



Bipartisan Policy Center

Linear Infrastructure: Options for Efficient Permitting of Transmission and Pipeline Infrastructure

Accelerating the federal permitting process for clean energy and other infrastructure projects is critical to lowering emissions, reducing energy costs, increasing energy reliability, and enhancing U.S. energy and supply chain security. Building linear infrastructure—transmission lines and pipelines for hydrogen, carbon dioxide (CO₂), and natural gas—is essential to meeting these goals. Linear infrastructure transports energy, fuels, and CO₂ from the point of creation to where they are needed, an enormous and often underrecognized task that requires substantial investment and planning. The permitting process for interstate linear infrastructure projects introduces especially unique and complex challenges. In May 2023, the Bipartisan Policy Center convened a private roundtable under the Chatham House Rule that brought together experts from across the political spectrum to explore a menu of options for improving the permitting system for linear infrastructure and achieving the shared goals of energy reliability and affordability, environmental responsibility, public participation, and decarbonization.

This roundtable was the second in a series on permitting. The first roundtable focused on public engagement, with the takeaways published in the issue brief titled *Empowering Communities While Streamlining Clean Infrastructure Permitting*¹. The goal of this roundtable was to have robust discussions on a range of policy options, weighing the pros and cons of each.

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ENERGY PROGRAM
July 2023

INTERSTATE TRANSMISSION

Electric transmission is the means to move large amounts of electricity from generation sources (such as wind, solar, nuclear, natural gas, and coal) to the point of distribution, and eventually to consumers. The transmission network is like an interstate highway system for electricity, and the electric distribution system is like the network of state and local roads. As electricity demand grows and the economy becomes more electrified, the need for new transmission increases and will continue to rise rapidly. New transmission infrastructure is necessary to ensure that the U.S. energy system is secure, reliable, resilient, and efficient, while also allowing regions with untapped energy generation potential to capitalize on the economic opportunity.

Issuing permits for interstate transmission infrastructure often requires action by multiple levels of government (federal, state, local, tribal, etc.) across multiple states—each with its own processes and rules. This labyrinth can make the permitting process cumbersome, contentious, and time-consuming, particularly for geographically extensive interstate transmission projects crossing multiple states. Obtaining permits for a complex interstate transmission line can take upward of 10 years. Meeting expected power demand, particularly from low-carbon emission sources, in an increasingly electrified economy cannot be achieved if the permitting process takes more than a decade to connect new energy projects to the grid.

Roundtable participants discussed several ideas on how the federal government could speed up the permitting and deployment of interstate transmission. Participants generally agreed that any political consensus or legislative deal on comprehensive permitting reform would have to include meaningful changes that accelerated and increased transmission build-out.

Option: Bolster FERC's Backstop Siting Authority for Transmission

Roundtable participants discussed bolstering the Federal Energy Regulatory Commission's (FERC) existing backstop siting authority, which was included in the Bipartisan Infrastructure Law (BIL) but is still being implemented. The BIL directs the U.S. Department of Energy (DOE) to designate [National Interest Electric Transmission Corridors](#)² through the issuance of a study and a report within three years. BIL includes language authorizing FERC to issue a permit where a state authority "has denied an application seeking approval" for the siting of electric transmission facilities located within a DOE-designated National Interest Corridor. Transmission advocates have argued that this two-step procedure of first requiring DOE corridor designation and only then allowing FERC to step in is too cumbersome of a process.

Recent legislative proposals have embraced expanding FERC's backstop authority to issue permits for the construction of transmission infrastructure without requiring a DOE corridor designation. For example, the [Building American Energy](#)

[Security Act of 2023](#)³ (S. 1399), introduced by Sen. Joe Manchin (D-WV), would give FERC backstop authority to permit transmission for lines of “national interest,” if a state fails to permit the project after one year from application. The bill defines an interstate or interregional line as being in the national interest when the line is needed to reduce transmission congestion in interstate commerce, protect or benefit consumers, and enhance energy independence.

