urges Colleagues to Support MVP and Permitting Amendment to NDAA* (Dec. 7, 2022),

vote anyway, and on December 15 the Senate rejected cloture 47 to 47 against a three-fifths threshold. Forty members of the Democratic caucus and seven Republicans voted in favor.

The opposition ran in both directions and for opposite reasons. Ratification of the Mountain Valley Pipeline was written into the package. Ten members of the Democratic caucus voted against cloture, and the objection stated on the floor was to that provision.⁹¹ Nine days before Manchin released his text, Senate Republicans had introduced their own comprehensive permitting bill, which also expedited approval of the same pipeline. Its cosponsors included the Republican leader and the Republican whip. Both voted no in December.⁹² One provision survived. The pipeline ratification passed the following year in the Fiscal Responsibility Act, alone, on a must-pass vehicle, and in the narrowest available form (Section 8.4).

The second dynamic is the structural bind. Any package large enough to deliver meaningful change for one coalition tends to contain provisions unacceptable to the other, while any package small enough to be mutually acceptable is dismissed as too modest. EPRA, the 2024 permitting bill from Senators Manchin and Barrasso, advanced through the Senate Energy and Natural Resources Committee on a bipartisan 15-4 vote in July 2024 and still did not become law. It addressed transmission, FERC backstop authority, interregional planning, mining and leasing, and judicial-review timelines. It assembled real substance, transmission planning and cost allocation, a 150-day judicial-review limitations period, and expanded federal leasing. An analysis published by Third Way found it would lower net emissions by 2050 even under a worst-case fossil scenario, because transmission, not generation, is the binding

<https://www.energy.senate.gov/2022/12/manchin-releases-permitting-text-and-urges-colleagues-to-support-mvp-and-permitting-amendment-to-ndaa> (releasing the full text of the Building American Energy Security Act of 2022 and urging colleagues on both sides to support amending the National Defense Authorization Act to include it and complete the Mountain Valley Pipeline).

⁹¹ Senator Kaine, who voted against cloture, told the Senate that he and Senator Manchin were “in agreement on 23 of the 24 sections and 86 of the 91 pages,” and that his objection was to section 24, which would have ordered four pending federal authorizations issued to the pipeline, barred judicial review of them, and moved future litigation from the Fourth Circuit to the D.C. Circuit. He described the jurisdictional provision as virtually unprecedented and stated, “I am not opposed to the Mountain Valley Pipeline.” 168 Cong. Rec. S4961-62 (daily ed. Sept. 22, 2022), <https://www.govinfo.gov/content/pkg/CREC-2022-09-22/html/CREC-2022-09-22-pt1-PgS4961.htm>.

⁹² Simplify Timelines and Assure Regulatory Transparency Act (START Act), S. 4815, 117th Cong. § 8 (2022), <https://www.congress.gov/bill/117th-congress/senate-bill/4815> (introduced Sept. 12, 2022 by Sen. Capito with 46 cosponsors; § 8 expediting approval of the Mountain Valley Pipeline within 21 days of enactment). Senators McConnell and Thune cosponsored at introduction.

constraint.⁹³ It is best read not as the end of the story but as a measure of how hard durable reform is. A package this developed, and this bipartisan in committee, still has not reached the floor.⁹⁴

The 119th Congress has continued the effort along several tracks. They are worth distinguishing because they embody different *models* of reform, described here rather than endorsed:

- The **SPEED Act**, introduced by Rep. Westerman (R-AR) with Rep. Golden (D-ME) and passed by the House in December 2025 before moving to the Senate, focuses more directly on NEPA restructuring and limits on litigation.⁹⁵
- The **CERTAIN Act**, led by Representative Peters (D-CA), pairs coordination and review-timeline reforms with two more contested elements. It limits when agencies may revoke or suspend an existing authorization, and also sets deadlines and standards for judicial review of agency actions.⁹⁶
- The **FREEDOM Act**, led by Representative Harder (D-CA) with Representative Lawler (R-NY), focuses on energy-specific permitting certainty and enforceable timelines.⁹⁷

⁹³ Shane Londagin, *Quantifying the Emissions Impacts of the Energy Permitting Reform Act of 2024*, Third Way (Sept. 5, 2024, updated Sept. 10, 2024), <https://www.thirdway.org/memo/quantifying-the-emissions-impacts-of-the-energy-permitting-reform-act-of-2024> (synthesizing modeling by Resources for the Future, RMI, and Princeton’s Jesse Jenkins, and finding net emissions reductions by 2050 even under a worst-case scenario. The memo discloses that two of the four provisions were not modeled against the bill itself. The onshore leasing model ran a sustained high-leasing scenario, and the liquefied natural gas model assumed every pending export terminal approved and built, which the memo describes as an extreme upper bound).

⁹⁴ Energy Permitting Reform Act of 2024, S. 4753, 118th Cong. (2024); *see supra* note 86 for the § 101(b) judicial-review limitations period. The bill was reported favorably, as amended, from the Senate Energy and Natural Resources Committee on a bipartisan 15-4 vote. Press Release, Senate Comm. on Energy & Nat. Res., *Senate Energy and Natural Resources Committee Advances the Manchin-Barrasso Bipartisan Permitting Reform Act* (July 31, 2024), <https://www.energy.senate.gov/2024/7/senate-energy-and-natural-resources-committee-advances-the-manchin-barrasso-bipartisan-permitting-reform-act>.

