

# NISKANEN C E N T E R

## TRANSMISSION STALLED: Siting Challenges for Interregional Transmission

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### Key Takeaways

- Interstate and interregional electricity transmission are crucial for achieving a net-zero carbon electricity sector.
- High-voltage transmission among regions provides aggregate resilience and reliability benefits beyond the individual benefits to each state.
- The decentralized siting and permitting process for transmission lines causes significant project delays and cancellations.
- Primary federal siting authority would provide certainty to developers, support transmission expansion, and unlock progress towards a decarbonized grid.
- Any expansion of federal eminent domain authority must address existing problems in the implementation of the Natural Gas Act and provide stronger landowner protections.

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## Introduction: Electricity transmission is a bipartisan issue

In a country seeking investment in rural areas and greater access to clean energy, long-distance electricity transmission is infrastructure that could generate meaningful benefits. By connecting rural areas with high renewables- potential to large demand centers, long-distance transmission can provide access to low-carbon energy for consumers and economic opportunity for both landowners and energy producers in rural areas. Interstate and interregional transmission can also decrease costs for consumers and increase the resilience of the grid. But development of this valuable and flexible asset for a clean grid and a growing economy needs to accelerate.

Transmission is winning the attention of policymakers. The Biden administration has set out a goal of net-zero carbon electricity by 2035.<sup>1</sup> The American Jobs Plan released on March 31 proposes a 10-year investment tax credit to support 20 gigawatts of high-voltage transmission line capacity to “move cheaper, cleaner electricity.”<sup>2</sup> Last year, the House Select Committee on the Climate Crisis went further and called for Congress to “upgrade and expand electric transmission infrastructure to tap new renewable energy sources, develop a long-term electric infrastructure strategy, and build toward a National Supergrid.”<sup>3</sup> Most transmission existing today has a limited geographic footprint, and power typically flows from a power plant to a particular load center. A National Supergrid is a series of interconnected, high-capacity, high-voltage lines that would expand markets for clean energy by transmitting electricity around the country.

This is not a Democrats-only issue. Chuck Grassley, the Republican senator from Iowa, has recognized the economic value of wind energy for three decades, authoring the wind energy production tax-credit legislation in 1992. He has clearly articulated the benefits of wind development for his

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1. Joe Biden, “The Biden Plan to Build a Modern, Sustainable Infrastructure and an Equitable Clean Energy Future,” 2020.

2. The White House. [FACT SHEET: The American Jobs Plan](#), 2021.

3. House Select Committee on the Climate Crisis, “[Building a Clean and Resilient Electric Grid to Drive Economy-Wide Decarbonization by Midcentury](#),” 30 June 2020.

state, including rural areas, and rightly noted that “new transmission lines have the opportunity to make wind power more reliable, accessible and available to the areas they serve.”<sup>4</sup>

In this policy brief we describe how a climate-resilient grid will deliver aggregate national benefits beyond that which are realizable by individual states. We then use recent cases to illustrate how state-based siting and permitting policies are incompatible with development of interstate transmission lines. Finally, by examining the patchwork of available federal authorities, we make the case for congressional action to grant primary siting authority to the Federal Energy Regulatory Commission (FERC) for high-capacity interstate transmission lines.

## Interstate transmission lowers costs, increases revenue, and creates jobs

An effective clean-electricity transition must affordably integrate renewable energy resources and provide services that are resilient to changing weather and electricity use patterns. The electricity sector is expected to change dramatically to meet decarbonization goals, with some pathways showing demand doubling or more as cars, households, and industry are increasingly electrified. This will require similar expansion in transmission capacity to serve increasing demand.<sup>5</sup>

Yet, in part due to slow demand growth, expansion in transmission capacity has slowed considerably in the past decade. Total transmission miles have grown by 6 percent in the last 3 years,<sup>6</sup> but this encompasses all project types. Transmission connecting states and regions — the kind of transmission that builds a more flexible and reliable grid at least cost — is essentially stalled. Local reliability projects, which increase capacity within a utility footprint and are exempt from FERC’s competitive bidding requirements, continue to flourish, at increasing cost to residential and small-business customers and increasing profit for utility monopolies.<sup>7</sup> More than two-thirds of the transmission miles planned or built in the last five years have been reliability projects.<sup>8</sup>

Transmission expansion has been undertaken in the past on a regional basis, leading to economic benefits and increased renewable energy integration. In 2011, Midcontinent ISO, a membership organization of utilities serving the upper Midwest, undertook 17 high-voltage transmission projects, called “multi value projects.” The projects created more than 17,000 local jobs, generated more than \$1 billion in local investment, and saved more than \$12 billion in congestion costs and deferred investment.<sup>9</sup> In 2008, Texas underwent transmission expansion in response to a legislative requirement to increase access to in-state wind energy resources. The \$7 billion investment in transmission lines is projected to return between \$8.5 billion and \$13 billion through direct

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4. Chuck Grassely, “Op-Ed: Wind Powers Big Opportunity in Rural America,” *Globe Gazette*, August 15, 2019.