Although some roundtable participants voiced concern that FERC could overrule states and issue permits for a transmission line that had been explicitly denied, most participants generally supported both the commission’s backstop siting authority and bolstering it to improve FERC’s effectiveness. Some participants were reluctant to back legislation that would supersede FERC’s current efforts to implement its recently provided backstop authority under the Bipartisan Infrastructure Law. They preferred, instead, to wait for DOE to issue its report on National Interest Corridors and to see how FERC’s implementation proceeds. Additionally, some participants felt that support for siting authority would be broader if it was limited to interregional transmission instead of interstate. Interregional transmission can be higher voltage (which allows electricity to be transported more efficiently across longer distances), can cross a region or numerous states, and can open up significant opportunities to move power long distances to where it is needed (load centers).

Option: Provide FERC with Primary Siting Authority for Interstate Transmission

During the discussion, roundtable participants explored granting FERC primary siting authority for interstate transmission lines. Such a step would resemble the authority FERC currently possesses for siting natural gas pipelines, in which the agency has the primary permitting responsibility. By having primary siting authority, FERC would take the lead in approving the location of and issuing permits for interstate transmission lines, rather than the current process which relies on multiple state and local jurisdictions.

Under this proposal, FERC would have the authority to grant permits for transmission lines, independent of state actions, while still undergoing the necessary environmental review process. This would effectively circumvent potential delays caused by state procedures, including instances of inaction. The result would be a more streamlined and predictable process by reducing jurisdictional overlap. Many participants in the roundtable supported this proposal, believing that expanding FERC’s authority to expedite transmission lines’ permitting process was logical and necessary.

However, some participants raised concerns about FERC potentially overriding state and utility decisions, particularly in “regulated states” where state utility commissions have the ultimate authority to ensure reliability and approve electric

system plans, including transmission. Others noted that FERC already regulates wholesale markets, including in regulated states, so expanding the commission's permitting authority would not be entirely new in those jurisdictions. Participants agreed that such an expansion would accelerate the transmission permitting process. But they believed that the most favorable outcome would be a cooperative interregional planning approach over one that creates adversarial relationships with the states. Most participants felt that expanding FERC's authority should not diminish the goal of a cooperative approach to planning projects before permitting.

Option: Provide FERC with Cost Allocation Authority for Transmission

How stakeholders share the costs of building a transmission project affects the timeline and ability to permit the project. Ratepayers (the customers actually using the electricity) generally bear the cost of new transmission lines based on the principle that the "beneficiary pays" as determined by the state or regional transmission authorities. These authorities, in turn, rely on formulas to assign the costs to beneficiaries.

Current cost allocation methods differ by region and state, each having its own formulaic approach to distributing transmission costs to beneficiaries. For example, some states calculate "benefits" specific to the economic and reliability effects of the project, while other states' formulas include the "benefits" of greenhouse gas reductions. This approach generally works for short and intrastate or intraregional transmission. However, allocating costs associated with lines that cross several state jurisdictions or multiple transmission organizations that employ different formulas can become complicated and uncertain, making planning for long transmission lines more complex and contentious. In addition, new transmission often needs subscribers to show benefits to get permits, but new subscribers are more challenging to attract without permits and a clear understanding of the cost allocation. It is the classic chicken-and-egg situation. Simply put, cost allocation is vital in determining whether and how fast new transmission is built.

A reform that many roundtable participants felt is necessary to accelerate the deployment of transmission is granting FERC the authority to determine the cost allocation formula. Similar to expanding FERC's authority to permit new transmission, such clear authority regarding the cost allocation formula could help to expedite the building of interstate transmission by significantly streamlining the process. Participants said such a reform is especially important for renewable energy, which often must travel long distances from generation to consumer (e.g., utility-scale solar, onshore and offshore wind energy projects). Participants also discussed refinements to cost allocation, including a clear understanding of what constitutes "benefits" and ensuring the FERC process was closely aligned with cooperative planning with states and regional transmission authorities.

Some were concerned that if reform is done incorrectly, stakeholders could view expanded FERC authority as undermining the current planning processes utilized

by states, Regional Transmission Organizations (RTOs), and Independent System Operators (ISOs). Some participants noted that FERC is already working on cost allocation rules and that expediting that process might be better than creating a new authority in statute. Even so, many participants advocated for the certainty of having the authority enshrined in statute, thereby reducing the inevitable pendulum swings that come with new federal administrations and FERC majorities.

