

U.S. DEPARTMENT OF
ENERGY

Office of
**ENERGY EFFICIENCY &
RENEWABLE ENERGY**



GDO

GRID DEPLOYMENT OFFICE

Briefing for the Massachusetts Clean Energy Transmission Working Group September 22, 2023

From Convening to Implementation: Next Steps in Federal Action

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Atlantic Region Tasks and Action Plan

Prior Tasks

- ▶ Literature Review and Gaps Analysis
- ▶ Scoping Calls
- ▶ Transmission Study
- ▶ Convening Workshops
- ▶ Recommendations Development
- ▶ Action Plan Publication: September 19, 2023



Next Steps

- ▶ Implementation of Recommendations
 - Tribal Nation Technical Assistance Program
 - Northeast States Collaborative
 - Transmission Standardization for Offshore Wind
 - Modeling and Tool Improvement Projects

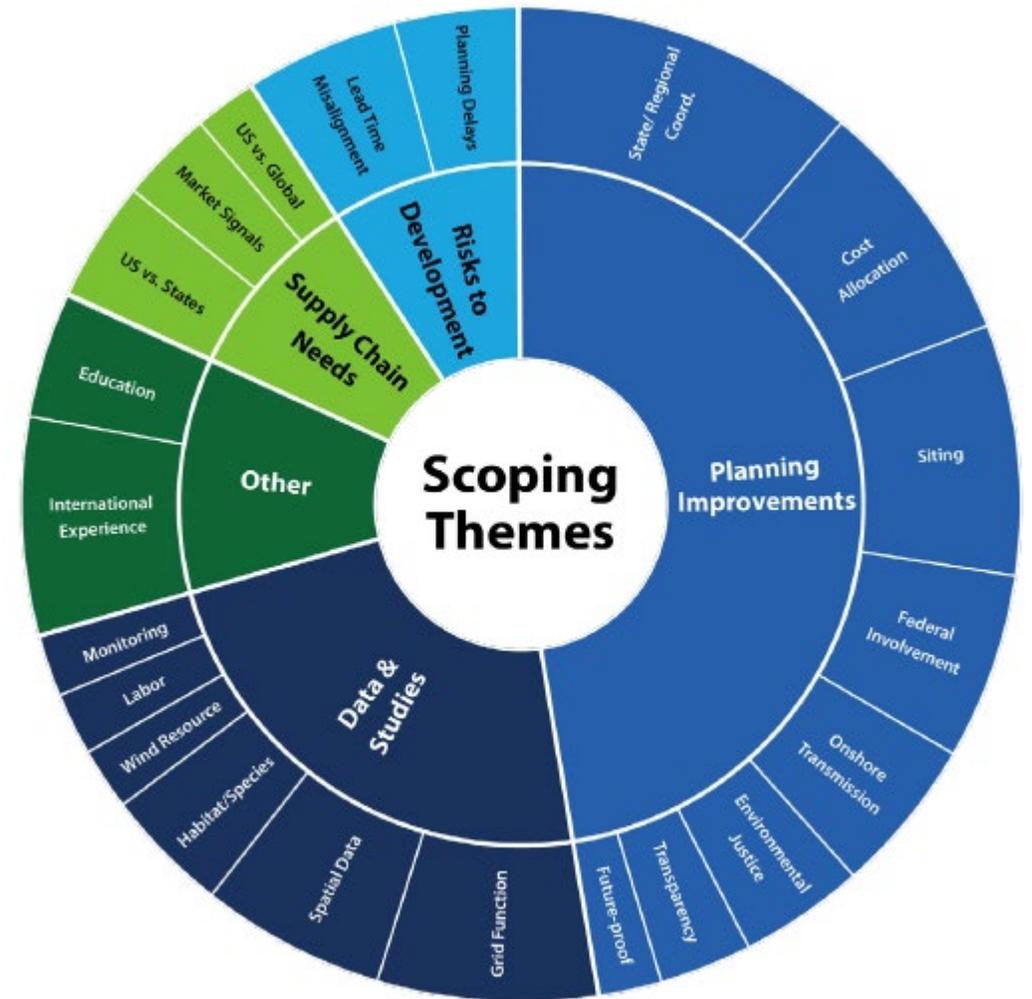
Scoping Calls and Convening Workshops

Scoping Calls (2021)

- ▶ DOE and BOEM hosted 21 listening sessions
- ▶ More than 100 different entities consulted (including federal agencies; Tribal Nations; state agencies; grid operators; cable and transmission providers; fisheries organizations; NGOs; developers; regional ocean coordinators; unions; and utilities.)

