Connecting Offshore Wind to the Grid

Regional Transmission Planning, Interconnection, and What It Means

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Presented by RENEW Northeast

ON THE LINE

ABOUT RENEW NORTHEAST

Non-profit with 17 years of responsible and reliable clean energy development advocacy

Governed by clean energy industry and leading environmental organizations

Single, coherent voice to achieve clean energy policy goals

Advocating for responsible clean energy solutions.

ON THE LINE

LOCAL PERSPECTIVES ON ELECTRIC INFRASTRUCTURE

- RENEW is building a network of community leaders who are interested in ensuring that local voices and interests are part of the growing dialogue around development of our regional electric grid.
- Communities have a lot “On the Line” and RENEW wants to share our resources and knowledge to amplify local perspectives.
- Join our mailing list: Receive updates on pending policy changes, events, and issues important to you

VISIT: RENEW-NE.ORG/ON-THE-LINE

OUR FEATURED SPEAKER

Connecting Offshore Wind to the Grid

Peter Shattuck

Director, Power Advisory

RENEW Northeast

ON THE LINE

Connecting Offshore Wind to the Grid

Prepared for RENEW Northeast

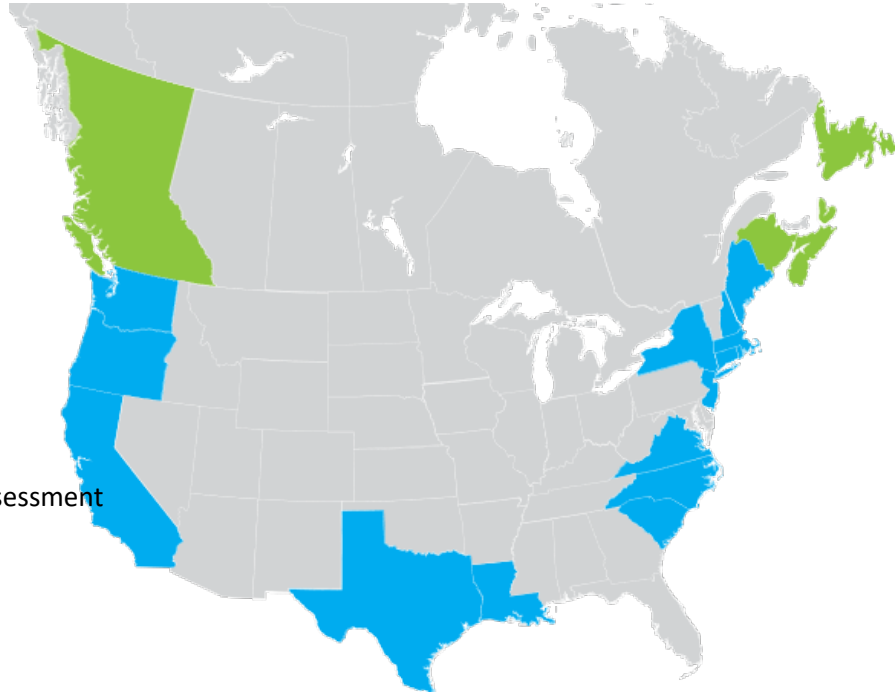
June 11, 2026

Power Advisory

Power Advisory is a Boston-based electricity sector focused management consulting firm that specializes in energy market analysis, strategy, power procurement, policy development, and project development.

We have worked with offshore wind developers, state agencies, transmission developers, policymakers, and stakeholders across the US and Canada to support the buildout of offshore wind and the related transmission. The firm has significant experience working in the New England electricity system and supporting the interconnection of offshore wind projects in the region.

