



Increased Connection for Shared Benefit: Improving Transmission Planning, Cost-Allocation, and Permitting in the Northwest Executive Summary

Transmission infrastructure is the backbone of the electricity grid. The original transmission system in the Northwest was built to support the region for decades and anticipated slow and predictable load growth. With load growth estimates in excess of 25% through 2033,¹ increases in extreme weather, and the need to add more clean generation to the system to decarbonize, upgrading and expanding our aging transmission infrastructure has become central to ensuring a clean, reliable grid. The US Department of Energy recently anticipated a need for 2.7 to 4.4 gigawatts of increased transfer capacity between the Northwest and Mountain regions by 2035.² This number is based on anticipated load growth that is already outdated; the need will likely be higher. Unfortunately, the region is not currently building nor does it have plans for the amount of transmission capacity necessary to keep up with current load growth, maintain a reliable grid, and connect new generation. Failure to build out the transmission system will cost the region billions of dollars in unrealized efficiencies.³ Many barriers exist to building the level of transmission necessary, including deficiencies in transmission planning and cost allocation processes, the challenges of siting large projects through overlapping jurisdictions, and multi-year permitting processes.

In this paper we outline the challenges associated with planning, permitting, and paying for the new transmission needed in the region to maintain a reliable, clean electrical grid. The paper recommends ways to improve transmission planning, streamline the permitting process, and consider unique cost allocation methodologies to ensure transmission infrastructure is available when it is needed.

¹ Pacific Northwest Utilities Conference Committee. (July 2023). Northwest regional forecast of power load and resources August 2023 through July 2033. <https://www.pnucc.org/wp-content/uploads/2023-PNUCC-Northwest-Regional-Forecast-final.pdf>

² US Department of Energy. (October 2023). National Transmission Needs Study. https://www.energy.gov/sites/default/files/2023-10/National_Transmission_Needs_Study_2023.pdf

³ Clean Energy Transition Institute. (June 2023). Net-zero northwest: energy pathways results: transmission <https://www.nznw.org/energy/transmission>

Transmission Planning

Federal Energy Regulatory Commission (FERC) Orders 890 and 1000 require cooperative regional and interregional transmission planning by utilities.^{4 5} Bonneville Power Administration (BPA), a federal power marketing administrator (PMA) owns 75% of the transmission infrastructure in the region. BPA plans internally for the needs of its public power customers, which they are required to provide power for by statute, and voluntarily complies with FERC Order 1000 through a process called the Transmission Service Request Study and Expansion Process (TSEP).⁶ Investor-owned utilities (IOU) comply with FERC Order 1000 through NorthernGrid,⁷ a voluntary organization of 11 utilities from OR, WA, ID, MT, UT, WY, and NV plus BPA and Berkshire Hathaway Transmission (owner of the Montana-Alberta Tie Line). BPA and Berkshire Hathaway Transmission do not have FERC planning requirements but participate in NorthernGrid as members. Both BPA and NorthernGrid's transmission planning processes are inadequate for identifying and providing for the amount of transmission that will be needed as the region decarbonizes and deals with more frequent extreme weather conditions. While BPA has recently announced projects to upgrade their current grid⁸ and committed to a more open and transparent process around transmission planning and interconnection,⁹ challenges remain. The NorthernGrid planning process has never identified a regional or interregional transmission line in the Regional Transmission Plan (RTP) and current planning practices have received a "D" grade from Americans for a Clean Energy Grid.¹⁰ Deficiencies in planning include a short planning time horizon, no standardized information requirement, a lack of methodologies to account for state energy policies, updated load growth, and weather scenarios and quantify the benefits of regional transmission to ratepayers, a lack of independent oversight, and a lack of effective stakeholder engagement processes.

The following recommendations will improve transmission planning in the region:

The Northwest can implement best practices adopted from regions with Regional Transmission Operators (RTO) in the absence of a full regional market.

- An independent nonprofit entity with transparent and accessible stakeholder processes should facilitate conversations around regional transmission planning.