5. Caitlin Murphy et al., “High Electrification Futures: Impacts to the U.S. Bulk Power System,” *The Electricity Journal* 33, no. 10 (December 2020): 106878.; Eric Larson et al., *Net-Zero America by 2050: Potential pathways, infrastructure, and impacts*. (Princeton University, December 15, 2020).

6. North American Electric Reliability Corporation, *Element Inventory*, Transmission Availability Data System, 2019.

7. Ari Pesko, “To catalyze transmission development, end the utility protection racket,” *Utility Dive*, February 2021.

8. North American Electric Reliability Corporation, *Element Inventory*.

9. *A 2017 Review of Public Policy, Economic, and Qualitative Benefits of the Multi-Value Project Portfolio*, MTEP 17 MVP Triennial Review Report (Midcontinent Independent System Operator, September 2017).

payments to landowners and tax revenues for local communities from existing renewable generation.<sup>10</sup>

These were highly coordinated efforts with limited geographic impact and clear designation of beneficiaries. Conflicting state priorities and shifting regional footprints, become a barrier to achieving national priorities.<sup>11</sup> The significant interregional benefits that many studies have shown transmission could yield are unlikely to be realized through regional planning and state-level siting processes.

## Siting and permitting are a bottleneck in transmission development

The benefits of expanding transmission capacity are well established from a technical and economic point of view. New transmission is constrained by planning limitations, permitting delays, and financing uncertainty. In 2019, New Mexico Senator Martin Heinrich first introduced a bill to support an investment tax credit for transmission infrastructure. The bill was reintroduced on March 25, and similar ideas are proposed in the American Jobs Plan.<sup>12</sup> Senator Heinrich also introduced a bill in 2019 that would have required FERC to update its interregional planning orders. FERC Chairman Richard Glick has stated that updating interregional planning is one of his priorities for the commission.<sup>13</sup> Reforms to planning and financing mechanisms will help unlock the benefits of transmission — but only if what is planned, proposed, and financed can be built.

Siting is often used as a shorthand for two different processes: receiving a certificate of public convenience and necessity (CPCN) from the states through which the line traverses (permitting construction), and the specific selection (siting) of the line location. The permit typically conveys eminent domain authority in general, but the siting choice determines which landowners are impacted. In some states these are a joint process; in others, they are separate.

### Multistate lines face multiple roadblocks

Under the current system of planning and permitting, high-voltage interstate transmission lines take eight to ten years on average to complete, if they succeed at all. Four years or more of that timeline is absorbed by the regulatory hurdles, particularly siting the lines and acquiring the permits and land rights to build.<sup>14</sup>

Transmission lines that traverse multiple states must satisfy the requirements of all states along a planned route. The timelines for each state are different, as are the standards each state uses for the evaluation of public convenience and necessity.<sup>15</sup> Some states require a developer to be a recognized utility provider within the state, an arguably anachronistic requirement. In other

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10. Joshua Rhodes, “[The Economic Impact of Renewable Energy in Rural Texas](#),” Conservative Texans For Energy Innovation, August 10, 2020.

11. For example, Midcontinent ISO’s area expanded to include a southern region along the Mississippi.

12. S.1016 - “[A bill to amend the Internal Revenue Code of 1986 to establish a tax credit for installation of regionally significant electric power transmission lines](#),” 117th Congress (2021-2022).

13. Arianna Skibell, “[Glick unveils environmental justice, climate plans](#),” EnergyWire, February 12, 2021.

14. “[SPP 101: an introduction to Southwest Power Pool](#),” Southwest Power Pool, January 2020. pg 100.