⁹⁵ Standardizing Permitting and Expediting Economic Development Act (SPEED Act), H.R. 4776, 119th Cong. (2025) (passed House Dec. 18, 2025), <https://www.congress.gov/bill/119th-congress/house-bill/4776> (introduced by Rep. Westerman (R-AR) with Rep. Golden (D-ME) as an original cosponsor; of the fourteen cosponsors, twelve joined after introduction, six from each party). For an overview of the 119th Congress permitting bills discussed here, *see* C2ES, *Federal Permitting Reform in the 119th Congress* (last visited Aug. 2, 2026), <https://www.c2es.org/document/federal-permitting-reform-in-the-119th-congress/>; Bipartisan Policy Center, *What’s in the SPEED Act?* (last updated Dec. 19, 2025), <https://bipartisanpolicy.org/issue-brief/whats-in-the-speed-act/>.

⁹⁶ Create Expedited Reviews to Transform American Infrastructure Now Act (CERTAIN Act), H.R. 8308, 119th Cong. (2026), <https://www.congress.gov/bill/119th-congress/house-bill/8308> (introduced Apr. 15, 2026 by Rep. Peters (D-CA) with bipartisan cosponsors; establishing requirements for the termination of authorizations, the coordination and completion of reviews, and judicial review of actions relating to authorizations).

⁹⁷ Fighting for Reliable Energy and Ending Doubt for Open Markets Act (FREEDOM Act), H.R. 7329, 119th Cong. (2026), <https://www.congress.gov/bill/119th-congress/house-bill/7329> (introduced Feb. 3, 2026 by Rep. Harder (D-CA) with Rep. Lawler (R-NY)).

These vehicles share governance-quality elements and diverge on the same fault lines that fractured past efforts, technology scope, judicial review, and state authority, which is why their fate remains uncertain even amid broad agreement that the system needs to work better.⁹⁸ As of mid-2026 none of these has been enacted. The SPEED Act awaits Senate action. The chair of the Senate environment committee has said it is time for the Senate to act but has set conditions, including provisions addressing judicial review of fully permitted projects, while the Democratic negotiators reopened talks only on the condition that the administration stop interfering with already-permitted wind projects.⁹⁹

A further dispute has opened over historic preservation. The Senate energy committee, chaired by Senator Lee, examined the Section 106 consultation process under the National Historic Preservation Act at a hearing in October 2025, where witnesses from industry, a state preservation office, and a tribal preservation office each supported keeping the process while identifying places to improve it. In July 2026 the committee's Democratic members objected to a draft federal rule revising that process, stating that they support modernizing Section 106 but not at the expense of meaningful tribal consultation. The disagreement is over scope rather than over whether to act.

A bipartisan Senate package remains in exploratory negotiation with no public text. The Senate has produced legislation, but not on bipartisan terms. In June 2026 Senator Barrasso, who led EPRA with Senator Manchin two years earlier, introduced the Let America Build Act of 2026 with Senator Lummis. Both are Wyoming Republicans, the bill has no Democratic cosponsor, and it has not moved since referral.¹⁰⁰ The contrast with EPRA is the structural bind in miniature, since the same lead sponsor now carries a narrower coalition than the one that produced a bipartisan committee vote and still failed. Whether any bill is enacted before the 119th Congress ends, rather than carrying into the next, cannot be forecast from the record.

⁹⁸ See American Council for Capital Formation (ACCF), *Policy Forum: Building Faster and Cheaper in America: Permitting Reform for Energy, Industry, AI, and National Security*, July 29, 2026 (a bipartisan policy forum on permitting reform with Senators Mike Rounds (R-SD), Alan Armstrong (R-OK), John Hickenlooper (D-CO), Kevin Cramer (R-ND) and Bill Cassidy (R-LA) where all agreed that permitting reform is needed and now is the time to do it).

⁹⁹ See *EPW Permitting Hearing, Part II*, *supra* note 68, at 5-6 (statement of Sen. Shelley Moore Capito, Chairman); Whitehouse and Heinrich Joint Statement on Permitting Reform, S. Comm. on Env't & Pub. Works (Mar. 5, 2026), <https://www.epw.senate.gov/public/index.cfm/2026/3/whitehouse-and-heinrich-joint-statement-on-permitting-reform> (announcing the reopening of negotiations and stating the expectation of no further interference with already-permitted wind projects).

¹⁰⁰ Let America Build Act of 2026, S. 4765, 119th Cong. (2026), <https://www.congress.gov/bill/119th-congress/senate-bill/4765> (introduced June 11, 2026 by Sen. Barrasso, with Sen. Lummis; addressing oil, gas, coal, and mineral leasing and permitting, delegating drilling-permit authority on available federal land to consenting states, § 1201, designating minerals production a covered sector under FAST-41, § 2006(d), setting a sixty-day limitations period for challenges to oil, gas, and mining authorizations, §§ 1101(a)(4), 2006(g), restricting vacatur as a remedy, §§ 1101(a)(2), 2006(h), and narrowing the effects the Commission must analyze under the National Environmental Policy Act in natural gas and transmission proceedings, §§ 3001, 3002).

The appropriate tone here is analytical, not cynical. Reform is hard not because the actors are unreasonable, but because they hold real and partly incompatible values, and because the procedural tools at issue (judicial review, state authority, scope of analysis) are simultaneously the sources of delay *and* the sources of accountability.

8. Case Examples: What the Record Shows

These examples illustrate how delay arises from interacting factors. They illustrate; they do not prove. For each, the analytical move is to separate federal environmental review from other federal permits, state and tribal authority, litigation, interconnection, financing, and sponsor or market decisions. The cases are selected for the kind of obstacle they expose, not for the sector they belong to. Several turn on forces outside federal environmental review entirely. That is the point rather than a departure from it, since the question is what stopped the project rather than what stopped the permit.

8.1 Transmission: SunZia

SunZia most clearly illustrates that federal environmental review and total project delay are different things, and that delay can accumulate across jurisdictions without any single step being the cause.