As with expanding FERC authority to permit transmission, some participants were concerned about providing FERC authority over cost allocation. Again, the questions were particularly acute concerning “regulated” states. Concerns centered on broadly constructed authorities that left much to FERC’s determination, such as the definitions of “national interest” and “beneficiaries,” and little to bind its action. These problems could result in ratepayers in one state being required to pay for transmission that the state rejected and from which the ratepayer would receive little to no traditional benefit. Some participants noted that many ratepayers would benefit if issues such as grid reliability and resiliency and overall energy system efficiency were considered as benefits. However, including these benefits, as well as environmental benefits or lower costs to achieve policy goals, remains controversial.

In regulated states where the state commission caps utility rates, cost allocation by FERC could result in ratepayers paying more than approved or tolerated by the state commission and ratepayers, thus reducing the ability to make other necessary reliability or clean energy investments in the state. Participants who raised these concerns recognized this might be an unlikely scenario, but they noted the importance of cooperation with states and of clearly defining “benefit.” Most participants agreed that cost allocation is an essential tool for accelerating the build-out of new transmission—if allocation is properly utilized geographically and with recognition of consensus planning.

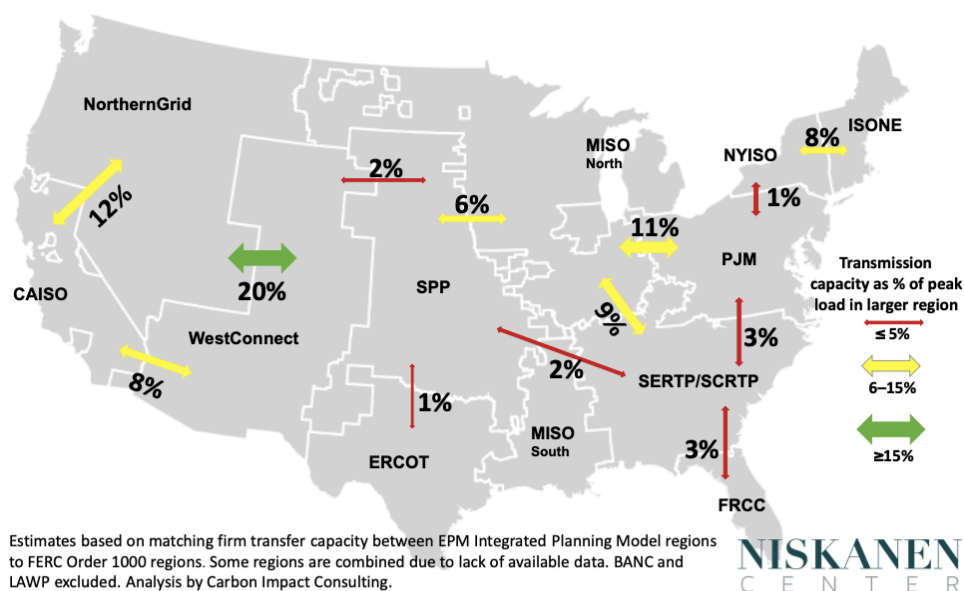
Additionally, participants broadly supported creating incentives for states and local communities to site interstate transmission through communities that otherwise would receive little to no benefit from the transmission. When moving electricity to end consumers from generation that is hundreds of miles away, the transmission will inevitably go through communities that will not receive any power or any tangible benefit. Participants agreed that developing a package of incentives for these communities would create a win-win scenario for the deployment of new transmission by reducing opposition to permitting.

Option: Minimum Transfer Requirement

Requiring regions to have a minimum capacity transfer capability is one potential option to increase the entire grid’s reliability, as this ability could enhance the capability of one region to supplement the power needs of a neighboring region in times of high demand or reduced supply. As seen in the map (Figure 1, below) created by the Niskanen Center, the United States is divided into multiple power grid regions, and sometimes a region does not have enough capability to transfer power to a neighboring region in times of need.

Figure 1

Lack of transfer capacity leaves some regions more vulnerable



The Big Wires Act, proposed by Sen. John Hickenlooper (D-CO) and Rep. Scott Peters (D-CA) would require a minimum percentage of transfer capacity between each region. Increasing transfer capacity would entail having each pair of regions build additional transmission capacity that would be available during a severe weather event or times of critical grid instability such as the 2021 Texas power crisis. Some participants noted that Europe already does this and its system, by all accounts, is working without major problems.