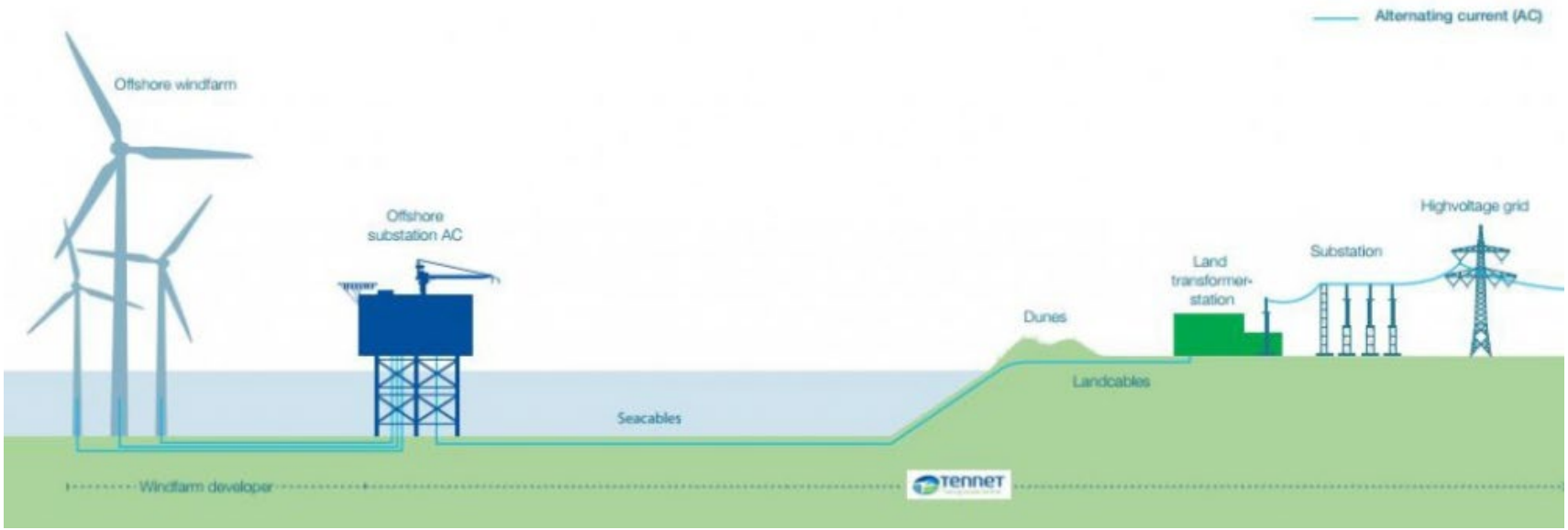
Experience across North America



Offshore Wind Services Provided

- Market Analysis
- Project Development Support
- Procurement Support
- Transmission & Interconnection Assessment
- Contract Pricing & Risk Assessment
- Offtake Assessment
- BOEM Auction Support

How Offshore Wind Connects to the Grid



Source: German/Dutch Grid Operator TenneT

Offshore Wind Interconnection Process – Developers' Perspective

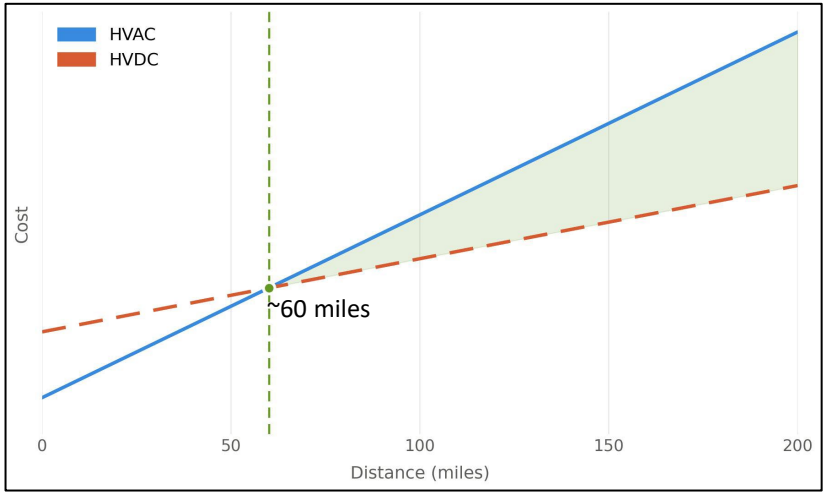
1. Identify Potential Points of Interconnection (POIs)

a. Assess grid hosting capacity – typically involves third-party analysis

b. Determine ease of access through routing analysis. This considers different potential routes onshore

c. Assess distance of POI from wind farm and determine need for High Voltage Direct Current (HVDC) transmission