SunZia applied to the Bureau of Land Management for a right-of-way in 2008. BLM published its notice of intent to prepare an environmental impact statement in May 2009,¹⁰¹ the draft statement in May 2012,¹⁰² and the final statement in June 2013.¹⁰³ It issued the Record of Decision granting the right-of-way on January 23, 2015.¹⁰⁴ From notice of intent to decision, the original review ran roughly five years and eight months, and roughly six years and four months from application.

The delay was not evenly distributed across that period, and its largest single component is instructive. After the final environmental impact statement was complete, the Department of Defense objected that a segment of the route would interfere with operations at the White Sands Missile Range. Resolving that objection required a study by MIT Lincoln Laboratory, a Defense Department mitigation proposal to bury

¹⁰¹ Bureau of Land Mgmt., Notice of Intent To Prepare an Environmental Impact Statement and Possible Resource Management Plan Amendments for the SunZia Southwest Transmission Project in Arizona and New Mexico, 74 Fed. Reg. 25,764 (May 29, 2009), <https://www.federalregister.gov/documents/2009/05/29/E9-12512/notice-of-intent-to-prepare-an-environmental-impact-statement-and-possible-resource-management-plan>.

¹⁰² Bureau of Land Mgmt., Notice of Availability of the Draft Environmental Impact Statement for the SunZia Southwest 500 kV Transmission Line Project in New Mexico and Arizona, and Prospective Draft Land Use Plan Amendments, 77 Fed. Reg. 31,637 (May 29, 2012), <https://www.govinfo.gov/content/pkg/FR-2012-05-29/pdf/2012-12978.pdf>.

¹⁰³ Bureau of Land Mgmt., Notice of Availability of the Final Environmental Impact Statement for the SunZia Southwest Transmission Project in New Mexico and Arizona and Proposed Resource Management Plan Amendments, 78 Fed. Reg. 35,954 (June 14, 2013), <https://www.govinfo.gov/content/pkg/FR-2013-06-14/pdf/2013-14110.pdf>.

¹⁰⁴ Bureau of Land Mgmt., *Record of Decision, SunZia Southwest Transmission Project* (Jan. 23, 2015), https://openei.org/w/images/b/b1/SunZia_Record_of_Decision.pdf [hereinafter *SunZia ROD*].

portions of the line, an environmental assessment, and a finding of no new significant impact. Roughly the last nineteen months of the review were consumed not by the environmental analysis itself, which was finished, but by an intra-federal conflict between two federal agencies with no single accountable decision-maker to resolve it.¹⁰⁵

The review also changed the project. The approved route was moved to avoid a missile-debris field, the Gran Quivira unit viewshed, and Hot Well Dunes; one entire route group was eliminated as incompatible with Fort Bliss operations; and roughly fifty-three percent of the final route was sited to parallel existing utility corridors. Whatever else it did, the process altered where and how the line was built.

A second, narrower review followed a change in ownership and design. Pattern Energy acquired the project in 2022 and rebuilt the plan of service as a 525-kilovolt high-voltage direct-current line rather than the originally approved alternating-current design. BLM opened a new environmental review of the right-of-way amendment in June 2021¹⁰⁶ and issued an amended Record of Decision in May 2023, roughly twenty-three months later. That figure and the original are not comparable: the amendment addressed changes to an existing grant rather than siting a new line, and it followed a decade of accumulated record. The project held a valid 2015 decision and a 2016 right-of-way but did not begin construction until after 2021, a multi-year gap attributable to sponsor and market decisions rather than to permitting.

Litigation over the route through the San Pedro Valley remains live, and its posture is easy to misread. In May 2025 the Ninth Circuit reversed and remanded the district court's dismissal of a claim by the Tohono O'odham Nation and the San Carlos Apache Tribe that BLM had violated the National Historic Preservation Act.¹⁰⁷ The holdings were narrow and procedural. The court held that the 2023 limited notices to proceed, not the 2015 Record of Decision, were the final agency action for limitations purposes; that the district court had wrongly applied a likelihood-of-success standard at the motion-to-dismiss stage; and that the tribes had plausibly alleged BLM violated its own programmatic agreement by promising, and then failing to deliver, a second treatment plan evaluating the Valley. The tribes expressly disclaimed any challenge to the Record of Decision or to the underlying route, and did not seek to force the line out of the Valley. The district judge who first heard the case had ruled for the government. The case is best read not as a court second-guessing an environmental review but as a staged-approval and finality problem, and it remains pending on remand.

¹⁰⁵ *SunZia ROD*, *supra* note 104, at 13, app. D (documenting the environmental assessment and finding of no new significant impact addressing Department of Defense concerns regarding the White Sands Missile Range Northern Call-Up Area).

¹⁰⁶ Bureau of Land Mgmt., Notice of Intent To Prepare an Environmental Impact Statement and Resource Management Plan Amendments for the SunZia Southwest Transmission Project, New Mexico, 86 Fed. Reg. 30,066 (June 4, 2021), <https://www.govinfo.gov/content/pkg/FR-2021-06-04/pdf/2021-11788.pdf>.

¹⁰⁷ *Tohono O'odham Nation v. U.S. Dep't of the Interior*, No. 24-3659 (9th Cir. May 27, 2025), <https://cdn.ca9.uscourts.gov/datastore/opinions/2025/05/27/24-3659.pdf>.

What SunZia supports, and does not

It supports the proposition that an eighteen-year project timeline can contain a federal environmental review that was, for long stretches, not the binding constraint. The delay accumulated across a Defense Department mission conflict, a mid-project technology change, an ownership change, and cross-jurisdictional friction. It does not support a story in which the National Environmental Policy Act, standing alone, caused the timeline.

8.2 Emerging Infrastructure: EPA Class VI Carbon Storage

The Class VI program for permanent carbon-dioxide sequestration is the clearest case of a bottleneck created not by litigation or organized opposition but by administrative capacity. It is a process that was never staffed or designed for the volume of applications it now receives.

