Clean Energy Transition Institute

Washington Transmission 101



Introduction

Electricity transmission is the backbone of our energy system, and its role will only become more important as we move toward a decarbonized future.

Washington has some of the most ambitious emissions targets in the nation: 95% below 1990 levels and net-zero emissions by 2050, with interim 2030 and 2040 targets.[1] In addition, the state's Clean Energy Transformation Act (CETA) commits Washington to achieving emissions-free electricity by 2045.[2] Reducing emissions in transportation, buildings, and industry will require increased use of electricity. It will also require clean fuels, some of which are electricity-intensive to produce. Forecasted electricity demand from data centers adds to the state's growing demand for electricity.

Energy pathways modeling has consistently shown that to meet its targets and the forecasts for significant new clean electricity demand, Washington's needs for reliable and affordable clean electricity are best served by a generation portfolio that draws from an interconnected Western electricity grid.[3,4] Most imported energy would come from Montana and Wyoming wind (some of the highest-quality wind resources in the country), but additional resource diversity across the West is also important for reliability and resilience in Washington.

Importing additional clean electricity will require much more transmission than currently exists. While building transmission is expensive, a more interconnected grid actually lowers total economy-wide costs by providing access to low-cost and high-quality resources.[5]

The unique ownership and governance structure of the Northwest power system—the presence of the Bonneville Power Administration (which controls 75% of the region's high-voltage transmission lines) and the absence of a central grid operator—as well as the fact that approximately 60 electric and gas utilities operate in Washington[6] create many barriers to overcome as the state attempts to meet load growth demand with clean electricity.

This document, *Washington Transmission 101*, outlines what is known about how much transmission is needed and where, what it takes to build transmission, how advanced transmission technologies can help, and the role that three recent transmission development efforts can play in accelerating transmission development in the Evergreen State.[7]

Above: High Voltage Transmission Tower at Sunset. Photo credit: Bonneville Power Administration

How Much Transmission is Needed and Where?

While there is general consensus that Washington needs more transmission capacity, questions remain about exactly how much, where, and whether needs can be met with advanced transmission technologies or if brand new transmission lines, known as greenfield transmission lines, are required.

Several recent state and regional efforts have attempted to answer some of these questions by modeling future grid needs, including:

- ***Net-Zero Northwest, 2023:*** Clean Energy Transition Institute study that examined low-cost pathways for how the Northwest could achieve economy-wide net-zero emissions by 2050.[8]
- ***Connected West, 2024:*** Transmission planning study by Energy Strategies, which was commissioned by GridLab and Gridworks to identify transmission solutions in 2045 in a highly electrified and decarbonized Western United States.[9]
- ***Montana Regional Transmission Connectivity Study, 2025:*** Study led by the Northwest Energy Coalition and partner organizations to assess Montana's current ability to export additional resources and identify transmission solutions that would enable future generation resources to be exported.[10]
- ***Washington Comprehensive Climate Action Plan, 2026:*** Plan developed by the Washington State Departments of Commerce and Ecology to provide a comprehensive assessment of where the state is today and pathways to meet required greenhouse gas limits through 2050.[11]
- ***Western Transmission Expansion Coalition (WestTEC) 10-Year Horizon Report, 2026:*** Effort managed by the Western Power Pool to develop an actionable transmission study for the West.[12]

All these studies affirm Washington's need for increased transmission. Taken together, they point to two high-priority transmission routes for Washington's additional capacity: Montana to Washington (to import high-quality wind-generation electricity) and an east/west connection in Washington across the Cascade mountains.

There are at least three caveats to the question of identifying transmission priorities:

- There is significant uncertainty about the level and location of load growth, particularly from data centers. The load forecast in the Northwest Power and Conservation Council's draft Power Plan released in August 2026 has more uncertainty than previous plans.[13]
- There are questions about federal policy support for clean energy resource development. The rollback of Inflation Reduction Act credits for wind, solar, and hydrogen production, along with advancements in technologies such as enhanced geothermal technology, small modular reactors, and long-duration storage, may change options for Washington to meet some load growth with in-state resources. However, the pathway to developing and relying on these technologies is uncertain and should be pursued in conjunction with transmission expansion to access out-of-state resources.
- While the two major transmission routes mentioned above have been identified as high priorities, there are additional important lines outside of Washington, and it is hard to pick specific lines to prioritize because of the interconnected nature of the grid.



Mount Baring in Washington's Central Cascades Towers Above 345 KV Power Lines Delivering Electricity from the Columbia River Dams. Photo credit: Jeff Huth



What it Takes to Build Transmission

To be built, projects will have to succeed in the "four Ps" of transmission development: **planning**, **paying**, **permitting**, and **people**.

Unlike most renewable energy facilities or other development projects that are located at a single site, transmission lines span large geographic areas. They can cross private property, federal lands, tribal lands, and multiple regulatory jurisdictions, which complicates planning, permitting, and decision-making. Furthermore, utilities are cautious about pursuing transmission projects when there is uncertainty about future electricity needs and/or uncertainty around whether a project will be delayed or stopped by the many steps and decisionmakers involved. Transmission planning, paying, and permitting in any given area is typically divided among multiple entities rather than being centralized in a single organization.

The Northwest relies on approximately 20,000 miles of high-voltage transmission (used to carry electricity over long distances), 75% of which is operated by the Bonneville Power Administration (BPA), and the rest of which is primarily operated by other individual utilities.[14] Much of the high-voltage transmission in the Northwest was constructed in the 1960s, 1970s, and 1980s, providing the region with ample capacity to accommodate power generation and demand.