2. File interconnection request with ISO/RTO

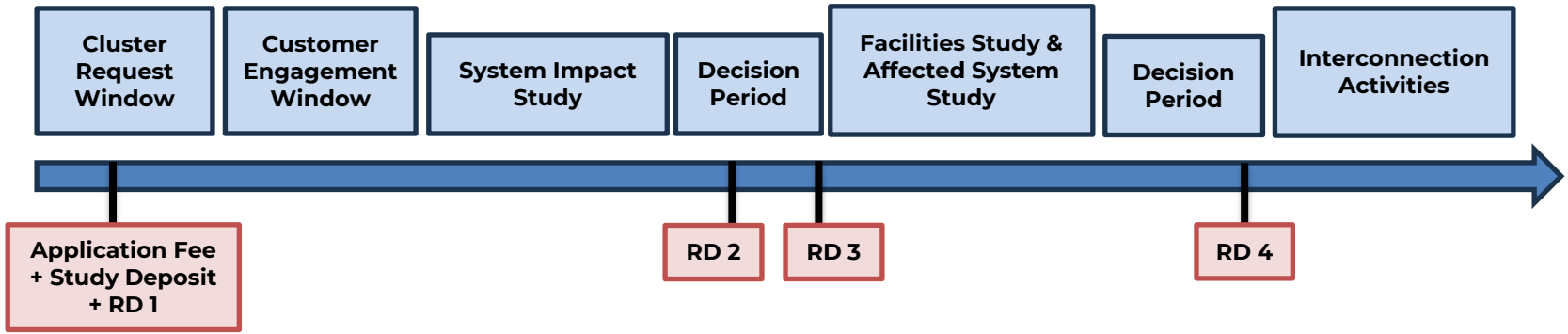


- HVDC systems include relatively high-cost convertor stations but are more cost effective when routing submarine line over ~60 miles

ISO-NE Interconnection Process

- Projects proposing grid connection are studied to determine necessary grid upgrades.
- ISO-NE, the grid operator of New England, transitioned its interconnection process from a serial queue to a "first-ready, first-served" **cluster study process** to clear application backlogs and comply with a Federal Energy Regulatory Commission (FERC) Order.
- The goal of the cluster study process is to interconnect projects, such as offshore wind, more efficiently and require projects to provide financial readiness deposits to remain in the queue, eliminating “dead” projects.
- The ISO-NE cluster study process should take around **18-22 months** depending on how long certain phases take and if restudies are required.

ISO-NE Cluster Study Timeline and Phases

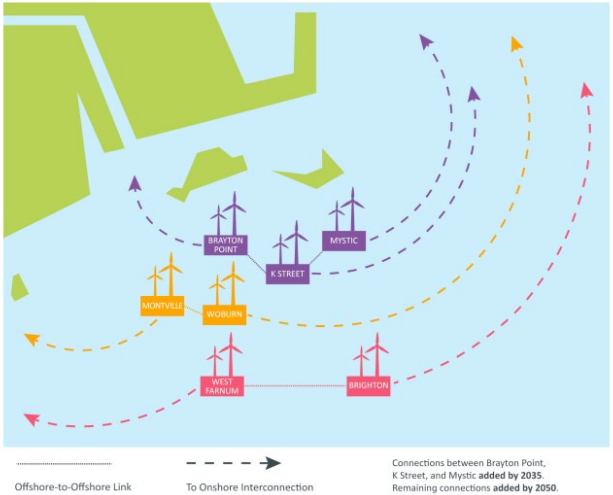


Readiness Deposits (RD)