Demand grew abruptly. Between the program's creation in 2010 and the end of 2020, EPA received eight Class VI well applications. Between May 2021 and July 2024 it received applications for 205 wells across sixteen states and one tribe, with 116 of those in fiscal year 2023 alone.¹⁰⁸ Staffing did not keep pace. The Agency's Class VI full-time-equivalent staff rose from roughly fifteen to thirty-eight between fiscal years 2021 and 2024, an increase of about 147 percent, while the number of pending applications grew by more than 2,800 percent over the same period.

EPA's stated aim is to review a complete application and issue a permit decision within approximately twenty-four months, including a technical-review period of no more than eighteen months. That is an aim measured from the date an application is deemed administratively complete, not a statutory deadline.¹⁰⁹ The Agency's Office of Inspector General found in July 2025 that EPA is not on track to meet that goal for some applications. As of December 2023, twenty-eight of 157 applications then in process, about eighteen percent, had estimated decision dates beyond the twenty-four-month goal; of the thirty-six applications expecting decisions in 2024, about two-thirds were projected to exceed the goal, by an average of 212 days.¹¹⁰

The report attributes the delays to a mix of causes that does not fit a simple regulation-is-the-problem narrative: the technical complexity of the applications, the time applicants take to respond to requests for additional information, and shortfalls in budget, staff, and computational-modeling capacity in the

¹⁰⁸ U.S. Env'tl. Prot. Agency, Off. of Inspector Gen., *Evaluation of the EPA's Implementation of the Underground Injection Control Class VI Well Program*, Report No. 25-E-0045 (July 28, 2025), <https://www.epa.gov/office-inspector-general/report-evaluation-epas-implementation-underground-injection-control-class> [hereinafter *EPA OIG Report*].

¹⁰⁹ U.S. Env'tl. Prot. Agency, *Current Class VI Projects Under Review at EPA*, <https://www.epa.gov/uic/current-class-vi-projects-under-review-epa> (last visited August 2, 2026). Permit counts change as applications are decided and as states assume primacy.

¹¹⁰ *EPA OIG Report*, *supra* note 108, ch. 3. The Inspector General expressly did not assess whether the twenty-four-month goal is itself appropriate; one regional manager interviewed for the report recommended revising it to a range of twenty-four to thirty-six months depending on project complexity.

three regions that hold most of the pending applications.¹¹¹ States that have taken over the program under delegated authority, known as primacy, have generally moved faster: Wyoming has approved wells in under a year. But the comparison supports the conclusion that delegation is faster, not that it is more protective, and it comes with a caveat that belongs in any honest account: Louisiana, having received primacy and issued its first permit, then paused review of new applications while it reassessed its process.¹¹²

What Class VI supports

It supports the strongest common-ground argument the paper identifies, and it does so more cleanly than the other cases can. Class VI is the only case in this set where neither litigation nor organized opposition appears in the account of the delay. What remains is administrative, meaning application complexity, applicant response time, and shortfalls in staff, budget, and modeling capacity. Elsewhere those administrative factors sit alongside contested law and organized objection, and disentangling them is a matter of judgment. Here there is nothing to disentangle them from. Where the binding constraint is technical-review capacity and program design rather than the substance of the law, reform can mean funding and modernizing a program rather than weakening it. This is the case with the lowest ideological temperature, which is precisely why it matters.

8.3 Critical Minerals: Thacker Pass Lithium

Thacker Pass shows two things at once. Friction can arrive from several independent bodies of law with no single one decisive, and a project can satisfy every legal requirement and still carry unresolved conflict for years. Winning is not the same as legitimacy.

BLM issued the Record of Decision approving the mine on January 15, 2021. The approval drew consolidated litigation from three directions at once: environmental organizations challenging the groundwater and wildlife analysis, a local rancher asserting senior water rights, and tribal nations who identify the site as Peehee Mu’huh and as the location of an 1865 massacre. In February 2023 the district court ruled for BLM on nearly every claim, finding the agency’s tribal consultation reasonable and made in good faith on the information available when consultation began. It identified a single defect, that BLM had not determined whether the mining company held valid rights to roughly 1,300 of

¹¹¹ *EPA OIG Report*, *supra* note 108, ch. 3 (noting that across 163 pending well applications, EPA issued 93 requests for additional information, to which applicants responded in an average of 51 days, and that EPA Regions 5, 6, and 9 reported insufficient budget, staff, or technical capacity to meet the goal).

¹¹² Bipartisan Policy Center, *EPA Expansion of Class VI State Primacy Gives Carbon Storage a Boost* (Nov. 13, 2025), <https://bipartisanpolicy.org/article/epa-expansion-of-class-vi-state-primacy-gives-carbon-storage-a-boost/>.

the project's 18,000 acres, and remanded on that point without vacatur, allowing construction to proceed.¹¹³ The Ninth Circuit affirmed in July 2023 in an unpublished memorandum disposition.¹¹⁴

The tribal-consultation record is more complicated than either side's framing suggests. The nearest tribal community, the Fort McDermitt Paiute and Shoshone Tribe, signed a community benefits agreement with the developer in October 2022, even as other tribes continued to oppose the project and individual members of the nearest tribe did as well.¹¹⁵

The most consequential setback came not from the tribes or the environmental plaintiffs but from the rancher, on a state-law water-rights theory. On April 10, 2025, the Sixth Judicial District Court of Nevada reversed the State Engineer as to two of five disputed water-right applications and returned them to application status, finding the analysis of conflict with the rancher's senior water rights inadequate. The State issued a cease-and-desist order on pumping in June 2025, and the developer and the rancher settled in August 2025, with construction continuing throughout.¹¹⁶

What Thacker Pass supports

The friction came from four independent bodies of law. The plaintiffs lost on the federal environmental and land-management statutes and on historic-preservation consultation. A rancher largely prevailed on state water rights before settling, and on a federal mineral-rights question the court found a narrow defect and remanded. No single one stopped the mine, and the remedy for each would have been different. That is the accumulation pattern in a single project. The tribal-legitimacy point survives as one strand of it, and it is the stronger for not depending on the tribes having been right on the law: a consultation process can be legally sufficient and still leave a community's objection unresolved.