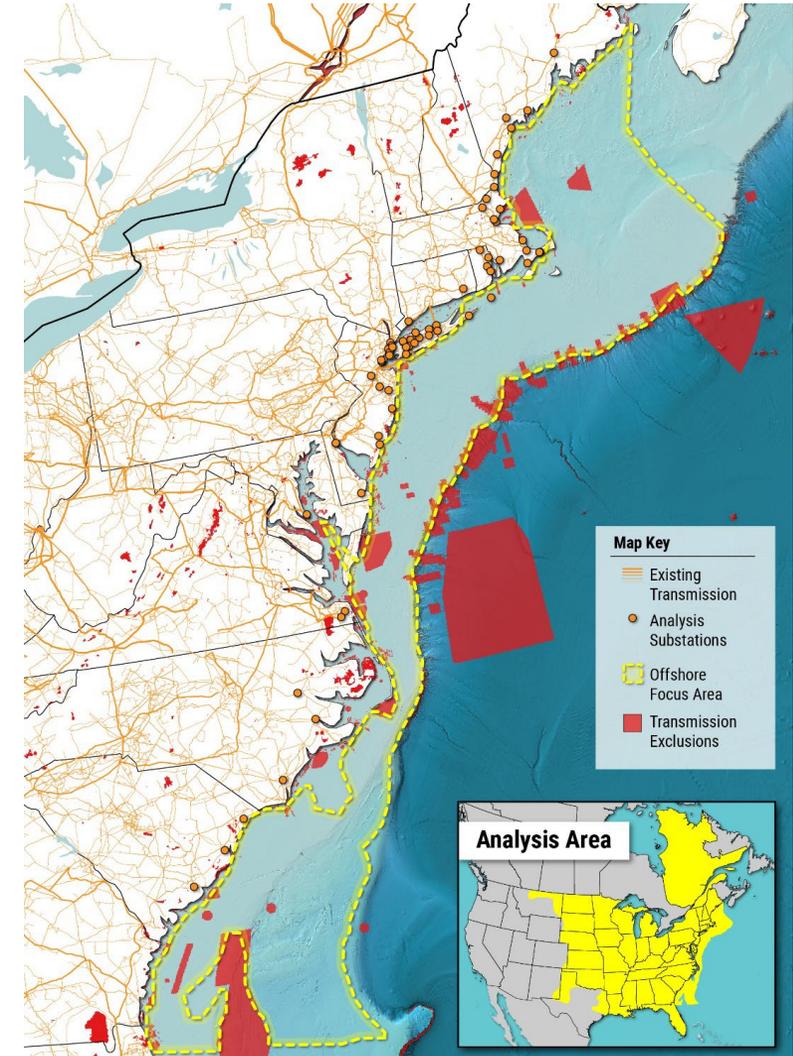
Convening Workshops (2022-2023)

- ▶ DOE and BOEM hosted 9 workshops and a Tribal Nation Dialogue
- ▶ Over 40 hours of expert presentations and facilitated roundtable discussions
- ▶ More than 875 individuals participated, representing 443 entities