New England Grid Planning

- ISO-NE plans the regional power grid through forecasting grid scenarios, identifying needs and evaluating solutions. This occurs via processes such as the Regional System Plan, longer-term studies, and RFPs.
- ISO-NE released the 2050 Transmission Study in February 2024, identifying the region's long-term transmission needs to serve load while satisfying reliability criteria and identifying "roadmaps" for necessary projects.
- The report highlights four areas in which there are high likelihood concerns that call for additional transmission by 2035.
    - One interface, the Maine-New Hampshire and North-South, exhibits congestion when there is a need to transmit large amounts of wind energy south during winter peaking conditions. This need is currently being addressed through the first Longer-Term Transmission Planning (LTTP) RFP issued in April 2025 and currently evaluating proposals, which is the first of its kind in ISO-NE.
    - Another area is the Boston Import: which requires increasing import paths and supply into the Boston area to serve load growth. One potential solution identified is the Boston Import Offshore Grid (see right).

2050 Transmission Study: Boston Import Offshore Grid Roadmap



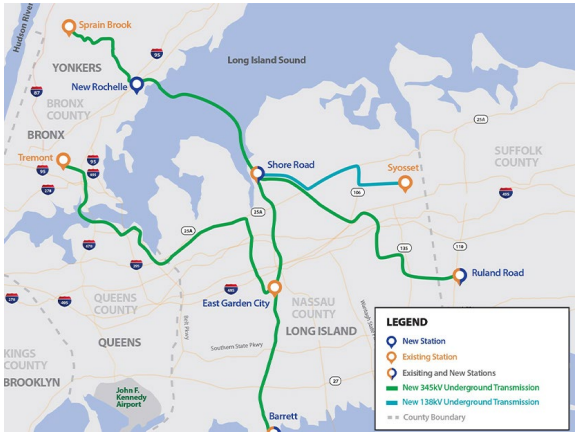
Transmission Grid Planning Processes

- In NY, the New York Independent System Operator (NYISO) administers the Public Policy Transmission Planning Process along to determine if there exists a Public Policy Transmission Need (PPTN) and solicit solutions.

- Recent PPTNs focused on integrating offshore wind:
    - Long Island PPTN (Concluded, June 2023): to increase export from Long Island to the rest of the state to ensure access to the full output of a minimum of 3,000 MW of offshore wind. Propel NY (New York Transco and NYPA) proposal was selected, with an estimated commercial operation date of 2030.
    - NYC PPTN (Terminated, July 2025): sought “end-to-end” solutions to accommodate the full output of at least 4,770 MW and up to 8,000 MW of incremental offshore wind into NYC. The PSC terminated the solicitation due to federal decisions halting the development of offshore wind projects.

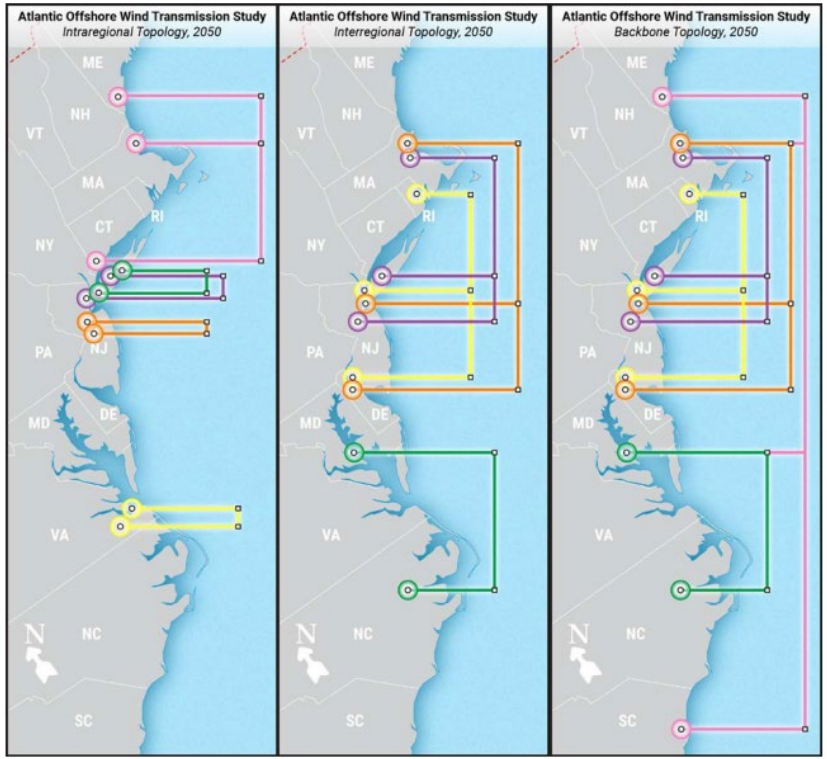
- In NJ, mid-Atlantic grid operator PJM (equivalent of ISO-NE), conducted a State Agreement Approach (SAA) solicitation for transmission to achieve NJ’s offshore wind goals.
    - The first SAA resulted in PJM and New Jersey awarding $1.1 billion of projects to construct onshore transmission facilities necessary to deliver large quantities of offshore wind.