After four decades of minimal new construction, existing transmission has reached its limit for interconnecting new resources and serving new demands.[15] BPA plays a central role in upgrades and expansions. Non-BPA entities, such as utilities and independent transmission developers, also play a central role in sponsoring and developing projects.

Phases of Transmission Development

There are several phases of transmission development. These occur approximately in the following order but not always, and there can be overlap and iteration between steps.[16, 17]

- **Planning to Identify Transmission Needs:** Utilities or other entities conduct studies to identify transmission needs and potential projects to address those needs. Utilities sign up to pay for a share of the project and receive a share of the project's capacity in return, or they may be assigned a share of capacity and costs through a regulated process.
- **Route Selection:** Developers or utilities evaluate potential projects and specific paths, taking into consideration environmental and community impacts.
- **Permitting and Siting:** The project goes through regulatory review with approvals from federal, state, and local agencies. The developer also acquires the necessary rights-of-way for the transmission project.
- **Construction:** The transmission project is built, which can involve building access roads, clearing the right-of-way, excavating and installing tower foundations, erecting the towers, installing the conductors, and other construction activities.
- **Operations & Maintenance:** The transmission project is energized and operational, with ongoing maintenance that can include line repairs and other upgrades.

Above: Pylon construction workers. Photo credit: Adobe Stock/qiujusong

PLANNING

Transmission planning in Washington happens at several levels. Local transmission planning within a utility's own service area is conducted by individual utilities. Regional planning takes place through NorthernGrid, the Northwest's regional association for planning required by the Federal Energy Regulatory Commission (FERC) for investor-owned utilities.[18] NorthernGrid facilitates 10-year planning for FERC Orders 890 and 1000, which results in a biennial Regional Transmission Plan, most recently the Regional Transmission Plan for the 2024-2025 NorthernGrid Planning Cycle.[19] However, the Plan is generally a combination of individual utility plans, and no regional or interregional lines have been developed through the NorthernGrid process.[20]

NorthernGrid will now also facilitate the 20-year long-term regional planning required by FERC Order 1920, issued in 2024. Order 1920 requires a standardized set of factors to consider in scenario development and seven minimum benefits that must be accounted for when determining cost allocation. Order 1920 also creates a more defined role for "relevant state entities," such as energy offices and utility commissions, which must be consulted on scenario development and cost allocation.[21] The first regional plan for Order 1920 compliance is expected in 2031.



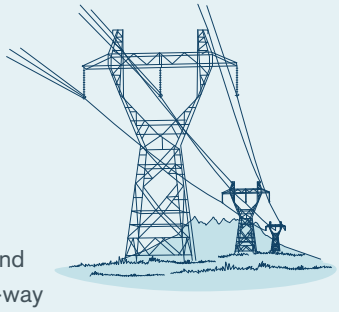
Despite the required planning through NorthernGrid and by individual utilities, gaps remain in regional and interregional transmission planning. These gaps have spurred voluntary planning efforts (see the sub-section on WestTEC on p. 10).

PERMITTING

In Washington, some high-voltage transmission projects (including lines, substations, and any other infrastructure needed for transmission) are permitted through the Energy Facility Site Evaluation Council (EFSEC), which intends to provide a consolidated permitting process and has the ability to override local zoning ordinances.[22, 23]

The EFSEC process can take multiple years and includes pre-application and application, assessment of land use consistency with local zoning ordinances, review of environmental impact and mitigation under the State Environmental Policy Act, a possible adjudicative hearing, final recommendation on a site certificate, and approval by the governor.[24] State law also requires that EFSEC conduct government-to-government consultation with tribes that have interests or rights in the impacted area.[25] In 2025, EFSEC released a programmatic Environmental Impact Statement (EIS) for transmission projects in an effort to streamline the permitting process.[26]

Transmission projects also need federal review if they involve federal land or funding, which is likely in Washington and the West, given the high percentage of federal lands. Federal review can include the National Environmental Policy Act, Endangered Species Act, and National Historic Preservation Act, among others.



Transmission lines require land easements to grant rights-of-way for the construction, operation, and maintenance of the transmission line. The right-of-way refers to the physical land designated for the transmission line and ranges from approximately 50-200 feet wide, depending on voltage and project design. Utilities or project developers typically negotiate with landowners and offer payment for the easement rights. If these negotiations are unsuccessful, utilities or agencies with eminent domain authority—the legal power to take private property for public use, with compensation paid to the owner and a process that goes through the courts—may seek to acquire the property rights through a process called condemnation.

Permitting reforms could reduce the risk, cost, and timeline involved in developing transmission projects, but any reforms should also ensure responsible land use and community input.

PAYING

Transmission costs are allocated to utilities based on who will benefit from the project. Allocation methods vary and are often contentious because each utility and state wants to minimize overpaying for a project compared to its perceived benefit.

FERC Order 1920 offers an opportunity for progress on cost allocation by requiring regional planning groups such as NorthernGrid to have a default cost allocation methodology for regional projects identified in long-term planning. In June 2026, NorthernGrid submitted two potential methodologies to comply with Order 1920: one agreed upon by member utilities, and a separate methodology agreed upon by the relevant state entities. The cost allocation methodology agreed upon by states was produced through a year-and-a-half-long effort by an ad hoc committee of state utility regulators and energy offices through the Committee on Regional Electric Power Cooperation (CREPC).[27]



FERC will decide which methodology will be applied by default to projects selected in NorthernGrid's long-term planning.