8.4 Natural Gas Pipeline: Mountain Valley Pipeline

The Mountain Valley Pipeline shows how litigation over the permits that accompany environmental review, rather than that review in isolation, can dominate a timeline, and how the tools that produce delay are the same tools that produce accountability.

¹¹³ *Bartell Ranch LLC v. McCullough*, No. 3:21-cv-00080-MMD-CLB (D. Nev. Feb. 6, 2023), ECF No. 279 (order on cross-motions for summary judgment), docket available at <https://www.courtlistener.com/docket/59247337/bartell-ranch-llc-v-mccullough/>.

¹¹⁴ *Bartell Ranch LLC v. McCullough*, No. 23-15261 (9th Cir. July 17, 2023) (unpublished mem. disp.), <https://cdn.ca9.uscourts.gov/datastore/memoranda/2023/07/17/23-15261.pdf>.

¹¹⁵ The site's history is itself contested and should be stated with care: a cavalry massacre of at least 31 Northern Paiute on September 12, 1865, is well documented, though the etymology of the name Peehee Mu'huh is disputed and has been conflated in some accounts with an earlier inter-tribal conflict.

¹¹⁶ The April 10, 2025 order does not appear to be publicly posted in full; it is described in a later order of the same court and in press coverage. See *Bartell Ranch LLC v. Sullivan*, No. CV0023382 (Nev. 6th Jud. Dist. Ct. Apr. 10, 2025) (order reversing and remanding the State Engineer as to Permits 89681-89684 and 89991-90006); *Settlement Reached in Messy Thacker Pass Water Dispute*, *Nev. Indep.* (Aug. 15, 2025), <https://thenevadaindependent.com/article/settlement-reached-in-messy-thacker-pass-water-dispute>.

FERC issued a certificate of public convenience and necessity for the pipeline on October 13, 2017, and construction began in early 2018.¹¹⁷ Over the next several years the Fourth Circuit vacated the project's federal authorizations one after another: the Forest Service and BLM approvals for the Jefferson National Forest crossing, a Clean Water Act nationwide permit, and successive Fish and Wildlife Service biological opinions.¹¹⁸ A certificate issued in 2017 thus delivered very little certainty for the better part of six years, and the friction lived overwhelmingly in the substantive permits accompanying environmental review, not in the National Environmental Policy Act alone.

One decision from this sequence bears directly on the remedies question the paper takes up elsewhere. In May 2023 the D.C. Circuit held that FERC had failed to adequately explain its decision not to prepare a supplemental environmental impact statement, given field evidence that the sedimentation controls the Commission had relied upon in the final statement had failed in practice. The defect was substantive, not a technicality. But the court remanded without vacating the authorizations, reasoning that with the pipeline more than ninety percent complete, vacatur would be too disruptive.¹¹⁹ The remedy tracked how much of the project had already been built, an outcome uncomfortable for both sides of the vacatur debate. The same court has, in other cases, vacated the approvals of an already-operating pipeline precisely to avoid rewarding a build-first, review-later strategy.¹²⁰

The sequence ended not in the courts but in Congress. In the Fiscal Responsibility Act of 2023, Section 324 ratified the pipeline's remaining federal authorizations, directed the agencies to maintain them, stripped the courts of jurisdiction to review them, and gave the D.C. Circuit exclusive jurisdiction over any challenge to the section itself.¹²¹ The Fourth Circuit dismissed the pending petitions, with two judges writing separately to warn that the jurisdiction-stripping provision threatened the balance of power

¹¹⁷ Mountain Valley Pipeline, LLC, *Order Issuing Certificates and Granting Abandonment Authority*, 161 FERC ¶ 61,043 (Oct. 13, 2017) (Docket No. CP16-10-000), <https://www.ferc.gov/sites/default/files/2020-08/CP16-10.pdf>. For the full chronology see Paul W. Parfomak, Cong. Rsch. Serv., IN12032, *Mountain Valley Pipeline: Past the Finish Line* (2024), <https://www.congress.gov/crs-product/IN12032>.

¹¹⁸ See, e.g., *Sierra Club v. U.S. Army Corps of Eng'rs*, 909 F.3d 635 (4th Cir. 2018) (nationwide permit); *Appalachian Voices v. U.S. Dep't of the Interior*, 25 F.4th 259 (4th Cir. 2022) (biological opinion).

¹¹⁹ *Sierra Club v. FERC*, 68 F.4th 630, 636, 651 (D.C. Cir. 2023).

¹²⁰ See *Sierra Club v. FERC*, 867 F.3d 1357 (D.C. Cir. 2017) (*Sabal Trail*) (vacating certificate authorizations notwithstanding that the pipeline was in service). Both outcomes apply the remedial test of *Allied-Signal, Inc. v. U.S. Nuclear Regulatory Commission*, 988 F.2d 146 (D.C. Cir. 1993); the tension between them is doctrinal, not ideological.

¹²¹ Fiscal Responsibility Act of 2023, Pub. L. No. 118-5, § 324, 137 Stat. 10, 47-48 (2023). Section 324(c) ratifies and approves all authorizations, permits, verifications, extensions, biological opinions, incidental take statements, and any other approvals or orders necessary for the Mountain Valley Pipeline; § 324(e)(2) grants the D.C. Circuit original and exclusive jurisdiction over any claim alleging the invalidity of the section, <https://www.congress.gov/118/plaws/publ5/PLAW-118publ5.pdf>.

between the branches,¹²² and the Supreme Court vacated the stays that had halted construction. The pipeline entered service in June 2024.