Propel NY Map (Long Island PPTN)



Offshore Transmission Grid

AOSWTS 2050 Scenarios

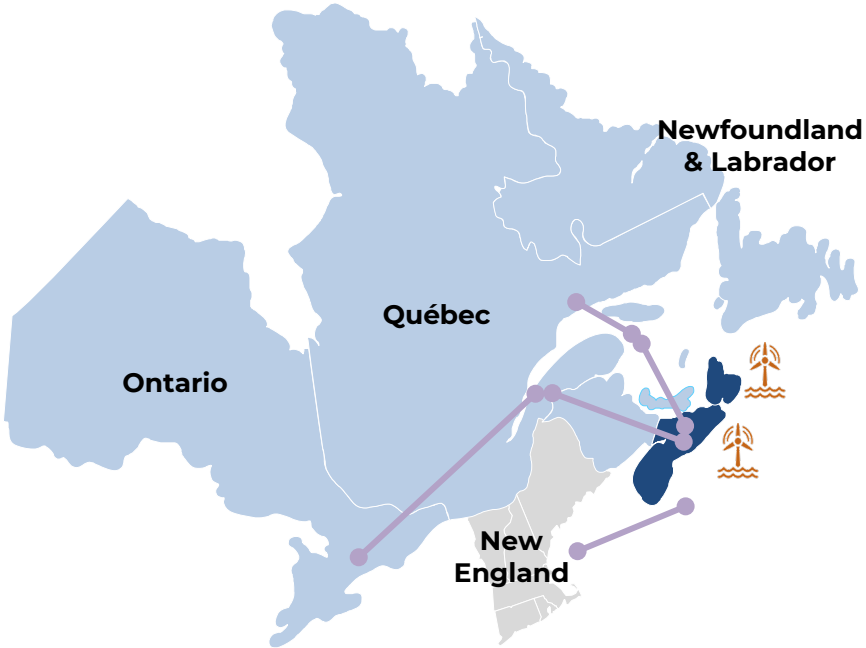


- An alternative pathway to directly connecting each offshore wind project through one transmission line is to build an offshore transmission grid.
- An offshore transmission grid could enable the interconnection of offshore wind projects and interregional electricity transfers between regions along the entire east coast.
- The Atlantic Offshore Wind Transmission Study (AOSWTS), published by the Department of Energy in 2024, identifies and evaluates pathways to enable offshore wind energy deployment in the Atlantic Ocean through coordinated offshore transmission solutions in the near and long term.
- The Study found that adding transmission connections between wind farms offshore provides significant value to the existing grid, which is heavily congested in the Atlantic region and exhibits price differences between regions.
- An offshore transmission network could reduce curtailment, reduce usage of higher-cost generators, and contribute to reliability.