Although participants generally agreed that providing power to neighboring grids is a legitimate goal, many differed on how to achieve it. All participants agreed that there are situations when requiring transfer capacity could be beneficial, but some warned that the policy should not be a “one size fits all” approach, and any such requirement should come through consensus with the regions. Participants also had questions about how ratemaking would work in those cases: who determines when and how much power to transfer, particularly between regulated states and unregulated states; what if both regions are experiencing similar situations; and who determines transfer routing.

One additional concern raised by participants was that a mandated transfer capacity could penalize states and regions that have already made the necessary investment to de-risk their own grid by requiring them to pay for additional transfer capacity to help de-risk adjacent grids.

Support for the value of minimum transfer was broad, but participants were keen to ensure that details were properly and transparently vetted and that any such requirement was tailored fairly to a region’s specific needs.

Option: Compensation for Delays in Interconnection Queue

A final transmission issue discussed at the roundtable was requiring grid operators to compensate the owners of an energy generation project for costs related to unreasonable delays in winning approval to join the grid, known as interconnection queue delays. Currently, projects totaling [2,000 gigawatts](#)⁴ of generation capacity have requested a connection to the grid, which is more than 150% of current U.S. generation. Roundtable participants recognized that, too often, generation projects experience unreasonable delays in the queue, but there was an overwhelming consensus that Congress should not attempt to fix this problem and that FERC should take responsibility for addressing queue concerns. Participants noted that FERC is currently considering ways to reduce time in queues and expects to issue a final rule soon.

HYDROGEN PIPELINES

Due to significant federal investment, including private-sector incentives, in the Bipartisan Infrastructure Law, the Inflation Reduction Act, and other recently passed legislation, hydrogen is expected to play an essential role in the nation's clean energy future. Advancing hydrogen has enjoyed strong bipartisan support and significant private-sector interest. Efficiently transporting the anticipated mass quantities of hydrogen will require a significant build-out of pipelines dedicated to hydrogen transport. Today, no federal regulatory regime exists for the siting of interstate hydrogen pipelines, and all roundtable participants agreed that siting authority was necessary.

Participants discussed different options for federal authorities to site and permit this linear infrastructure. Much discussion concerned creating a regime specifically for hydrogen or expanding an existing regulatory system to include hydrogen pipelines. Regardless of the favored solution—creating a new statute or incorporating hydrogen into an existing law—participants agreed that FERC was the preferred jurisdictional agency for the authority.

Option: Create a New Federal Regime for Siting Hydrogen Pipelines

Most participants agreed that in a perfect world, a new statute would be developed for siting hydrogen pipelines. Participants recognized that hydrogen is unique. As such, it is preferable to design a new regime specifically for hydrogen pipelines as opposed to utilizing an existing structure, such as the Natural Gas Act (NGA), which is designed for a commodity with different features. For example, natural gas is ultimately delivered to residential households, while hydrogen pipelines are unlikely to do so. A hydrogen-specific regime would be better suited for the industry; however, establishing and designing the regime could be difficult and time-consuming in the short run. This challenge could be addressed by leveraging the portions of existing NGA legislative text that would be appropriate for hydrogen pipelines.

Option: Provide Federal Siting for Hydrogen Pipelines Under the Natural Gas Act

Many participants felt it is more politically feasible and expeditious to expand the NGA to include hydrogen rather than Congress starting from scratch to develop a new statute. In addition, participants noted that the NGA provides FERC with a substantial amount of discretion that could be utilized to accommodate the uniqueness of hydrogen without significantly amending the NGA. NGA is also flexible to handle the blending of hydrogen and natural gas.

In sum, participants recognized the NGA's utility to meet the needs of hydrogen given the time it would take for Congress to develop a new hydrogen-specific law—and the potential risks that come with Congress writing a new law. In this case, some participants argued that politics and expedience make expanding the NGA to include hydrogen the preferred option over a new statute.

CARBON DIOXIDE PIPELINES

Carbon capture technology is widely recognized as necessary to reduce global emissions. Whether the technology is direct air capture or carbon capture in the industrial or power sectors, large investment by the government and private sector is expected to spur and significantly expand the use of carbon capture. Once captured, the CO₂ must be transported via pipeline for sequestration or utilization. However, like hydrogen, no federal regulatory regime has jurisdiction over siting CO₂ pipelines.