While establishing a cost allocation methodology is an important step, a couple of important caveats remain. First, the methodology is only required to be used on projects identified through NorthernGrid's long-term regional planning. And second, "non-jurisdictional" entities—which are not regulated by FERC and include all consumer-owned utilities and BPA—are not subject to the methodology.

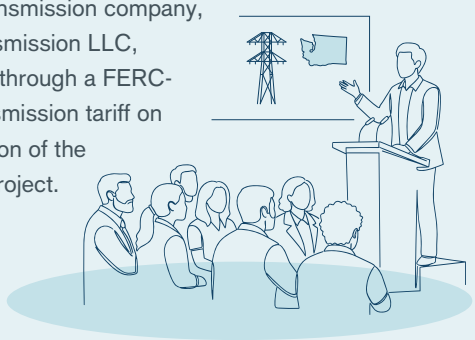
The limits of cost allocation through FERC Order 1920 create an opportunity for additional voluntary efforts. One voluntary effort tackling this challenge is the Western Transmission Consortium (TWTC), which is described further on p. 11.

PEOPLE

Due to the length of transmission lines, a single project can extend across many different lands and affect many different communities, counties, states, and tribes. Without proper safeguards, transmission lines and associated infrastructure can cause harmful environmental and ecological impacts, safety hazards, and other community impacts. At the same time, transmission projects can also create meaningful and lasting benefits for communities and tribes where they are located.

Community benefits frameworks are tools that help secure benefits and mitigate potential burdens for communities that host development/infrastructure projects. These frameworks can be used to engage communities early on questions of line routing; provide local benefits such as direct payments, employment, workforce training, local infrastructure, housing, environmental conservation, or other local needs; and ultimately accelerate transmission projects.[28]

There are unique considerations for tribal engagement on transmission planning because tribes are sovereign entities. There are also opportunities for tribes to own transmission lines. For example, a 2026 National Laboratory of the Rockies report includes a case study on the Morongo Band of Mission Indians, who created a transmission company that partnered with Southern California Edison in a first-of-its-kind agreement on a transmission project that crossed the Morongo Band reservation.[29] The Tribe's transmission company, Morongo Transmission LLC, earns revenue through a FERC-approved transmission tariff on its leased portion of the transmission project.



BPA Transmission Planning and Reforms

BPA completes three main transmission planning work-streams in accordance with its Open Access Transmission Tariff, which details the terms and conditions of BPA transmission service.

- Each year, BPA publishes a transmission plan that has historically focused on upgrades to existing lines required in the next 10 years to accommodate load growth and address reliability issues within its service area.[30]
- BPA considers new transmission service requests from utilities or developers through "cluster studies" that group requests geographically then identify the upgrades needed to accommodate those requests.[31]
- BPA voluntarily participates in additional, regional-level planning biannually through NorthernGrid (see p. 4).

The increasing volume and complexity of transmission requests due to load growth, electrification, and clean energy development prompted BPA to pause cluster studies in 2025. BPA is reevaluating transmission planning processes through its Grid Access Transformation (GAT) project, which will establish a more proactive and strategic approach for longer-term planning, create new transmission service options for large loads, and accelerate how BPA delivers transmission service.[32]

BPA is also working to complete a series of high-priority transmission upgrades known as the Grid Expansion and Reinforcement Portfolio (GERP). Many of the GERP projects are in Washington, and they include upgrades to BPA's Cross-Cascades North route.[33] Completing GERP projects will be essential for maintaining reliability on Washington's grid.



High voltage transmission towers near wetland. Photo credit: Bonneville Power Administration

Project Highlight

The Big Eddy-Knight Project

The Big Eddy-Knight project in the Columbia River Gorge on the border of Oregon and Washington was completed in 2015 by BPA and is highlighted in a 2025 Environmental Defense Fund and Clean Air Task Force case study.[34] As part of the development process, BPA proactively reached out to a local environmental organization to negotiate a settlement agreement and ended up establishing a $1.78 million mitigation fund that was used to purchase land to put into a trust for conservation. However, the authors of the case study note that the settlement agreement was seen by some as a way for BPA to reduce litigation risk rather than an intent to deliver real benefits, and they recommend engaging with a wider range of perspectives to ensure the community sees more tangible impacts.

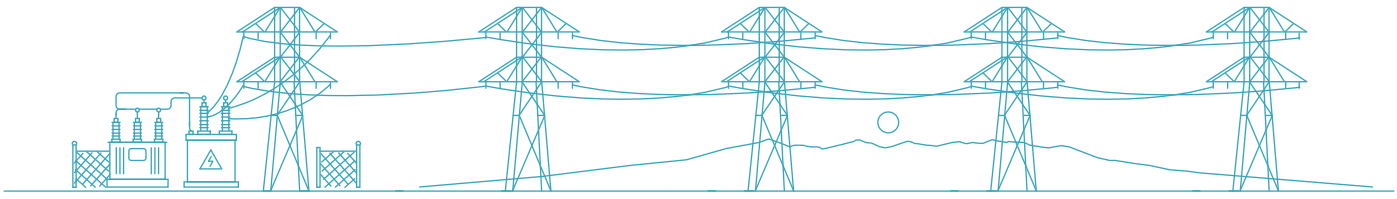


Project Highlight

North Plains Connector

North Plains Connector (NPC) runs from eastern Montana to central North Dakota and is the subject of a 2025 *Community Benefits Snapshot* by World Resources Institute and Great Plains Institute.[35] It is in the planning and development stage with an operational date of 2032. The developer, Grid United, used a "landowner-first approach" for engagement, meeting directly with each landowner to find the least impactful area for transmission development on their land or rerouting if the landowner opposed development. While this resulted in a slightly less efficient route, it was reported that the landowner-first approach reduced community opposition by showing that the developer was willing to listen to local priorities.[36] NPC LLC also voluntarily engaged with tribal partners early in the development process to provide benefits and avoid damage to cultural sites.