Nova Scotia Wind West

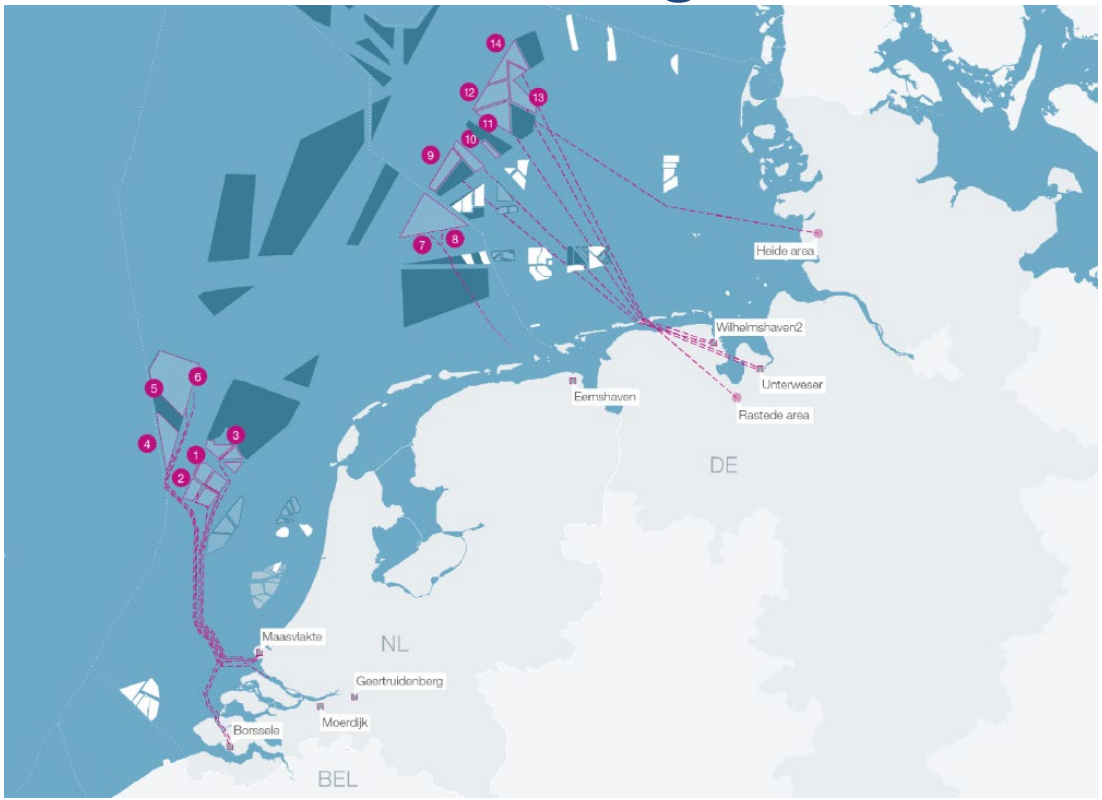
- “Wind West” is an interregional transmission initiative in Atlantic Canada to deliver power from offshore wind off the coast of Nova Scotia to eastern provinces of Canada that require additional generation supply, especially renewable energy.
- Nova Scotia is in the process of licensing 5 GW of offshore wind energy. The province does not have enough energy demand to use all the power that offshore wind in the region can supply.
- The Nova Scotia Ministry of Energy (NS MoE) announced the **Wind West Strategy** in August 2025 advocating for federal support both financially and from the newly established federal Major Projects Office (MPO) to play a coordinating role across jurisdictions to enable delivery of Atlantic offshore wind to Eastern Canada and Northeast US markets.
- Initial projects are likely to deliver power to Québec, and in the future potentially to New England.

