U.S. Department of ENERGY | Grid Deployment Office

Offshore Wind Transmission Planning

West Coast Offshore Wind Transmission Action Plan

In January 2025, the U.S. Department of Energy (DOE)'s Grid Deployment Office (GDO) and U.S. Department of the Interior (DOI)'s Bureau of Ocean Energy Management published *An Action Plan for Offshore Wind Transmission Development in the U.S. West Coast Region* (Action Plan), which recommends actions needed to achieve effective coastal and offshore wind transmission development on the U.S. West Coast through 2050.

The Action Plan details how clean, reliable power from wind resources could efficiently be captured off the West Coast of the United States to significantly foster domestic energy production and enhance the region's energy grid. Recommendations outlined within the Action Plan focus on challenges for West Coast coastal and offshore wind transmission development and are intended for implementation by Federal, state, and local governments, as well as industry. However, the actions would benefit a wider range of entities, including Tribes, transmission planners, non-profit organizations, and labor organizations, among others.

About the Action Plan

Throughout 2024, DOE and BOEM led a series of 12 workshops that led to the development of a set of recommendations for addressing offshore wind transmission challenges along the West Coast. This targeted engagement process sought individual input from Tribal Nations, Federal and state agencies, cable and transmission providers, fisheries organizations, non-governmental organizations, developers, unions, utilities, and other ocean co-users and interested parties on the aspects of transmission planning which are most meaningful and applicable to them. The workshops were complemented by a Request for Information that allowed individuals and organizations to submit written input about transmission topics. The Action Plan was also informed by the West Coast Offshore Wind Transmission Study (WOW-TS), led by DOE's National Laboratories.

DOE and BOEM developed over 50 recommendations informed by these inputs. The Action Plan organizes these recommendations into five categories that each address a specific transmission development need: planning and operations; partnerships, collaboration and community benefits; Tribal opportunities and support; technology advancement and standardization; and environmental review, siting, and permitting.

Public and private sector implementation of the recommendations in this Action Plan will enable benefits from West Coast floating offshore wind, **providing a secure, reliable, and economically beneficial energy future.**

Summary of Recommended Actions

Planning and Operations

Improved transmission planning is essential for effective offshore wind integration into the electric grid. A long-term plan using a phased and flexible approach for transmission development will achieve the greatest economic benefit while making the best use of early transmission investments. Fair and transparent cost allocation mechanisms will ensure that the costs of offshore wind transmission are appropriately shared and ratepayer benefits are maximized.

Recommendations Include:

- Expanding tools and analysis to support modeling
- Reducing ratepayer impacts

Partnerships, Collaboration, and Community Benefits

Federal, Tribal, state, and local government agencies must work collaboratively to ensure that transmission planning, supply chain development, and permit reviews occur effectively while protecting key values and rights. Strong partnerships with industry, fishing communities, and other ocean co-users to aid least conflict transmission cable siting, develop community benefit frameworks, and expand job training opportunities are vital to success.

Recommendations Include:

- Forming a multi-state working group
- Coordinating Federal actions
- Implementing fishery management strategies

Tribal Opportunities and Support

Some Tribes lack resources and capacity to fully engage in input opportunities, consultations, or other forums to provide feedback on the offshore wind development process. Federal and state governments can continue to address these and other Tribal concerns by communicating early and often, supporting opportunities that build their capacity, funding Tribal-led research, and upholding existing policies that support collaborative agreements.

Recommendations Include:

- Elevating Indigenous Knowledge
- Streamlining communication
- Expanding support for capacity building

Technology Advancement and Standardization

Investment in research, development, demonstration, and standardization of key technologies–including floating substations, high voltage dynamic cables, and advanced high voltage direct current systems–will accelerate the commercialization of floating offshore wind transmission infrastructure.

Recommendations Include:

- Increasing research and development funding
- Exploring voluntary equipment standardization

Environmental Review, Siting, and Permitting

Research, analysis, data collection, and cross-agency collaboration can help avoid environmental conflicts related to the siting and permitting of new transmission infrastructure. Agencies with regulatory authorities, in partnership with Tribal Nations, should guide specific environmental efforts that address knowledge gaps.

Recommendations Include:

- Prioritizing environmental research efforts for decision making
- Coordinating government processes for transmission siting and permitting

Learn more about DOE's coastal and offshore wind transmission activities and contact OSWtransmission@hq.doe.gov for more information about the Action Plan.