This approach has higher upfront costs due to the thorough community engagement, right-of-way acquisition, and route alterations, and it is not yet proven if the approach will result in lower expenses overall from the reduced time and legal expenses compared to other projects because the line is not yet operational. Even if expenses are lower overall, a landowner-first approach may not be feasible for utilities directly developing transmission projects because the upfront costs are a higher risk that regulators may not approve on behalf of customers who ultimately bear the cost of the line.



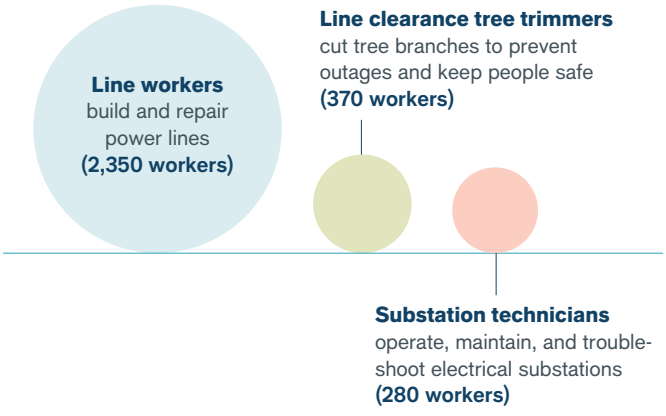
Above photo: Rows of High Voltage Transmission Towers Photo credit: Bonneville Power Administration



Workforce

A skilled and trained workforce is critical to building out and maintaining Washington's transmission system. In 2026, the Washington State Department of Commerce released an Electrical Transmission Workforce Study developed in collaboration with a utility and labor work group. The study examined Washington's current electrical transmission workforce, how many additional workers would be needed to meet clean energy goals and how they would get trained, and recommended actions to meet the gap.[37]

The study focused on three electrical transmission occupations in Washington (2024 employment in parentheses):



Demand for all three occupations is projected to increase substantially to meet Washington's climate and clean energy laws.

In Washington, these electrical transmission workers can be employed by utilities or external contractors (often relocating within the state or to other states to work on projects that a utility contracts out). A high-level takeaway from the Electrical Transmission Workforce Study is that achieving Washington's clean energy future will require intentional investment to train and hire qualified workers through apprenticeships, and that these efforts should focus on increasing access for women and people of color.

The study also identified several workforce challenges and associated recommendations. One is the need for more line worker apprenticeship opportunities as there are currently many more people interested than positions available. Apprenticeship programs include hands-on training on real projects, and the lack of recent major transmission projects is reducing the number of workers progressing through the training pipeline. Consistent and predictable work is needed to plan for expanded apprenticeship programs.

Furthermore, retirements will continue to limit opportunities for knowledge transfer, and there is a risk of needing out-of-state workers to meet future workforce demand. Recommendations also include clarifying and upholding safety standards; increasing accessibility, affordability, and relevance of pre-apprenticeship programs; expanding career awareness; diversifying the workforce; and attracting journey-level electrical transmission workers to Washington to increase the state's capacity to train apprentices.

Above: Lineman grounding high-voltage lines. Photo credit: Adobe Stock/Cyril

How Advanced Transmission Technologies Can Help

Advanced transmission technologies (ATTs) are a set of infrastructure, hardware, and software options that increase ability of transmission lines to carry more electricity, improve reliability, and reduce system congestion. There are three broad categories of ATTs.[38]

Grid-Enhancing Technologies (GETS):

A combination of software and hardware that make it possible to assess the real-time conditions of the electricity system and to optimize the existing grid. GETs can be installed in months, compared to the years it takes to build new transmission lines. Examples include:[39]

Dynamic Line Ratings (DLR) use real-time weather data to determine how much power a line can actually carry, rather than relying on fixed conservative assumptions.

Example Pennsylvania Power and Light Electric invested less than $1 million to deploy DLR and achieved a 15% increase in line rating with congestion cost savings of $64 million in one year.[40]

Advanced Power Flow Control (AFPC) redirects power from overloaded lines to underutilized ones. While power flow technologies have been used for decades, new advanced devices are modular, compact, and flexible.

Example National Grid Electricity Transmission in England is using APFC to enable integration of new wind power, providing over $500 million in savings from avoided curtailment costs.[41]

Topology Optimization uses algorithms to analyze grid conditions and find optimal paths for power flow.

Example Alliant Energy in Iowa used topology optimization and reduced grid congestion costs by 49%.[42]

High-Performance Conductors (HPCs):

Also known as advanced conductors, HPCs are modern electric power lines made from advanced carbon-fiber and superconducting materials that are stronger, lighter, and have greater capacity than conventional transmission lines.[43] These advanced materials enhance the amount of power flowing through transmission lines and are physical wire replacements that reconductor existing lines.