Nova Scotia Wind West Illustration



European Approaches: TenneT 2 GW Program

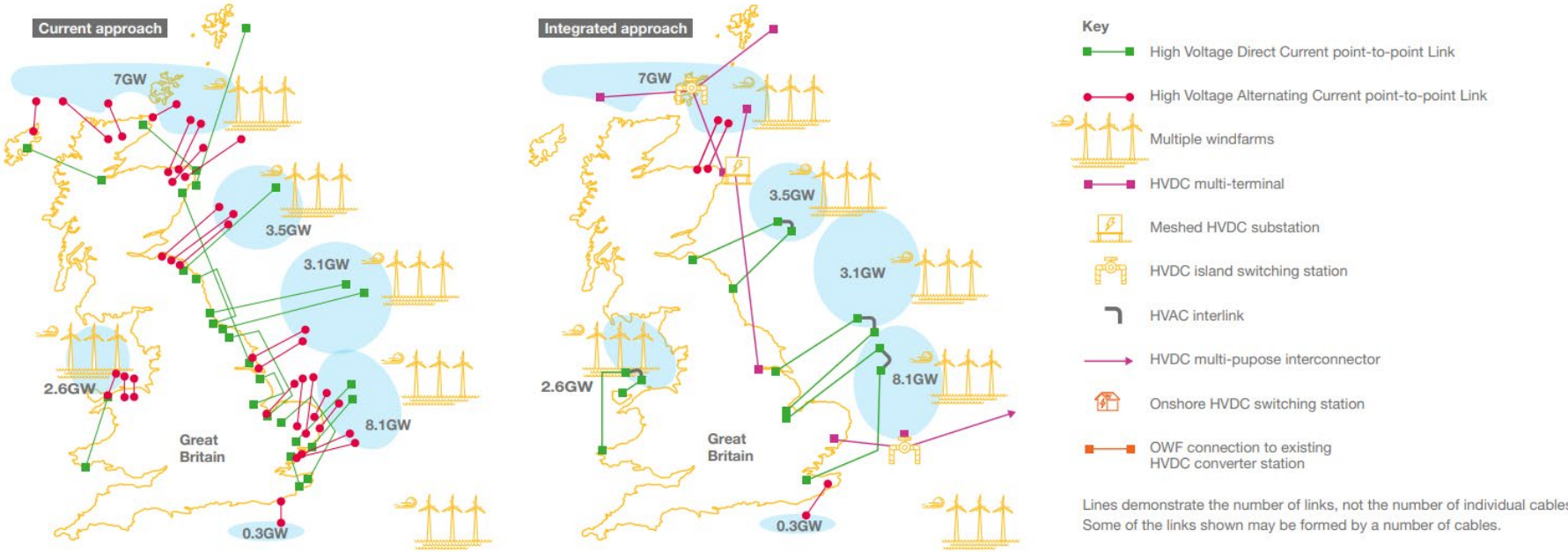
- Standardized transmission configuration.
- Fourteen 2 GW HVDC export systems.
- Wind farms connect to HVDC collector/converter stations offshore.
- TenneT delivers power to shore, carries out necessary onshore upgrades.
- Standardization reduces engineering complexity.
- No direct analogue to TenneT exists in the U.S.
- However, industry, policymakers and stakeholders are collaborating to pursue standardization in the U.S.



Source: TenneT

European Approaches: National Grid UK Program

Holistic approach to planning onshore and offshore transmission for offshore wind



Source: National Grid Energy System Operator

Questions?

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Upcoming Events

JUNE

Energy Affordability in New England: The Case for Transmission and Renewables

Monday, June 15 · 12–1:15 pm
Webinar with ACORE's Macro Grid Initiative

The Energy Rules That Could Shape Local Growth: A Briefing on Massachusetts' New Siting and Permitting Reforms

Tuesday, June 16 · 8–10 am
Hybrid event with the Cape Cod Chamber of Commerce

SUMMER / FALL

Electromagnetic Fields: A 3-Part Series
Onshore Wind · Offshore Wind · Myth Busting

Dates to be announced

EMF and Offshore Fishing
Examining electromagnetic fields and offshore fishing

Fall 2026

RENEW Northeast

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THANK YOU FOR ATTENDING!

SHARE YOUR COMMENTS ON OUR FEEDBACK FORM
OR EMAIL NRAIKE@RENEW-NE.ORG

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LOCAL PERSPECTIVES ON ELECTRIC INFRASTRUCTURE