What Mountain Valley supports, and does not

It supports the proposition that repeated permit litigation and remand, not environmental review in isolation, can dominate a timeline, and it supplies a concrete instance for the remedies debate: a court that finds a real defect and declines to undo a nearly finished project. It does not support the view that the National Environmental Policy Act alone caused the delay, nor that a statutory ratification of this kind is a repeatable model. Section 324 was extraordinary. It became a lasting flashpoint about the separation of powers, and it is best understood as a precedent the coalitions cite against one another rather than as a template.

8.5 Clean Energy That Worked: Gemini Solar

Not every large project on federal land is slow, and the case that worked matters as much as the cases that did not.

Gemini Solar is a 690-megawatt photovoltaic project on roughly 7,100 acres of BLM land northeast of Las Vegas, directly south of the Moapa River Indian Reservation. BLM published the draft environmental impact statement in June 2019 and the Secretary signed the Record of Decision in May 2020, an interval of roughly eleven months for an environmental-impact-statement-level review of a commercial-scale project on federal land, adjacent to tribal land, in habitat for the desert tortoise and migratory birds.¹²³ Review did not merely clear the project; it changed it. After a comment record dominated by concerns about the desert tortoise, migratory birds, and tribal resources, BLM selected a hybrid alternative that adjusted the project's footprint. This is the concrete case, on the record, of environmental review improving a project rather than only slowing it.

8.6 Offshore Wind: Vineyard Wind 1 and Revolution Wind

Vineyard Wind is the strongest evidence that predictability and durability matter as much as speed. It is the case in which every stage of process was completed, every legal challenge defeated, and the project halted anyway. Revolution Wind, halted mid-construction and then halted again after a court had intervened, shows the same failure at a different stage and puts a measure on what it costs.

Vineyard Wind won its lease in 2015 and submitted its construction plan in 2017. Federal review spanned roughly three and a half years, extended in part by an administration-driven expansion of the environmental analysis in 2019 and in part by the sponsor's own decision in late 2020 to pause while it

¹²² *Appalachian Voices v. U.S. Dep't of the Interior*, 78 F.4th 71, 84 (4th Cir. 2023) (concurring opinions). For a neutral account of the separation-of-powers dispute, see Cong. Rsch. Serv., LSB11010, *Mountain Valley Pipeline Litigation Tests Congress's Power to Limit Federal Court Jurisdiction* (2023), <https://crsreports.congress.gov/product/pdf/LSB/LSB11010>.

¹²³ Bureau of Land Mgmt., Notice of Availability of the Record of Decision, Gemini Solar Project, 85 Fed. Reg. 30,982 (May 21, 2020), <https://www.federalregister.gov/documents/2020/05/21/2020-10922/>.

evaluated a larger turbine. BOEM issued the Record of Decision in May 2021.¹²⁴ The project then defeated every legal challenge to that approval: the District of Massachusetts dismissed the environmental claims in 2023, the First Circuit affirmed in 2024, and the Supreme Court denied review in January 2025.¹²⁵

It financed, it built, and it was delivering power to the grid. Then, in December 2025, the executive branch halted it. A federal court had, two weeks earlier, vacated the administration's blanket pause on wind authorizations as a violation of the Administrative Procedure Act.¹²⁶ The Department of the Interior then paused the leases of five offshore wind projects, including Vineyard Wind, citing national-security and radar-interference concerns drawn from classified reports, concerns that had been addressed in the original permitting through Defense Department consultation.¹²⁷ Vineyard Wind sued, and in January 2026 a court preliminarily enjoined the stop-work order; parallel injunctions issued for the four other projects, and Vineyard Wind was completed in March 2026.¹²⁸

One distinction is worth keeping clean. The turbine-blade failure at Vineyard Wind in July 2024 was an operational and manufacturing problem, not a permitting one, and it is not folded into the permitting-delay account here.

Revolution Wind is a 704-megawatt project off the Rhode Island coast, sized to serve roughly 350,000 homes. The Bureau of Ocean Energy Management approved its site assessment plan in October 2017, issued the Record of Decision in August 2023, and approved the construction and operations plan that November. Onshore construction began in August 2023 and offshore work in January 2024. On August 22, 2025, more than two years into construction, the Bureau ordered all work on the outer continental shelf halted, citing national security.¹²⁹

¹²⁴ For the project chronology and the litigation dockets cited throughout this subsection, see Harv. L. Sch. Envtl. & Energy L. Program, *Federal Offshore Wind Deployment* (updated Mar. 23, 2026), <https://eelp.law.harvard.edu/tracker/federal-offshore-wind-deployment/>; Bureau of Ocean Energy Mgmt., *Vineyard Wind 1*, <https://www.boem.gov/renewable-energy/state-activities/vineyard-wind-1>.

¹²⁵ *Nantucket Residents Against Turbines v. Bureau of Ocean Energy Mgmt.*, 100 F.4th 1 (1st Cir. 2024), *cert. denied*, No. 23-337 (U.S. Jan. 13, 2025).

¹²⁶ *New York v. Trump*, No. 1:25-cv-11221 (D. Mass. Dec. 8, 2025) (order granting summary judgment).

¹²⁷ U.S. Dep't of the Interior, *Trump Administration Protects U.S. National Security by Pausing Offshore Wind Leases* (Dec. 22, 2025), <https://www.doi.gov/pressreleases/trump-administration-protects-us-national-security-pausing-offshore-wind-leases>.