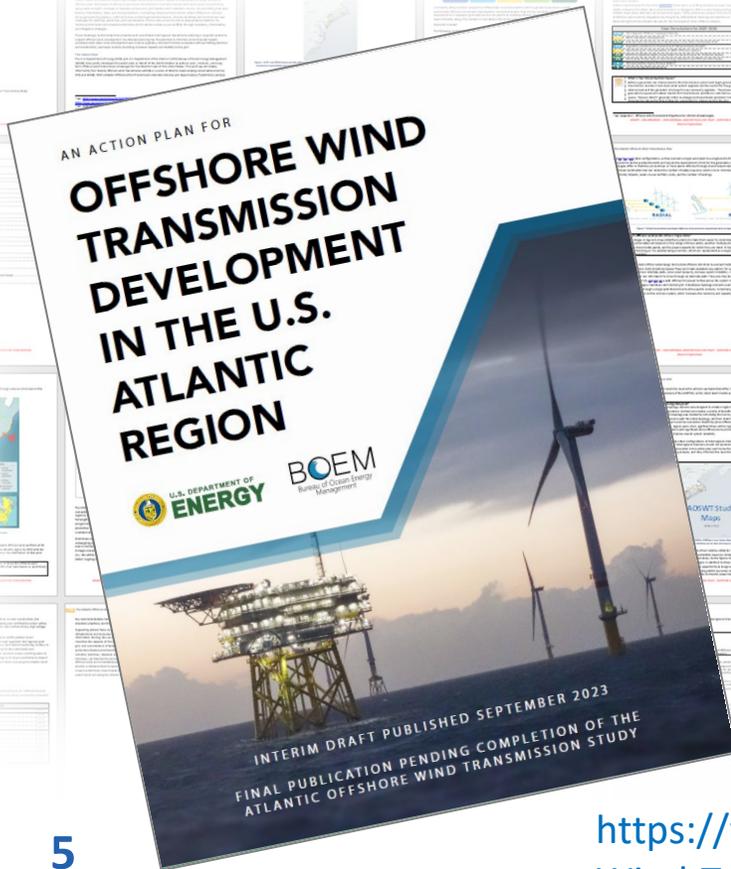


Atlantic Offshore Wind Transmission Study

- ▶ 2-year study (November 2021 – December 2023)
- ▶ DOE Wind Energy Technologies Office (WETO), with analysis led by the National Renewable Energy Laboratory (NREL) and Pacific Northwest National Laboratory (PNNL)
- ▶ Atlantic Coast regional scope from Maine through South Carolina
- ▶ Evaluate coordinated offshore wind transmission solutions for offshore wind deployment
- ▶ Alignment with federal and state offshore wind goals
 - Near-term (2030) and Long-term (2050)
- ▶ Economic, reliability, and resilience analyses
- ▶ Environmental and siting factors and ocean co-use considerations
- ▶ NREL website: <https://www.nrel.gov/wind/atlantic-offshore-wind-transmission-study.html>



Atlantic Offshore Wind Transmission Action Plan



- ▶ 41 recommendations
- ▶ Spanning 2023-2050
- ▶ 5 categories

- ▶ Co-written by DOE and BOEM
- ▶ Input provided by FERC and NOAA

- ▶ Published September 19, 2023

Immediate Recommendations



Immediate Actions Before 2025		Reference Section
★ ★ ★	Offshore Wind Transmission State Collaborative	1.1.1
★ ★ ★	Regional Transmission Planning Collaborative	1.1.2
★ ★ ★	Tribal Nation Engagement	1.1.3
★ ★ ★	Systematic Evaluation of Points of Interconnection Capacities and Landfall Locations	2.1.2
★ ★ ★	North American Electric Reliability Corporation (NERC) Reliability Standards Around Offshore Transmission	2.3.1
★ ★ ★	Voluntary Cost Allocation Assignments	4.1.1
★ ★	"Network-Ready" Equipment Standards	3.1.1
★ ★	Equipment Rating Standardization for Transmission Components	3.1.2
★ ★	Research and Development for Offshore Transmission Technology Commercialization	3.3.1
★ ★	Expansion of Domestic Supply Chain and Manufacturing	3.4.1
★ ★	Skilled U.S. Workforce Development	3.4.2
★ ★	Federal-State Aligned Offshore Wind Transmission Siting	5.1.2
★ ★	Guidance for Federal Environmental Review and Permitting Requirements and Procedures	5.2.2
★	Environmental Research & Development for Offshore Wind Transmission	3.3.2



2025-2030 Recommendations



Near-Term Actions for 2025–2030		Reference Section
★★★	Interregional Offshore Topology Planning	2.2.1
★★★	HVDC Standards Development	3.2.1
★★★	Federal Preferred Routes for Transmission in the Outer Continental Shelf	5.1.1
★★	Regulatory Guidance for Ownership of Network-Ready Projects	2.4.2
★★	Data Sharing for Interoperability of HVDC Offshore Systems	3.2.3
★★	BOEM Competitive Right-of-way Grant Issuance Process for Preferred Routes	5.1.3
★★	Multi-state Partnership on Clean Energy Standards and Offshore Wind Goals	5.1.4
★	Interconnection Queue Process Reform	2.4.1
★	Community Benefit Agreements	5.2.5