⁴ FERC. (February 16, 2007). Order 890 Preventing Undue Discrimination and Preference in Transmission Service. 18 CFR Parts 35 and 37. <https://ferc.gov/sites/default/files/2020-05/E-1fr890.pdf>

⁵ FERC. (July 21, 2011). Order 1000 Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities. 18 CFR Part 35 <https://www.ferc.gov/sites/default/files/2020-04/OrderNo.1000.pdf>

⁶ BPA. (October 24, 2023). TSR Study and Expansion Process (TSEP) BPA Transmission Business Practice, Version 9. <https://www.bpa.gov/-/media/Aep/transmission/business-practices/tbp/tsr-study-expansion-process-bp.pdf>

⁷ NorthernGrid. About. <https://www.northerngrid.net/northerngrid/purpose/>

⁸ Ciampoli, P. (July 14, 2023). Bonneville Power Administration moves forward with more than \$2 billion in grid projects. American Public Power Association. <https://www.publicpower.org/periodical/article/bonneville-power-administration-moves-forward-with-more-2-billion-grid-projects>

⁹ BPA. (June 2023). Fact Sheet: BPA's Evolving Grid: Update on the State of Transmission. <https://www.bpa.gov/-/media/Aep/about/publications/fact-sheets/fs-20230609-bpa-evolving-grid-update-on-the-State-of-Transmission.pdf>

¹⁰ Americans for a Clean Energy Grid. (June 2023). Transmission Planning and Development Regional Report Card. https://www.cleanenergygrid.org/wp-content/uploads/2023/06/ACEG_Transmission_Planning_and_Development_Report_Card.pdf

- Regional transmission planners should develop a methodology to value the multiple benefits transmission infrastructure provides and utilize a scenario and portfolio-based approach to planning. A good model is the Midcontinent Independent System Operator (MISO) Long Range Transmission Planning (LRTP) process.^{11 12}
- Planning time horizons of 20+ years are needed to ensure long lead infrastructure, which typically takes 10-15 years to permit and build, are anticipated in advance of need.
- Planning should be informed by regular load growth estimates and electrification and extreme weather scenarios, with standardized data requirements from utilities.
- Planning should incorporate state clean energy mandates, integrated resource planning data, and interconnection queue data.
- The Benefit-Cost Ratio (BCR) required of non-incumbent proposed projects for inclusion in the RTP should be lowered from the current 1.25 to 1.0.

Transmission Permitting

Determining the optimal route of a regional transmission line and then acquiring all of the relevant authorizations and permits to begin construction is a daunting task that can take more than a decade. Projects can be subject to federal, state, county, tribal, and city-level permitting requirements. At the federal level lack of staffing capacity, lack of coordination between agencies, and delays in information-sharing from applicants all hinder efficient permitting processes. State, county, and local requirements, some of which are duplicative of federal requirements, add time to the process. Stakeholder opposition and litigation can also add to the time it takes to begin construction.

The following recommendations will improve permitting:

State and federal permitting entities should align processes to avoid duplication and maximize coordination.

- Transmission lines permitted by federal agencies should not be subject to duplicative permitting requirements by states.
- State and federal agencies need to be well staffed, coordinated, and able to identify a lead agency to oversee the permitting process of multi-jurisdiction transmission lines. The Council on

¹¹ MISO. (June 25, 2022). LRTP Tranche 1 Portfolio Detailed Business Case.

<https://cdn.misoenergy.org/LRTP%20Tranche%201%20Detailed%20Business%20Case625789.pdf>

¹² Gramlich, R. (August 9, 2022). Enabling Low-Cost Clean Energy and Reliable Service Through Better Transmission Benefits Analysis: A Case Study of MISO's Long Range Planning. American Council on Renewable Energy. The Macro Grid Initiative <https://acore.org/wp-content/uploads/2022/08/ACORE-Enabling-Low-Cost-Clean-Energy-and-Reliable-Service-Through-Better-Transmission-Analysis.pdf>

Environmental Quality has issued best practices for environmental review that can guide these efforts^{13 14}

- Agencies should strive to address state and federal statutes within the same approval process to eliminate multiple approvals and appeal opportunities.

Improvements to stakeholder outreach processes will result in better outcomes:

- Developers and permitting authorities should have clear processes to communicate the benefits of increased transmission to communities and to empower residents to determine how those benefits will be spread within the community.
- Developers should look to recently issued guides to stakeholder engagement for the siting of transmission infrastructure, including from American Clean Energy Grid,¹⁵ Washington State's Energy Facility Site Evaluation Council,¹⁶ and the Oregon Smart Siting Collaboration,¹⁷ to develop optimal stakeholder engagement processes.
- When working groups or similar convenings are utilized to coordinate federal and state agency actions citizen groups should have a seat at the table.
- Concerns about impacts to sensitive habitats should be addressed early and through broad input from state agencies, tribes and local and regional wildlife organizations working on habitat preservation.
- Tribal engagement must recognize the sovereignty of each tribe. Developers should effectively engage tribes as soon as possible in siting discussions in order to begin developing relationships and avoid tribes feeling as though their involvement is only a box to be checked.