15. Liza Reed et al., “[Expanding Transmission Capacity: Examples of Regulatory Paths for Five Alternative Strategies](#),” *The Electricity Journal* 33, no. 6 (July 2020).

states the siting process is handled at the county level, placing an even higher regulatory burden on transmission developers. High-voltage transmission lines often provide their highest overall value to the system as a whole, and may only provide modest benefits to a particular state. It can be difficult or impossible for developers of these lines to convince multiple states that the benefits are enough. Oftentimes developers choose not to pursue these projects at all. The national transmission system, which could be the backbone of our electricity system and decarbonization efforts, suffers as a result.<sup>16</sup>

A 2016 review of transmission projects by the Lawrence Berkeley National Lab identified permitting as one of the top four factors affecting transmission projects.<sup>17</sup> Referring to multi-state siting and permitting, the report notes: “Regardless of which process concludes first, the process that concludes last determines when construction can be completed.” Of the five projects in process at the time of the Lawrence Berkeley report and scheduled for completion by 2020, only one project is complete today. That project is a single-state project moving hydropower from Canada into Minnesota.

The Grain Belt Express, for example, conceived to bring 4000 megawatts of wind energy from Kansas through Missouri and Illinois into Indiana and to be energized in 2021, is still seeking approvals. Indiana, Illinois, and Kansas initially approved the line, but the Missouri Public Service Commission did not find it provided sufficient benefits to Missouri and denied it for more than four years.<sup>18</sup> The project is now seeking reapproval from Illinois.<sup>19</sup>

In 2009, the Potomac-Appalachian Transmission Highline (PATH) Project, traversing Maryland, Virginia, and West Virginia, experienced a quick cancellation rather than a drawn-out process due to interstate issues. Maryland and West Virginia regulators both opposed the project, and Virginia’s State Corporation Commission refused to address the project until there were more details provided from the other states. The project was canceled in 2012.<sup>20</sup>

The Independence Energy Connection consists of two proposed lines connecting Pennsylvania and Maryland, submitted for permitting and siting in both states in 2017. The western line was approved by Maryland as proposed, and the Maryland Public Service Commission proposed an alternative routing for the eastern line in 2019.<sup>21</sup> Neither the originally proposed routes nor the alternative have been successfully permitted in Pennsylvania. The presiding administrative law judge found in December 2020 that the benefits were not convincingly established, even though the regional transmission organization has identified these as high priority lines for ensuring reliability and relieving congestion.<sup>22</sup> The future of these lines is now unclear.

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16. *Superpower*, by Russell Gold, details the many barriers faced by Clean Line Energy Partners as they attempted to build high voltage direct current transmission and for wind and solar energy.

17. Joseph Eto, *Building Electric Transmission Lines: A Review of Recent Transmission Projects, Energy Analysis and Environmental Impacts Division*, LBNL-1006330 (Lawrence Berkeley National Laboratory, September 2016).

18. *Ibid.*

19. Corina Rivera-Linares, “Grain Belt Express will likely seek regulatory approval in Illinois in 2021,” Transmission Hub, December 21, 2020.

20. Eto, *Building Electric Transmission Lines*.

21. “Independence Energy Connection,” Transource Energy LLC, June 2020.

22. Jana Benscoter, “Our farmland is precious’: Judge sides with landowners in their fight against central Pa. power line project,” PennLive, December 2020.

A 2012 Vanderbilt Law Review article identifies interstate transmission lines as a “federalism mismatch,” because the land-use authority is granted at the state or local level even though the benefit of the infrastructure is spread across the region.<sup>23</sup> Realizing the benefits of interstate transmission to provide lowest-cost, reliable, and carbon-free electricity may not be possible under the current siting and permitting framework.

### **Related issues: NEPA permitting and cost allocation**

#### **NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)**

One of the other permitting hurdles often faced by transmission lines is adhering to the National Environmental Policy Act (NEPA), which can require environmental assessments and environmental impact statements for major federal actions.<sup>24</sup> This is a broad reaching requirement that does not just impact federally-led projects. An inter-regional transmission project that traverses federal land or relies on a federal loan, for example, will qualify the project for NEPA review. The existing NEPA process can significantly complicate many infrastructure projects including transmission.<sup>25</sup> This brief does not address potential issues or changes to NEPA, but they will be an important part of a transmission solution.

#### **COST ALLOCATION**

Paying for interregional lines is complicated by “cost allocation.” Under FERC order 1000, the cost of building interregional lines should be allocated among the beneficiaries. For transmission lines that are not built by private developers, this is an important factor in understanding what constituencies should bear the cost increase in their utility bills. Order 1000 did not establish clear metrics for identifying beneficiaries. As noted in the discussion of interregional lines, the beneficiaries can be vast because of the system impacts. Cost allocation is a barrier for non-merchant lines that cross electricity service boundaries that must be clarified to spur development.