Example American Electric Power upgraded two 120-mile 345 kV lines in Texas to enable advanced conductors and increased capacity on the lines by 40%.[44]

Other ATTs:

A catch-all category for an evolving set of transmission technologies that are neither software nor hardware (GETs), nor advanced transmission lines (HPCs), but provide capacity and reliability. Examples include:

Transmission switching, which involves opening and closing devices (usually circuit breakers) to reconfigure an electrical network in such a way as to optimize the power flow. Electricity distributes across all available routes, favoring paths with lower impedance (how hard it is for electricity to flow). Transmission switching can help redirect power off an overloaded part of the system to an underutilized segment.[45] Transmission switching is linked to the GET Topology Optimization described above, which is the broader software-driven process of *finding* the right switching actions; transmission switching is the physical *execution* of those actions.

Storage-as-transmission, which refers to energy storage systems of any kind being used to defer transmission expansion, help manage peak load, or enhance system resilience and reliability. Batteries can time-shift power flows by storing power on either side of a transmission line to deliver when needed.

Other emerging technologies, such as underground/subsea high-voltage direct current cables instead of overhead lines, as well as virtual transmission lines, which use software-defined power flow rerouting across networks.

Both GETs and HPCs are ATTs that expand transmission capacity without building new lines. GETs are software or operational tools that work by *optimizing the operation* of existing lines to better manage existing wires to transmit power at higher capacity and greater efficiency, while HPCs work by *physically upgrading* the wire itself to carry more power. Both approaches are far cheaper and faster than building new transmission lines.[46]

Three New Tools in Washington's Transmission Toolkit

WestTEC

Work on WestTEC began in 2024 with the goal of establishing an approach to transmission planning in the Western United States that would be "different, inclusive, expedient, and transparent."[47] WestTEC is a voluntary coalition coordinated by Western Power Pool, with over 70 regional partners including utilities and transmission developers, states, tribes, and public interest organizations. Planning is underway for "WestTEC 2.0," indicating continued interest in the voluntary effort.

The first WestTEC study, *West-wide Transmission Study 10-Year Horizon Report*, was released in February 2026.[48] It identifies 12,600 miles of transmission to upgrade or build by 2035 to maintain reliability, meet load growth, and achieve clean energy goals, all at the lowest cost system-wide. Approximately 75% of those line miles are in some stage of planning or construction, although this does not guarantee they will be completed. The remaining line miles (~25%) still need to be "sponsored" by a utility or developer. Among the needs highlighted in the report are increased Montana-Washington transmission capacity and increased Cross-Cascades capacity.

WestTEC is currently working on a 20-year study to be published in early 2027 that looks at transmission needs in 2045. The study includes three plausible future scenarios in which load growth varies from 2% to 3% per year; prices of renewables and storage vary; and breakthroughs vary in technologies such as advanced geothermal, nuclear small modular reactors, and carbon capture and storage.

As the sole transmission planning study for Washington that includes geographically granular modeling and three scenarios, the 20-year report is the first look at "least-regret" options that are likely to be valuable despite uncertainties two decades into the future. Draft results indicate that least-regret options include new lines connecting Montana to Washington (in addition to the upgrades identified in the 10-year report), British Columbia to northeastern Washington, and The Dalles, Oregon to Portland.

WETA

Transmission authorities are state entities intended to advance transmission by supporting planning, financing, and permitting for projects.[49] Transmission authorities can partner with utilities and private developers to plan, finance, and build transmission lines. They use tools like bonding authority, federal loans, and eminent domain. They also support projects through permitting processes. New Mexico and Colorado's transmission authorities are two leading examples in the West that Washington can learn from.[50, 51]

Washington state enacted SB 6355 in 2026 to establish the Washington Electric Transmission Authority (WETA), which aims to "improve transmission reliability, resilience, and affordability."[52] WETA will support transmission development in the state and region, coordinate siting and permitting, engage with "utilities, transmission developers, local jurisdictions, state agencies, regional entities, the federal government, federally recognized Indian tribes, and affected communities," and has authority to exercise eminent domain to acquire land.[53] One of WETA's first tasks is to identify transmission needs with support from contractors and using existing studies such as WestTEC. The law requires the Governor to appoint a board of directors by the end of 2026 and for that board to hire an executive director for WETA by July 2027.[54]



High voltage power transformer substation. Photo credit: Adobe Stock/qiujusong

TWTC

Another voluntary process that may overcome early development hurdles is The Western Transmission Consortium (TWTC).[55] TWTC aims to bring together utilities and transmission developers to consider potential transmission project ideas (such as those generated by WestTEC). TWTC starts by identifying projects of interest, then solicits voluntary utility participants, estimates costs and benefits of the project, and allocates the costs between interested utilities. This process continues until participating utilities decide whether to continue with the project. This allows utilities to express interest in a project and advance necessary studies of the project without the risk of being allocated costs in a formal compliance setting that outweigh the real or perceived benefits of the project.

TWTC currently has 92 member organizations including utilities and developers, has publicly shared a list of projects that make up a "Southwest Pod," and is working toward developing a "Northwest Pod" of projects. TWTC has also established a memorandum of understanding (MOU) with WestTEC to share data from the planning process that can inform project development.

WestTEC, WETA, and TWTC all hold promise to address transmission barriers across Washington and the greater West. To better understand the similarities and differences across these new initiatives, see Table 1.