¹²⁸ *Vineyard Wind 1 LLC v. U.S. Dep't of the Interior*, No. 26-cv-10156 (D. Mass. Jan. 27, 2026) (preliminary injunction). Parallel injunctions issued in *Revolution Wind, LLC v. Burgum*, No. 1:25-cv-02999 (D.D.C.); *Empire Leaseholder LLC v. Burgum*, No. 1:26-cv-00004 (D.D.C.); *Va. Elec. & Power Co. v. U.S. Dep't of the Interior*, No. 2:25-cv-00830 (E.D. Va.); and *Sunrise Wind LLC v. Burgum*, No. 1:26-cv-00028 (D.D.C.).

¹²⁹ Gearon Declaration, *supra* note 16, ¶¶ 9 (BOEM approval of the site assessment plan on October 12, 2017), 14 (Record of Decision issued August 21, 2023, and letter documenting approval of the construction and operations

By then the project was roughly eighty percent built. All sixty-seven monopile foundations were installed, about seventy percent of the turbines erected, both thirty-nine-mile export cables laid, and the onshore substation more than eighty-five percent complete. Roughly five billion dollars had been spent or committed. Eighteen vessels were mobilized under contract, several of them specialized and booked years in advance, and the developer estimated losses above two million dollars a day while they sat idle. More than 2,000 workers had put in roughly two million labor hours. The building trades expected another 286,749 hours on the project, carrying about nineteen million dollars in wages and more than nine million in benefit contributions.¹³⁰

A court stayed the order in September 2025 and enjoined its enforcement. Four months later the Bureau issued a second order suspending all activity for ninety days, again on national-security grounds. That order came on December 22, 2025, the same day Interior paused the leases of every large-scale offshore wind project then under construction in the country, Revolution Wind among them. A second injunction followed in January 2026.¹³¹ The general president of the Laborers' International Union of North America later described that halt to the Senate committee with jurisdiction over federal permitting, telling it that members working on the water received the order, missed their December 30 paycheck, were sent home, and waited on a federal judge to return them to work.¹³² That sequence is the part worth holding onto. Completing review did not protect the project, and neither did winning in court.

plan issued November 17, 2023); Murphy Declaration, *supra* note 51, ¶¶ 7, 11 (project capacity and configuration, and construction commencing onshore in August 2023 and offshore in January 2024).

¹³⁰ Murphy Declaration, *supra* note 51, ¶¶ 9 (approximately five billion dollars spent or committed), 10 (construction approximately eighty percent complete, all sixty-seven monopile foundations installed, roughly seventy percent of turbines constructed, both export cables installed, and the onshore substation more than eighty-five percent complete), 18 (losses estimated at more than two million dollars per day), 20 (eighteen vessels mobilized when the order issued); Gearon Declaration, *supra* note 16, ¶ 46 (workers and labor hours). On the work that would have followed, *see* NABTU Brief, *supra* note 69, at 16 (projecting 286,749 additional hours, approximately nineteen million dollars in wages, and more than nine million dollars in fringe benefit contributions). Those projections are the amicus's own and describe work anticipated rather than performed.

¹³¹ Order Granting Motion for Preliminary Injunction and Stay Pending Review, *Revolution Wind, LLC v. Burgum*, No. 1:25-cv-02999-RCL (D.D.C. Sept. 22, 2025), ECF No. 36, https://storage.courtlistener.com/recap/gov.uscourts.dcd.284486/gov.uscourts.dcd.284486.36.0_6.pdf; Order Granting Motion for Preliminary Injunction and Motion to Stay, *Revolution Wind, LLC v. Burgum*, No. 1:25-cv-02999-RCL (D.D.C. Jan. 12, 2026), ECF No. 63 (staying and enjoining the Bureau of Ocean Energy Management's December 22, 2025 order suspending all ongoing activities related to the project on the Outer Continental Shelf for ninety days for reasons of national security, and enjoining defendants from imposing or enforcing that order). On the same day's lease pause, *see* U.S. Dep't of the Interior, *Trump Administration Protects U.S. National Security by Pausing Offshore Wind Leases*, *supra* note 127 (pausing, effective immediately, the leases for all large-scale offshore wind projects then under construction, and listing Vineyard Wind 1, Revolution Wind, CVOW Commercial, Sunrise Wind, and Empire Wind 1).

¹³² *EPW Permitting Hearing, Part II*, *supra* note 68, at 71 (testimony of Brent Booker, General President, Laborers' International Union of North America).

What these cases support

The implication is uncomfortable for every reform agenda in this debate. There is no amount of process a project can complete that makes it durable against a change of administration. Vineyard Wind completed environmental review, prevailed in every court through the Supreme Court's denial of review, financed, and built, and it was still stopped. Revolution Wind was stopped twice, the second time after a federal court had already enjoined the first order. The chair of the Senate environment committee has described the same pattern from the other side of the aisle, warning that without congressional action "[e]ach new administration will reverse the policies of the last," and that communities have had projects "delayed or outright canceled by new administrations."¹³³ At the same hearing she identified what she had in mind, naming the Rhode Island offshore wind projects and grouping the Mountain Valley Pipeline with them as projects that had cleared the permitting process and were already under construction, some near completion.¹³⁴ That is the pairing this paper's own case record produces.

Streamlining environmental review does not reach this failure. It is the one gap a distinct category of reform is built to address: statutory protection for already-permitted projects against later revocation or halting. Proposals along these lines are now moving in Congress with bipartisan support, a signal that the durability problem is felt across the usual divides.¹³⁵ Whether such protection can hold is a separate question, since a statute is only as durable as the Congress that enacts it. But of the reform families surveyed here, this is the one matched to the failure the case record actually shows. The case also tests the paper's treatment of national security as a consideration rather than a trump card: here the frame was deployed against a project that had already cleared Defense Department consultation, and federal courts preliminarily enjoined the result in all five cases.