## **Moving forward: Federal siting authority for interstate high-voltage lines**

Inter-regional transmission lines are in the national public interest. They will be critical to decarbonizing the energy sector, yet they face much higher, and often insurmountable, approval barriers compared to other energy infrastructure. Extended inquiries into the benefit of a proposed line to any particular state create a national burden in the form of a slow and expensive energy transition. Meanwhile, the delays provide a competitive advantage to incumbent utilities and regional planners who may not favor enabling infrastructure in the form of interregional transmission projects.<sup>26</sup>

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23. Alexandra B. Klass and Elizabeth J. Wilson. “Interstate transmission challenges for renewable energy: A federalism mismatch.” *Vanderbilt Law Review* 65 (2012): 1801.

24. 42 U.S.Code §4321 et seq.

25. For further reading, see: Alon Levy, “So You Want to Do an Infrastructure Package,” Niskanen Center, March 16, 2021 and Brink Lindsey and Samuel Hammond, “Faster Growth, Farrier Growth: Policies for a High Road, High Performance Economy,” Niskanen Center, October 5, 2020.

26. Ari Pesko, “To catalyze transmission development, end the utility protection racket,” *Utility Dive*, February 2021.

Granting siting and permitting authority for interregional lines to the federal government — specifically, FERC — is the best way out of this morass.

The aggregate national benefits of transmission expansion mark its permitting as a federal responsibility. The existing federal authority for such permitting is dispersed across multiple agencies and constrained by geographic and procedural barriers. This structure creates uncertainty for developers and delays for projects. Making a single agency responsible for permitting and siting high-voltage interstate transmission lines is an appropriate and vital step in exercising federal authority.

There are currently four pathways to federal authority, all of them inadequate to the job:

#### *National interest electricity transmission corridors*

Lines within national interest electricity transmission corridors (NIETCs) fall under the so-called “backstop” authority granted to FERC in the Energy Policy Act of 2005. This authority allows FERC to issue CPCNs and approve siting for lines in designated areas if a state has withheld approval for over a year. This authority is granted only for lines in a designated NIETC. These corridors must be defined by the Department of Energy through a congestion study, and the development must qualify under additional criteria set out in the 2005 law. Initial designations of NIETCs were rejected by the Supreme Court as arbitrary and capricious.<sup>27</sup> Later designations applied a narrower geographic scope but faced court challenges in the application of the backstop authority. The U.S. Court of Appeals for the Fourth Circuit’s 2009 decision in *Piedmont Environmental Council v. FERC* determined that the backstop could not be implemented to override rejections, only delays, so the developers of the projects described above, as well as the line at issue in *Piedmont*, could have no recourse if other courts found similarly.<sup>28</sup>

#### *Power marketing administrations*

Power marketing administrations were originally established to facilitate the grid integration of hydropower from federally owned dams. Section 1222 of the 2005 Energy Policy Act allows two of these administrators, known by the acronyms WAPA and SWPA, to partner with a third party to develop transmission lines anywhere in the states in which they operate. Using this authority, siting falls under federal jurisdiction due to the federal ownership of the project, but it is only applicable in areas west of the Mississippi. Of particular concern for developers is the lack of certainty in these partnerships, as a new administration could rescind previous agreements. Clean Line Energy Partners’ “Plain and Eastern Clean Line” faced such an issue.<sup>29</sup>

#### *Lines that traverse federal land*

The federal government also has siting authority for lines that traverse federal lands managed by the Department of the Interior. This authority is limited to the parts of the lines that traverse

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27. *California Wilderness Coalition v. Dept. of Energy*, 631 F.3d 1072 (9th Cir. 2011)

28. *Piedmont Environmental Council v. FERC*, 558 F.3d 304 (4th Cir. 2009)

29. Department of Energy, “Plains & Eastern Clean Line Transmission Line,” Office of Electricity, updated 2018.

those lands, however, so lines that also traverse private land to connect to the grid still must follow state siting requirements.

### *Lines that cross international borders*

Finally, presidential permits are an executive authority for transmission lines that cross international boundaries. These have little relevance to interstate lines.

### **Proposals to amend existing authority will still result in a slow and complicated system**

Neither the use of NIETCs nor Section 1222 partnering have resulted in a completed transmission project since the authorities were established. A 2020 Columbia Center for Global Energy Policy report describes how these authorities could be applied by federal agencies to build transmission lines without legislative action.<sup>30</sup> However, this approach would require a series of coordinated actions by agencies and could still face prolonged judicial scrutiny.