TABLE 1. Overview of Recent Transmission Planning and Development Initiatives in Washington and the West

	Western Transmission Expansion Coalition (WestTEC)	Washington Electric Transmission Authority (WETA)	The Western Transmission Consortium (TWTC)
Goal	Establish a new approach to transmission planning in the Western U.S.	Advance transmission in Washington by supporting planning, financing, and permitting	Build interregional and interjurisdictional transmission infrastructure
Primary Actors	Voluntary coalition, coordinated by the Western Power Pool, of over 70 utilities and transmission developers, states, tribes, and public interest organizations	Independent state entity with Governor-appointed Board of Directors (support from WA Commerce until Executive Director is hired) Will engage with utilities, transmission developers, local jurisdictions, state agencies, regional entities, the federal government, federally recognized Indian tribes, and affected communities	Member-owned entity with 92 member organizations; membership open to any investor-owned utility, tribe, federal Power Marketing Administration, public power entity, electric co-operative, independent transmission company, or infrastructure investor
Region	11 Western states[56]	WA; authority to support or develop regional projects	11 Western states, with a Northwest Pod focusing on ID, MT, OR, WA
Barriers Tackled	Address gaps in fragmented regional and interregional transmission planning	Improve transmission reliability, resilience, and affordability; prioritize lines that would benefit from additional support	Close funding gaps in transmission projects
Timeline	■ Launched in 2024 ■ 10-year report released in Feb 2026 ■ 20-year report expected by end of 2026	■ Established by SB 6355 in 2026 ■ Board to be appointed by the end of 2026 ■ Executive Director to be hired by July 2027	■ Officially launched in 2025 ■ Southwest Pod of projects launched Sept 2025 ■ Currently developing Northwest Pod

Looking Ahead

Despite uncertainty about the pace and location of load growth, and which new clean energy resources will provide power, it is clear that Washington needs substantially expanded transmission capacity. With a stronger Montana-Washington connection and Cross-Cascades connection as top priorities, Washington will need to find solutions across planning, permitting, and paying for transmission development while balancing the interests of communities across the state.

Beyond solving challenges for the grid, transmission offers possible community benefits if participation and benefit agreements are baked into development, as well as workforce growth opportunities for the state. Newer technologies offer ways to minimize impact and increase transmission capacity more quickly, while innovative initiatives such as WestTEC, WETA, and TWTC offer strategies for increased collaboration. With a smoother path to transmission development, Washington can build out a clean, affordable, and reliable grid to serve its residents, environment, and economy.



High voltage power lines. Photo credit: Ян Кашенко

Resources

For Further Reading...

Understanding the Grid and Transmission

- GridLab. *Power System Analysis for Energy Advocates*. GridLab, 2025. https://gridlab.org/portfolio-item/power-system-analysis-for-advocacy/.
- Pacific Northwest National Laboratory. "An Introduction to Transmission Infrastructure." May 2025. https://www.pnnl.gov/sites/default/files/media/file/Introduction%20to%20Transmission%20Infrastructure-Revised.pdf.

Transmission Planning

- Robertson, Molly, and Karen Palmer. "Transmission 101: Transmission Planning." *Resources for the Future*, September 22, 2023. https://www.rff.org/publications/explainers/transmission-101-transmission-planning/.
- Wayner, Claire. *Understanding FERC's Order 1920*. RMI, 2024. https://rmi.org/app/uploads/dlm_uploads/2024/12/Order-1920A-Reference-Sheet.pdf.
- Western Transmission Expansion Coalition. *West-Wide Transmission Study: 10-Year Horizon Report*. 2026. https://www.westernpowerpool.org/private-media/documents/WestTEC_10-year_Full_Report.pdf.
- Zimmerman, Zach, Adria E. Brooks, Rob Gramlich, Nathan Shreve, and Danish Jamal. *2025 Transmission Planning and Development Report Card*. Americans for A Clean Energy Grid and Grid Strategies, 2026. https://gridstrategiesllc.com/wp-content/uploads/ACEG_2025-Transmission-Planning-and-Development-Report-Card.pdf.

Development

- Robertson, Molly, and Karen Palmer. "Transmission 102: Building New Transmission Lines." *Resources for the Future*, September 22, 2023. https://www.rff.org/publications/explainers/transmission-102-building-new-transmission-lines/.

Advanced Transmission Technologies

- Working for Advanced Transmission Technologies. "WATT Coalition." Accessed May 25, 2026. https://watt-transmission.org/.

Endnotes

1 Washington State Department of Ecology, "Tracking Greenhouse Gases," accessed September 28, 2026, https://ecology.wa.gov/air-climate/reducing-greenhouse-gas-emissions/tracking-greenhouse-gases.

2 Washington State Department of Commerce, "Clean Energy Transformation Act (CETA)," accessed September 28, 2026, https://www.commerce.wa.gov/energy-policy/electricity-policy/ceta/.

3 Washington Climate Partnership, *Washington Comprehensive Climate Action Plan* (2026), https://waclimatepartnership.org/en/

4 Clean Energy Transition Institute, *Net-Zero Northwest-Energy Pathways* (2023), https://www.nznw.org/energy.

5 Clean Energy Transition Institute, *Net-Zero Northwest-Energy Pathways*.

6 Jeanne Currie, "Demystifying the Northwest Utility Landscape," *Clean Energy Transition Institute*, January 2025, https://www.cleanenergytransition.org/post/demystifying-the-northwest-utility-landscape.

7 This document focuses on high-voltage transmission that moves electricity over long distances. Distribution lines, which are lower voltage and carry electricity from substations to homes and businesses, also require investment and expansion but are not the focus of this document.