2030-2040 Recommendations



Mid-Term Actions for 2030–2040		Reference Section
★ ★ ★	Multi-Terminal HVDC Test and Certification Center	3.2.2
★ ★	Regulated Interregional Joint Planning Processes	2.2.2
★ ★	Interregional Transfer Capacity Minimums	2.3.2
★ ★	Assignment of Offshore Cables and Substations for Continued Use as Shared Infrastructure	5.2.3
★	Enhancement of Existing Market Monitoring Roles	2.4.3



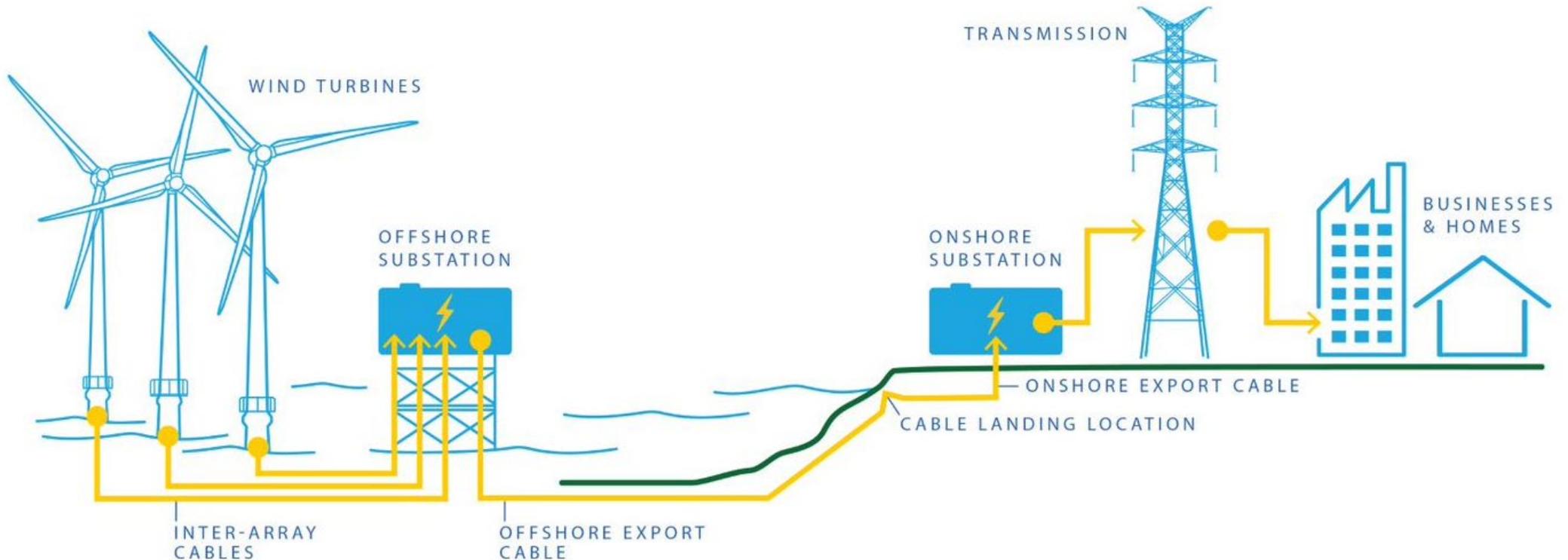
Sustained Recommendations



Sustained Actions for Enduring Growth		Reference Section
★ ★ ★	Improved environmental review and permitting frameworks	5.2.1
★ ★	State-led transmission planning	2.1.1
★ ★	Cost allocation methodology	4.1.3
★ ★	Federally designated National Interest Electric Transmission Corridors	4.2.3
★ ★	Permitting agency resources and staffing	5.2.4
★	International cooperation	1.2.1
★	Communication practices and public engagement	1.2.2
★	Transmission optimization with grid-enhancing technologies	3.1.3
★	Best practices for benefit valuation	4.1.2
★	Equity in ratemaking	4.1.4
★	Consumer advocates	4.1.5
★	Relevant Federal funding, financing, and technical support	4.2.2
★	Utilization of existing Federal facilities along the coast	5.1.5