The existing authorities could be expanded by legislative action. The POWER ON Act introduced by Representative Scott Peters of California and Section 213 of the CLEAN Futures Act, recently introduced in the House, both propose to amend the NIETC language to provide federal authority in the case of application denials and expand the criteria by which corridors can be designated to include integration of clean energy. The “backstop” authority still does not kick in until one year after a project applies to the state boards, however, so the timing uncertainty and delay for transmission developers would remain, as would the limitation of federal authority to these corridor designations.

Legislation could expand the applicability of section 1222 of the 2005 Energy Policy Act to include the remaining power marketing administration. These footprints still exclude the Northeast, but further legislation could designate a new power marketing administration to serve this area. But adding an additional federal authority creates barriers rather than efficiencies. Lines crossing power marketing regions or connecting to NIETCs would now have to coordinate across multiple federal agencies.

The American Jobs Plan proposes that the Department of Transportation and the Department of Energy study siting transmission lines along highways and rail.<sup>31</sup> Proposals also exist to expand capacity by converting alternating current lines to direct current lines.<sup>32</sup> These proposals have merit for limiting disturbances to new land and increasing efficiency of land use. Such projects may also benefit from shorter siting timelines. As far as building towards a decarbonized grid though, these proposals represent another patch, not a solution.

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30. Avi Zevin et al., “Building a New Grid Without New Legislation: A Path to Revitalizing Federal Transmission Authorities,” (The Center on Global Energy Policy at Columbia University SIPA, December 2020).

31. The White House. *FACT SHEET: The American Jobs Plan*, 2021.

32. Liza Reed, et al. “Converting existing transmission corridors to HVDC is an overlooked option for increasing transmission capacity.” *Proceedings of the National Academy of Sciences* 116, no. 28 (2019): 13879-13884.

## Contrasting energy infrastructure regulations: Natural gas pipelines

Natural gas pipeline infrastructure does not face the same siting challenges. The Natural Gas Act grants siting authority to FERC for interstate natural gas pipelines. The average permitting time is 18 months, less than half of the average interstate transmission permitting time.<sup>33,34</sup> This single, central authority, in which FERC sites and permits lines and coordinates environmental reviews, is why the United States was able to respond quickly to the shale gas boom. Some of FERC's practices have been unfair to landowners, as detailed in the next section. But with adequate protections, federal control of interstate transmission siting would be far superior to our current patchwork system.

## FERC-led siting is the best path to effective transmission expansion

Establishing a new, primary federal authority for siting transmission lines is the best approach to relieve the particular challenges faced by lines that cross multiple states.

A single siting authority is the most efficient and effective way to build towards national super-grid. The current patchwork system of federal siting, even if amended to strengthen authority, would be governed by conflicting goals, metrics, and expertise within the different agencies. The result would still be a patchwork transmission system. Recent studies from MIT,<sup>35</sup> Princeton,<sup>36</sup> and NREL<sup>37</sup> demonstrate that interstate lines and interregional coordination are critical to achieving a cost-effective grid. Clear and consistent rules and metrics, which can only come from a single governing agency, would allow transmission developers, utilities, and generators to unlock the clean energy resources available across the nation.

This type of authority is best granted to FERC, which has relevant siting experience in natural gas, including coordinating various permitting requirements across agencies. However, any new federal eminent domain authority must be carefully designed to provide stronger protections for private landowners than currently provided under the Natural Gas Act.

## Avoiding the pitfalls of expansive eminent domain authority

When considering reforms for transmission infrastructure, policy makers should consider how expansive FERC siting authority under the Natural Gas Act has disadvantaged private citizens and landowners.

In practice, FERC provides limited notice of landowners' rights, limited notice of applications for natural gas lines, and little meaningful access for impacted landowners. FERC delegates its statutory and constitutional obligations to provide notice to landowners to pipeline companies,<sup>38</sup> and

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33. EIA, *About U.S. Natural Gas Pipelines*. based on data through 2007/2008 with selected updates

34. Paul W. Parfomak, "Interstate Natural Gas Pipelines: Process and Timing of FERC Permit Application Review," (Congressional Research Service, January 2015).

35. Patrick Brown and Audun Botterud, "The Value of Inter-Regional Coordination and Transmission in Decarbonizing the US Electricity System," *Joule* 5, no. 1 (December 2020): 115-134.