8.7 Cross-Case Lesson

No single factor explains any of these timelines, and each case points toward a different remedy. Gemini Solar needed no remedy; the system produced a sound decision in eleven months. Vineyard Wind completed every stage and was halted by executive action, a failure of durability across administrations that the reforms on the table reach only in part. Mountain Valley turned on judicial review and

¹³³ *EPW Permitting Hearing, Part II, supra* note 68, at 4-5 (statement of Sen. Shelley Moore Capito, Chairman). The two quoted passages appear in consecutive paragraphs.

¹³⁴ *EPW Permitting Hearing, Part II, supra* note 68, at 38.

¹³⁵ See, e.g., FREEDOM Act, *supra* note 97, § 12501 (barring an agency from revoking or halting a fully permitted project's authorization except on a showing of "clear, immediate, and substantiated harm" with no viable alternative, or that the authorization is illegal under Federal law and the order is the only available remedy to address that illegality); CERTAIN Act, *supra* note 96, § 2 (barring revocation or suspension of an existing authorization absent a court order, material breach, fraud, legal violation, or harm to life, property, or national security that is specific, immediate, substantial, and proximate and was not considered or reasonably anticipatable in the underlying review). The FREEDOM Act defines a fully permitted project as a covered energy project that has received a substantial majority of the authorizations required for it, so the protection reaches projects that have not obtained every authorization.

remedies, the hardest of the paper's fault lines. SunZia was a fast federal review embedded in a long project, delayed by a Defense Department conflict and cross-jurisdictional friction that lead-agency coordination, not environmental-review reform, would reach. Thacker Pass checked every legal box, drew friction from four separate bodies of law, and still left its central conflict unresolved, a matter of legitimacy that cannot be legislated into a schedule. Class VI involved no litigation and no opposition at all; its remedy is staffing and program design. A reform agenda calibrated to any one of these cases would fail against the others, which is the burden the Phase II analysis has to carry.

9. Conclusion: Toward Timely, Durable, Legitimate Decisions

The question at the center of this debate is not whether environmental review matters. It does, for environmental quality, for community trust, and for the legitimacy that makes decisions durable. Framing the issue as review versus building misstates it.

The real question is whether the federal system reliably produces decisions that are timely, durable, and environmentally sound at the scale the country now requires. On the evidence assembled here, it often does not. But the reason is the paper's central finding, and it is more specific than the usual diagnosis: delay is not the product of any single obstacle, least of all NEPA alone. It is the accumulation of many separately-defensible obstacles, each with its own cause and each requiring its own distinct remedy. That is why comprehensive reform keeps failing. A package calibrated to one kind of delay does nothing about the others, and the case record shows several different kinds at work.

Those obstacles do not yield to a single fix, and honesty about that gradient is what separates a useful diagnosis from a slogan. Some are genuinely engineerable: administrative capacity is a staffing and program-design problem, as the Class VI backlog shows; interagency conflict and staged approvals are a coordination and finality problem, as SunZia shows; sequential and duplicative review can be compressed without weakening standards, as FAST-41 and the 2023 NEPA provisions were designed to do. Some cannot be engineered at all, only earned: the legitimacy of a decision in a community that bears its burdens, as Thacker Pass shows, cannot be legislated into a schedule.

One obstacle lies only partly within the reach of procedural reform. No quantity of completed process makes a decision durable against a change of administration. Mountain Valley Pipeline held a valid federal certificate and still lost its accompanying permits to years of serial litigation, ended only by an extraordinary act of Congress; Vineyard Wind completed every stage of review, defeated every challenge through the denial of certiorari, financed and built, and was halted anyway. Durability failed a pipeline and an offshore wind farm alike. Streamlining review does not reach this, and compressing litigation windows does not reach it, because neither project lost in the ways those reforms address. The reform aimed directly at it, statutory protection for already-permitted projects against revocation and stop-work, is now before Congress but unenacted, and would itself be only as durable as the Congress that passed it.

Several conclusions follow, and they are the foundation Phase II builds on. The permitting problem is broader than NEPA and binds only on a project's critical path. The federal system is fragmented and often poorly coordinated, and gas and electricity sit in different legal architectures, which is why

transmission reform becomes a federalism fight. The legal and governance baseline is itself in motion, reshaped by the courts in *Loper Bright* and *Seven County* and by FERC in Orders 1920 and 2023, independent of any congressional action. Legitimate review matters and can improve projects, through routing, mitigation, consultation, and monitoring; the goal is better review, not weaker review. Much consequential delay is administrative or the product of late engagement, both addressable without weakening substantive standards. And the strongest common ground improves governance quality, while the deepest disagreements are about values and law, which is why coalitions fracture even when nearly everyone agrees the system needs to work better.

A better system would make decisions that are faster, clearer, more transparent, more evidence-based, and more durable, without sacrificing the legitimacy that makes them stick. That is the standard against which the Phase II White Paper will evaluate specific reform proposals, asking of each not merely whether it is faster, but:

- Does it make decisions faster and more durable, preserving legitimate review while cutting avoidable delay?
- Is it honest about distributional effects, and does it address capacity, not just procedure?
- Is it matched to the actual obstacle, judged by which of the distinct problems it solves and what it leaves untouched?
- Is it sustainable across administrations and across the new judicial baseline?

No single reform will answer all of these, and the record suggests that one problem, durability across administrations, is one the reforms now before Congress reach only in part. Naming that honestly is not a counsel of despair. It is the precondition for the sober, obstacle-by-obstacle work the Phase II analysis has to carry.

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About RBI

The Responsible Business Initiative is a 501(c)(3) organization working to find bipartisan common ground on policy questions where business and investment decisions have become politicized. Corporate and investment communities depend on certainty in legal precedent and regulatory frameworks, and politicization erodes it. RBI combines policy, political, and legal analysis to support durable solutions across the political spectrum.