Implementation Underway



Tribal Nation Technical Assistance Program

Action Plan Recommendation 1.1.3

- ▶ New national program
- ▶ GDO is offering technical assistance and trainings to support Federally Recognized Tribes' engagement in transmission planning and development for offshore wind in the U.S.
- ▶ The \$3.9M program is informed by conversations with Tribal Nations and is comprised of:

Capacity Building (Educational Resources)

Education and training designed to provide clear and accessible information

Expert Match (Phone-an-Expert)

Direct access to subject-matter experts and researchers at DOE's national laboratories

Participation Support (Convening and Event Attendance)

Funding to offset the financial burden of tribal participation at offshore wind transmission-related forums

Northeast States Collaborative

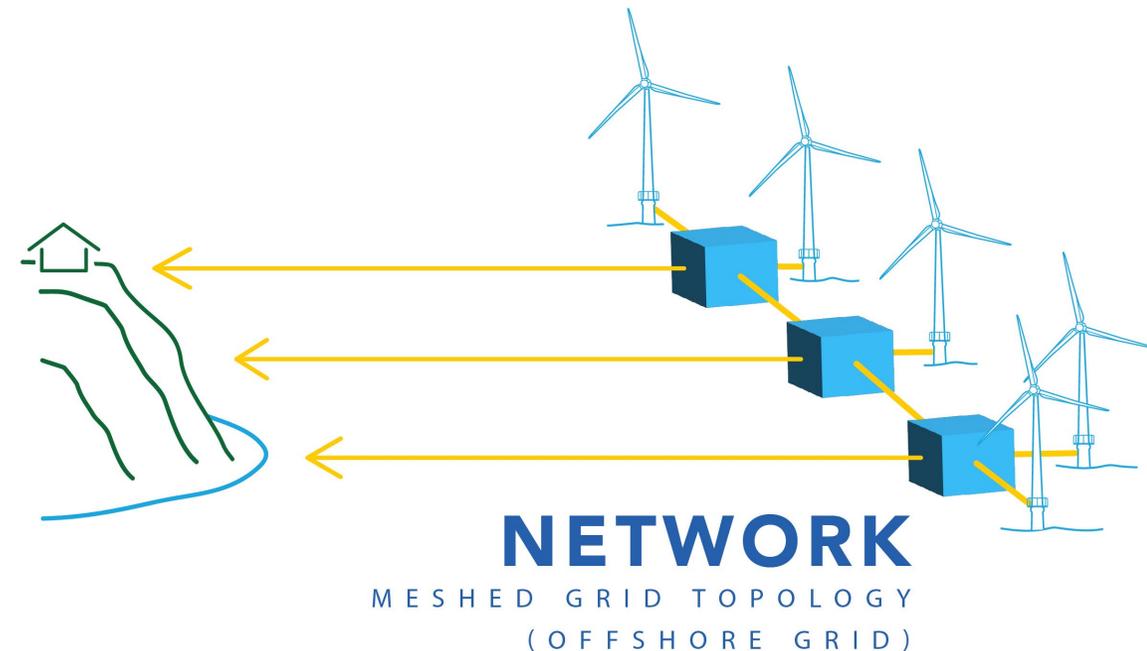
Action Plan Recommendation 1.1.1

- ▶ Eight northeastern states sent a letter to GDO requesting support for interregional and offshore transmission planning efforts, including the formation of a “Northeast States Collaborative on Interregional Transmission.”
- ▶ Closely related to Action Plan Recommendation 1.1.2: Regional Transmission Planning Collaborative (among relevant ISO/RTOs in the Northeast).

Transmission Standards

Action Plan Recommendation 3.1.1 and 3.2.1

- ▶ HVDC standards development with the intention to enable the expandability of future meshed HVDC grid for OSW deployment at scale, addressing interoperability challenges
 - Topic areas may include:
 - HVDC standards and benchmark system development
 - Multi-terminal HVDC controls and functional requirements
 - HVDC curriculum development for education and workforce training



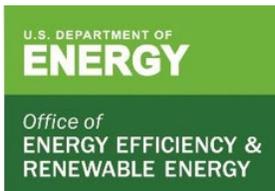
Thank You



www.energy.gov/gdo/offshore-wind-transmission-federal-planning-support



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