36. Larson et al., *Net-Zero America*

37. Aaron Bloom et al., *The Value of Increased HVDC Capacity Between Eastern and Western U.S. Grids: The Interconnections Seam Study*, NREL/JA-6A20-76580 (National Renewable Energy Laboratory, October 2020)

38. 18 CFR 157.6(d)

fails to confirm that such notice was actually provided. Additionally, landowners must intervene in FERC’s process in order to challenge a pipeline permit.<sup>39</sup> Neither the NGA nor FERC provide a clear process or timeline for doing so. Indeed, FERC establishes ad hoc timelines rather than a fixed time for intervention, and there are examples of FERC providing landowners with at least three inconsistent and contradictory sets of instructions for intervening. This has resulted in landowners being given as little as 13 days to intervene in proceedings whose purpose is to take their property. Though the practice has been recently rejected by the U.S. Court of Appeals for the D.C. Circuit, FERC has a long history of indefinitely delaying landowner rehearings (and thereby delaying landowners’ access to judicial review) by what are colloquially known as “tolling orders,” which prevented landowners from challenging FERC’s decision.<sup>40</sup>

FERC’s record reveals other problems, too. FERC can issue “conditioned certificates” allowing eminent domain, even though the pipeline in question has not, and may never, obtain other required permits.<sup>41</sup> With a FERC certificate in hand, courts currently will grant pipelines so-called quick-take possession of property, whereby a company takes land prior to remuneration, removing an incentive for the company to reimburse landowners on a reasonable timeline.<sup>42</sup> FERC also establishes conditions on how companies construct pipelines and protect the remainder of landowners’ property, but the agency consistently fails to respond to any landowner complaints regarding violations.<sup>43</sup> These practices allow for takings and destruction of private land in absence of oversight and without a fully permitted project. What’s more, if the project never gets built, or a court finds that the certificate was invalid, the pipeline company gets to keep the easements obtained from landowners, including all perpetual land use restrictions, however irrelevant in the absence of a pipeline.

Private landowners should have notice, adequate opportunity to intervene and clear instructions on how to do so, reasonable timelines for remuneration, and rights to reclaim their land if the permitting process fails or is found to be in error. These rights are infringed under the FERC’s use of permitting authority in the Natural Gas Act. Future authority must be clearly bounded and include avenues for recourse.

## Conclusion: Congress should establish primary siting authority at FERC

There is a strong case that transmission lines are in the national interest. Multiple recent studies illustrate that transmission is critical and cost-effective for decarbonizing the electricity sector and that lines connecting different regions of the U.S., in particular, are necessary. However, these lines face the most regulatory difficulty due to the highly variable interpretation of public necessity by states.

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39. 5 U.S.C. 717r(b)

40. *Allegheny Defense Project v. FERC*, 964 F.3d 1 (2020).

41. *Appalachian Voices v. FERC*, 2019 WL 847199 (D.C. Cir.)

42. *Transcontinental Pipeline v. Permanent Easements for 2.14 Acres*, 907 F.3d 725 (3rd Cir. 2018)

43. See for example: *Portland Nat. Gas Transm. Sys. v. 4.83 Acres of Land*, 26 F.Supp.2d 332, 339 (D.N.H. 1998); *Millennium Pipeline Co. v. Certain Permanent & Temporary Easements*, 777 F.Supp.2d 475, 480-81 (W.D.N.Y. 2011).

Existing federal regulatory authority is insufficient to support interregional transmission expansion. Establishing a primary siting authority is the most efficient and appropriate deployment of federal resources. It will provide certainty to developers of transmission and generation and create an opportunity to reasonably protect landowner interests. This will require congressional action.

FERC has existing expertise in natural gas infrastructure that can be leveraged in developing transmission siting expertise. FERC's history of infringing on landowner rights, however, illustrates that any future eminent domain authority granted to the commission must clearly prescribe processes and timelines for landowner notice and engagement.

The expected transformation in the electricity sector to meet decarbonization goals will require a parallel transformation in electricity infrastructure siting. Establishing siting authority at FERC for high-voltage interstate transmission lines would clarify and accelerate timelines, and protect landowner rights.

## About the author

Liza Reed is the research manager for low carbon technology policy at the Niskanen Center. She is an expert in High Voltage Direct Current, electricity transmission, and technology innovation. Before joining the Niskanen Center, she worked on energy funding at the Great Lakes Energy Institute at Case Western Reserve University, wireless communication technology development at immobly, and business analysis at Capital One Finance.

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