Commonwealth of Massachusetts

Energy Infrastructure Siting and Permitting Reform Overview

Massachusetts' Clean Energy Needs

180 MW of wind by 2025
4,470 MW AC of solar by 2025

3,650 MW of wind by 2030
8,360 MW AC of solar by 2030

24 GW of wind by 2050
27+ GW AC of solar by 2050

IN-STATE RENEWABLE ELECTRIC CAPACITY

113 MW of wind capacity in 2022
3,325 MW AC of solar capacity in 2022

GHG REDUCTIONS

Net zero emissions by 2050

2021 · 2022 · 2023 · by 2025 · by 2030 · by 2050

ENERGY STORAGE CAPACITY

550 MWh of installed energy storage as of February 15, 2023

Energy storage target of **1,000 MWh** by 2025

5.8 GW of storage by 2050

ELECTRIC LOAD

By 2035, likely to have grown by as much as 50% compared to today (60 GWh to 90+ GWh)

Challenges with Current Process

- Permitting processes are lengthy, unpredictable, and sometimes duplicative
  - Timelines vary significantly and some projects have taken up to a decade to complete.
  - Historically, it has taken the Energy Facilities Siting Board (EFSB) between 1 and 4 years to issue approval to construct, after which the project still needs to get all other permits.
- Opportunities for appeal of each separate permit can cause years of delays.
- Communities feel they often do not have sufficient or impactful input into the siting of major infrastructure projects.
- Communities may not have the resources necessary to fully engage in permitting processes.
- **Massachusetts will not meet our GHG reduction limits without reform.**

Overview

- Commission was established by Executive Order 620
- Required to advise the Governor on:
  1. **accelerating the responsible deployment of clean energy infrastructure through siting and permitting reform** in a manner consistent with applicable legal requirements and the Clean Energy and Climate Plan;
  2. **facilitating community input** into the siting and permitting of clean energy infrastructure; and
  3. **ensuring that the benefits of the clean energy transition are shared equitably** among all residents of the Commonwealth.
- Supported by an Interagency Siting and Permitting Task Force and a Siting Practitioner Advisory Group.
- 15 meetings held over eight months.
- Two public listening sessions held and over 1,500 public comments received.
- Recommendations sent to Governor Healey on March 29, 2024.