States should consider the full range of options to develop and permit transmission infrastructure:

- States can enter into voluntary agreements with transmission providers to plan and pay for transmission lines to further state energy policy goals, as reaffirmed by FERC in a 2021 policy statement¹⁸
- States can establish a dedicated Electricity Transmission Authority (ETA) for facilitating the buildout of transmission within the state.

¹³ Boots M. (January 26, 2015). Memorandum to Interested Parties and Heads of Federal Agencies. National Environmental Policy Act Pilot Projects Report and Recommendations. https://ceq.doe.gov/docs/ceq-reports/CEQ_NEPA_Pilots_Conclusion_Recommendations_Jan2015.pdf#:~:text=CEQ%20selected%20five%20pilots%20to%20further%20the%20NEPA,they%20review%20their%20environmental%20programs%20and%20NEPA%20implementation.

¹⁴ Boots M. (December 18, 2014). Memorandum for Heads of Federal Departments and Agencies: Effective Use of Programmatic NEPA Reviews. https://ceq.doe.gov/docs/ceq-regulations-and-guidance/Effective_Use_of_Programmatic_NEPA_Reviews_Final_Dec2014_searchable.pdf

¹⁵ Blaug E., Nichols N. (February 2023). Recommended Siting Practices for Electric Transmission Developers. Americans for a Clean Energy Grid. <https://cleanenergygrid.org/portfolio/recommended-siting-practices-electric-transmission-developers/>

¹⁶ Washington Energy Facility Site Evaluation Council. (August 1, 2022). Transmission Corridors Work Group Final Report. https://www.efsec.wa.gov/sites/default/files/181034/Final_TCWG_Report%20_2022_0801.pdf

¹⁷ Oregon Smart Siting Collaboration. (March 2023). Siting renewable energy in Oregon: voluntary guidelines developed through outreach and engagement. <https://renewablenw.org/sites/default/files/Reports-Fact%20Sheets/OSSC%20Final%20Report.pdf>

¹⁸ FERC. (June 17, 2021). State Voluntary Agreements to Plan and Pay for Transmission Facilities. Docket No. PL21-2-000. 86 FR 33700. <https://www.federalregister.gov/documents/2021/06/25/2021-13440/state-voluntary-agreements-to-plan-and-pay-for-transmission-facilities>

- States may need to develop transmission-specific exceptions to land use statutes, which could reduce the burden on state and local capacity overall as the clean energy transition continues and save ratepayers money.

Transmission Cost Allocation

Cost-allocation is the process of determining who benefits from identified transmission projects in the RTP so that costs can be allocated to ratepayers accordingly. Transmission infrastructure has both local and system-wide benefits; system-wide benefits can be difficult to assess and allocate. BPA's statutory requirements to serve COUs and rural electrical cooperatives at cost and their lack of obligation to accept cost allocation as a non-FERC jurisdictional entity adds a level of complexity to cost-allocation in the region. Adding further to the complexity are the differences between IOUs, which make up the enrolled parties of NorthernGrid, and merchant developers of transmission lines, who are not enrolled members, but can submit project proposals for study for possible inclusion in the RTP. IOUs can recover costs of transmission investments through rates, but without cost allocation merchant developers' options for cost recovery are to sell transmission capacity to utilities or independent power producers, which is riskier than the guaranteed returns of cost allocation. As there has never been a regional line or non-incumbent developer project identified in the RTP, NorthernGrid has never had to grapple with cost allocation issues. Development of a new planning methodology that recognizes and quantifies the multiple benefits of regional transmission as recommended above will necessitate the development of a new cost-allocation methodology for the Northwest. As the clean energy transition continues, discussions of benefits and costs of transmission will be ongoing. A flexible system that can effectively evaluate benefits and costs on an ongoing basis is essential for the region to navigate the transition.

The following recommendations should guide the development of a cost-allocation methodology for the Northwest:

- Regional planners should involve a diverse set of stakeholders in the process of developing their new methodologies and ensure that the stakeholders have a meaningful role to play in informing decision making.
- Regional planners should look to Southwest Power Pool's (SPP) "Highway/Byway" process¹⁹ and MISO's Multi Value Project Portfolio (MVP) process²⁰ for practices that could be adapted for cost-allocation.
- The cost-allocation methodology should be designed with flexibility in mind.

¹⁹ SPP. (July 11, 2016). Regional Cost Allocation Review (RCAR II).
<https://www.spp.org/documents/46235/rcar%20%20report%20final.pdf>

²⁰ MISO. (January 10, 2012). Multi Value Project Portfolio
<https://cdn.misoenergy.org/2011%20MVP%20Portfolio%20Analysis%20Full%20Report117059.pdf>