Option: Provide FERC with Backstop Authority for CO₂ Pipelines

There was a general consensus among participants that FERC should receive backstop authority for siting interstate CO₂ pipelines. Using this authority, a project sponsor would be able to request that the Commission take over the permitting of a pipeline if states delayed or denied permits. This is similar to the previous discussion on bolstering FERC's backstop for interstate transmission projects, although the process would not overlap with utility operations which is a complication for transmission projects. Concerns remain, however, regarding the potential for overriding state and local decisions. Participants preferred a collaborative process involving all relevant stakeholders to ensure that decisions are made collectively and with careful consideration.

Participants also noted that while CO₂ is not an energy commodity—which is noteworthy because FERC traditionally regulates only energy commodities—the commission has a long history of and expertise in siting similar types of pipelines, making the agency well suited for regulating the infrastructure. Participants added that FERC authority should come with a federal regulatory structure specific to the properties and use of CO₂.

Option: Provide FERC with Primary Siting Authority for CO₂ Pipelines

As with transmission, participants discussed providing FERC with primary siting authority for CO₂ pipelines in the same manner it has for natural gas pipelines. This policy would come with many of the same benefits that we have discussed previously in the context of transmission and natural gas pipelines, such as allowing FERC to act as the lead on the siting and permitting process without waiting for state or local action; this would streamline the process and prevent delays.

Option: Expand the Definition of “Energy Corridors” to Include CO₂ Pipelines

Another policy broadly supported by participants involved updating the DOE definition of Energy Corridors to include CO₂ pipelines. Even so, roundtable participants were skeptical about whether this change would accelerate deployment, partly because existing Energy Corridors do not necessarily align with routes and destinations most likely needed for CO₂ pipelines. Nevertheless, participants felt that there was no harm in the expansion and could, in limited cases, potentially provide a benefit.

NATURAL GAS PIPELINES

Roundtable participants considered reforms that could expedite permitting for natural gas pipelines. As previously discussed, FERC already has primary siting authority for natural gas pipelines. However, these pipelines often face challenges during the state certification process under the Clean Water Act, often by states that are seeking to block the pipelines for reasons unrelated to local water quality.

Option: Clarify the Definition of “Discharge” in the Clean Water Act

Participants discussed the merits of existing legislative proposals to clarify the Clean Water Act “discharge,” which would apply only to the impact on water quality and not on other impacts such as air quality. Participants’ views were generally mixed on this issue, with many reluctant to change the current regime for natural gas pipelines.

However, participants generally agreed that for Congress to reach agreement on broad and meaningful permitting reforms, the package might need to include reforms to the natural gas pipeline permitting process, and that a balance of reforms to enable the build-out of both transmission and natural gas pipelines was likely a political trade that stakeholders on the left and right could back.

ALL OF THE ABOVE

Although each type of linear infrastructure has unique needs, overarching permitting reforms can be applied to each to expedite the process and ensure all parties receive consideration.

Option: Improve Eminent Domain Process

Participants discussed and generally agreed on the need to improve the eminent domain process, including providing landowners with adequate opportunity to intervene and instructions on how to do so; reasonable timelines for remuneration; and rights to reclaim land if the permitting process fails. Additionally, the roundtable discussed rights of way, including notification to applicants and timelines for completion, as well as water rights of way to be granted, issued, or renewed for up to 50 years or in perpetuity if appropriate.

CONCLUSION

It is clear that there is bipartisan interest in further permitting reform legislation this year, and that transmission and pipeline reforms are likely to form much of the core of that bipartisan deal. There is a logic to treating different forms of linear infrastructure with rough parity regarding the regulatory approach to siting, acknowledging that each has a unique set of siting-related considerations (economic, environmental, land use, etc.) that are important to consider. BPC will continue this permitting roundtable series and publishing takeaway documents. The next one will focus on Judicial Review.

Endnotes

1. Available at: <https://bipartisanpolicy.org/blog/clean-infrastructure-permitting/>
2. Available at: <https://www.energy.gov/gdo/articles/doe-proposes-national-interest-electric-transmission-corridor-designation-process>
3. Available at: <https://www.energy.senate.gov/services/files/3B223C58-3777-4371-B680-49619A88059D>
4. Available at: <https://www.canarymedia.com/articles/transmission/us-clean-energy-rollout-continues-to-be-hamstrung-by-grid-challenges#:~:text=Speeding%20up%20interconnection%20is%20a%20must&text=The%20lengthy%20process%20is%20producing,connect%20with%20the%20electric%20grid.>



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