8 Clean Energy Transition Institute, *Net-Zero Northwest-Energy Pathways*.

9 Energy Strategies, *The Connected West Study* (A report commissioned by Gridworks and GridLab, 2024), https://connectedwest.org/wp-content/uploads/2024/09/Connected-West-Final-Report-240918.pdf.

10 Energy Strategies, *Montana Regional Transmission Connectivity Study* (2025), https://nwenergy.org/wp-content/uploads/2026/03/NWEC-MT-Regional-Transmission-Connectivity-Study-Report-1.pdf.

11 Washington Climate Partnership, *Washington Comprehensive Climate Action Plan*.

12 Western Transmission Expansion Coalition, *West-Wide Transmission Study: 10-Year Horizon Report* (2026), https://www.westernpowerpool.org/private-media/documents/WestTEC_10-year_Full_Report.pdf.

13 Greg Kim, *PNW Power Crunch Starts with AI. The Bigger Challenge May Come After*, September 14, 2026, https://www.seattletimes.com/seattle-news/climate-lab/nw-power-crunch-starts-with-ai-the-bigger-challenge-may-come-after/.

14 Bonneville Power Administration, "Bonneville Power Administration Transmission Services," accessed October 21, 2026, https://www.bpa.gov/energy-and-services/transmission.

15 Corrina Ikakoula, "BPA Overview," DOE Tribal Energy Program Review, 2016, https://www.energy.gov/sites/prod/files/2016/01/f28/0911review_ikakoula.pdf.

16 Shriya Pai, *Wildlife-Forward Transmission Siting Toolkit* (National Wildlife Federation, 2026), https://nwf.org/-/media/Documents/PDFs/NWF-Reports/2026/Wildlife-Forward-Transmission-Siting-Toolkit.pdf

17 Molly Robertson and Karen Palmer, "Transmission 102: Building New Transmission Lines," *Resources for the Future*, September 22, 2023, https://www.rff.org/publications/explainers/transmission-102-building-new-transmission-lines/.

18 NorthernGrid covers Washington, Idaho, Oregon, western Montana, Nevada, Utah, and parts of Wyoming.

19 NorthernGrid, *Regional Transmission Plan for the 2024-2025 NorthernGrid Planning Cycle* (2025), https://www.northerngrid.net/private-media/documents/2024-2025_NorthernGrid_RTP.pdf.

20 Zach Zimmerman et al., *2025 Transmission Planning and Development Report Card* (Americans for A Clean Energy Grid and Grid Strategies, 2026), https://gridstrategiesllc.com/wp-content/uploads/ACEG_2025-Transmission-Planning-and-Development-Report-Card.pdf.

21 Claire Wayner, *Understanding FERC's Order 1920* (RMI, 2024), https://rmi.org/app/uploads/dlm_uploads/2024/12/Order-1920A-Reference-Sheet.pdf.

22 SSB 5165 (2023) expanded EFSEC's authority over transmission siting. EFSEC certification is now required for large transmission facilities (at least 500 kilovolts alternating current or 300 kilovolts direct current) that span multiple counties and utility service territories as well as facilities in National Interest Electric Transmission Corridors designated by the U.S. Department of Energy. Other eligible transmission projects can elect to use EFSEC for permitting. To date, only one standalone transmission project, Cascade Renewable Transmission, has applied for permits through EFSEC. See: Washington State Energy Facility Site Evaluation Council, "Electrical Transmission Facilities," accessed November 4, 2026, https://efsec.wa.gov/electrical-transmission-facilities.

23 Sabine Blumenthal, "The Ins and Outs of Siting and Permitting in the Northwest," *Clean Energy Transition Institute*, October 2025, https://www.cleanenergytransition.org/post/the-ins-and-outs-of-siting-and-permitting-in-the-northwest.

24 Emily Moore and Kelly Trumbull, *Unlocking the Northwest's Energy Future* (Sightline Institute, 2026), https://www.sightline.org/unlocking-the-northwests-energy-future/.

25 Energy Facilities- Site Locations, 80.50.060 Revised Code of Washington § Energy facilities to which chapter applies; Applications for certification; Forms; Councils duties; Potential effects to tribal cultural resources, https://app.leg.wa.gov/RCW/default.aspx?cite=80.50.060.

26 Washington State Energy Facility Site Evaluation Council, "Transmission Programmatic Environmental Impact Statement (EIS)," accessed November 4, 2026, https://efsec.wa.gov/transmission-programmatic-environmental-impact-statement-eis.

27 Tammy Cordova and John S. Harvey, "Cover Letter for Relevant State Entities' Ex Ante Cost Allocation Proposed Tariff Amendment," June 2026, https://www.westernenergyboard.org/wp-content/uploads/Cover-letter-for-RSEs-ex-ante-proposal_Northerngridfinal.pdf.

28 Adam Kurland et al., *Beyond the Wires: Lessons from Transmission Lines Built with Community Benefits* (Environmental Defense Fund and Clean Air Task Force, 2025), https://library.edf.org/AssetLink/5oo47j6cy1jrc131hjm3i-8140u0ak26j.pdf.

29 David J. Hurlbut et al., *Tribal Engagement in Transmission Planning* (National Laboratory of the Rockies, 2026), https://docs.nlr.gov/docs/fy26osti/97009.pdf.

30 *"Appropriate and Required": BPA and Building the Grid the Northwest Needs* (Renewable Northwest and the Northwest Independent Power Producers Coalition, 2023), https://renewablenw.org/resources/bpa-the-grid-the-northwest-needs/, 22.

31 2025 BPA Transmission Plan (Bonneville Power Administration, n.d.), https://www.bpa.gov/-/media/Aep/transmission/attachment-k/2025-BPA-Transmission-Plan_Final.pdf, 30.

32 Bonneville Power Administration, "Grid Access Transformation Project," Bonneville Power Administration, https://www.bpa.gov/energy-and-services/transmission/grid-access-transformation-project.

33 Bonneville Power Administration, "Grid Expansion and Reinforcement Portfolio (GERP)," Bonneville Power Administration, https://www.bpa.gov/energy-and-services/transmission/grid-expansion-and-reinforcement-portfolio.

34 Natalie Manitius, *Beyond the Wires: Big Eddy-Knight Transmission Line* (Environmental Defense Fund and Clean Air Task Force, 2025), https://library.edf.org/AssetLink/354a8wox4u328e0wesbhk32gxrc475yf.pdf.

35 Joe Hack and Josh Rogers, *Community Benefits Snapshot: North Plains Connector Transmission Line Community Engagement and Benefits* (World Resources Institute and Great Plains Institute, 2025), https://www.wri.org/snapshots/community-benefits-snapshot-north-plains-connector-transmission-line-community-engagement.

36 Hack and Rogers, Community Benefits Snapshot.

37 Washington State Department of Commerce, *Electrical Transmission Workforce Study* (2025), https://app.leg.wa.gov/ReportsToTheLegislature/Home/GetPDF?fileName=Commerce%20Reports%20-%20Electrical%20Transmission%20Workforce%20Report_Final_c6b9a5b7-8c41-46a8-8449-6f46c092f3e4.pdf.

38 There are varying categorizations and definitions that exist when discussing ATTs. In this document we use "advanced transmission technologies" as an umbrella term that includes grid-enhancing technologies and advanced/high-performance conductors. The term "grid-enhancing technologies" as used in this document does not include high-performance conductors. The terms "high-performance conductors" and "advanced conductors" can be used interchangeably.

39 Working for Advanced Transmission Technologies, "WATT Coalition," accessed May 25, 2026, https://watt-transmission.org/.

40 James Okullo et al., *Utility Perspectives on Making Grid-Enhancing Technologies Work* (Energy Systems Integration Group, 2025), https://www.esig.energy/ags-user-group/utility-perspectives-report/.

41 WATT Coalition, "About Advanced Power Flow Control," accessed October 6, 2026, https://watt-transmission.org/about-advanced-power-flow-control/.

42 WATT Coalition, "About Transmission Topology Optimization," accessed October 6, 2026, https://watt-transmission.org/about-transmission-topology-optimization/.

43 "Strengthening America's Power Grid," AMP Coalition, accessed May 25, 2026, https://www.ampcoalition.org.

44 Okullo et al., *Utility Perspectives on Making Grid-Enhancing Technologies Work*.

45 Pablo A. Ruiz, "Transmission Switching and Topology Optimization in Long-Term Grid Planning," *ESIG*, July 30, 2024, https://www.esig.energy/transmission-switching-and-topology-optimization-in-long-term-grid-planning/.

46 Jason Marshall, "Transmission Planning's next Frontier: A Rebuttable Presumption for Modern Grid Technologies," Utility Dive, June 11, 2024, https://www.utilitydive.com/news/transmission-planning-rebuttable-presumption-atts-gets-ferc/718460/.

47 "Western Transmission Expansion Coalition," Western Power Pool, accessed May 25, 2026, https://www.westernpowerpool.org/about/programs/western-transmission-expansion-coalition.

48 Western Transmission Expansion Coalition, *West-Wide Transmission Study: 10-Year Horizon Report* (2026), https://www.westernpowerpool.org/private-media/documents/WestTEC_10-year_Full_Report.pdf.

49 "Electric Transmission Development: The Role of States," National Conference of State Legislatures, January 2026, https://www.ncsl.org/energy/electric-transmission-development-the-role-of-states.

50 "About RETA," New Mexico Renewable Transmission Authority, accessed October 6, 2026, https://nmreta.com/.



High Voltage Transmission Lines at Sunset. Bonneville Power Administration

51 "The Colorado Electric Transmission Authority," Colorado Electric Transmission Authority, accessed October 6, 2026, https://www.cotransmissionauthority.com/.

52 Electric Transmission System- Washington Electric Transmission Authority, Senate Bill 6355, Washington State Legislature (2026), https://lawfilesext.leg.wa.gov/biennium/2025-26/Pdf/Bills/Session%20Laws/Senate/6355-S.SL.pdf?q=20260528195750, 2.

53 Washington Electric Transmission Authority, 43.52B.030 Revised Code of Washington, https://app.leg.wa.gov/RCW/default.aspx?cite=43.52B.030.

54 Washington Electric Transmission Authority.

55 "The Western Transmission Consortium," The Western Transmission Consortium, accessed November 4, 2026, https://www.westerntransco.com.

56 The 11 Western states are: Arizona, California, Colorado, Idaho, Montana, New Mexico, Nevada, Oregon, Utah, Washington, and Wyoming. These states are in the Western Interconnection, which is the grid that covers the Western United States.

Note: Some parts of this document come from previous CETI work, primarily a Washington transmission assessment brief. See this CETI blog for more information about the brief: https://www.cleanenergytransition.org/post/washingtons-transmission-future-priorities-barriers-and-emerging-solutions. Some content also comes from other previous CETI blogs.

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