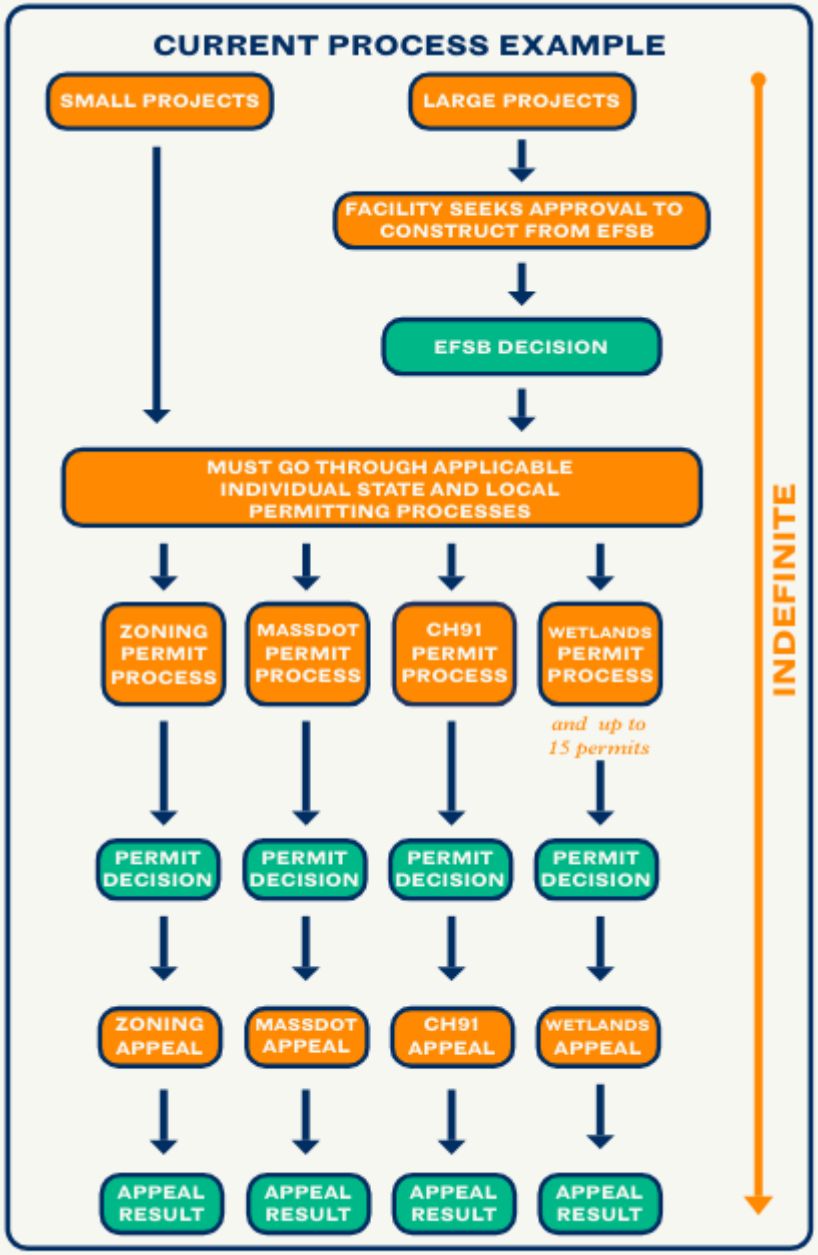
Recommendations

- **Define clean energy infrastructure** as solar, wind and anaerobic digestion facilities; storage facilities; and transmission and distribution infrastructure.
- **Consolidate permitting** at both state and local levels
- **Set mandatory timeframes** for permit decisions
- **Streamline appeals** processes
- Establish **community engagement requirements** for developers
- **Provide support to municipalities and organizations** to better engage in permitting processes
- Create **guidance on the suitability of sites** for future energy infrastructure development

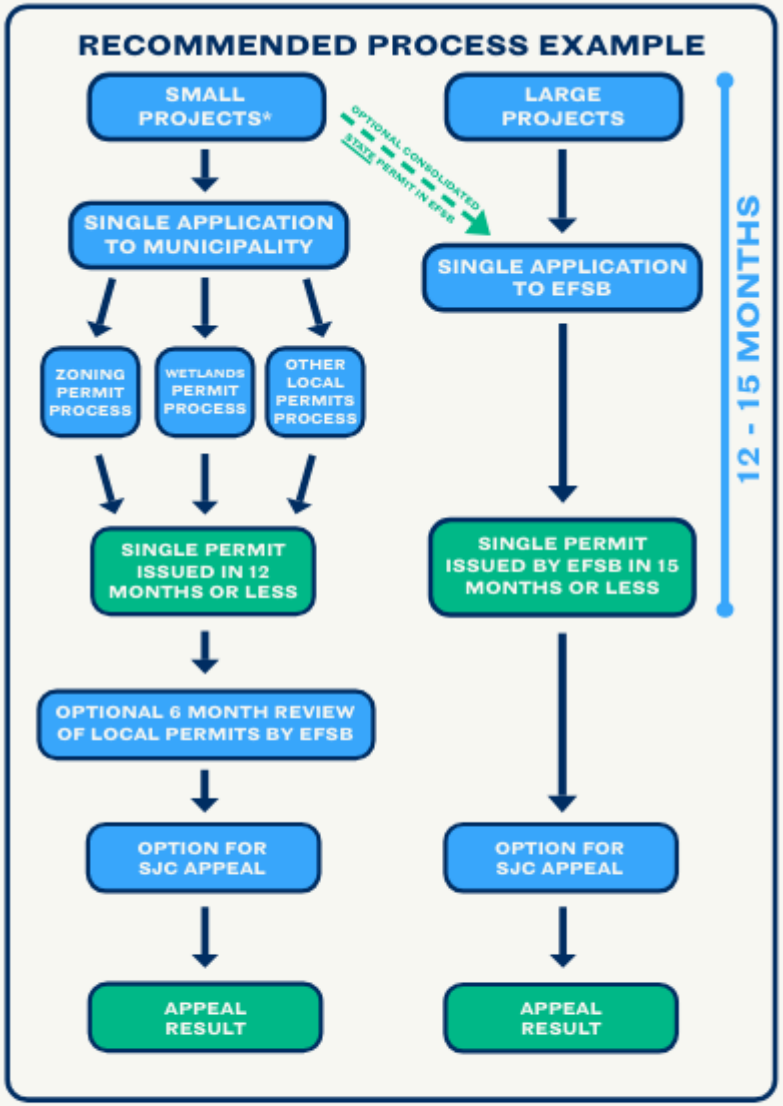
Consolidated State Permitting

- Consolidate all state, regional, and local permits larger projects into one consolidated permit issued by the Energy Facilities Siting Board (EFSB).
- All state and local agencies that would otherwise have a permitting role would be able to automatically intervene and would participate by issuing statements of recommended permit conditions.
- EFSB decisions can be appealed directly to the Supreme Judicial Court.
- Permit must be issued in less then 15 months from determination of application completeness.

- Would apply to generation facilities >25 MW, storage facilities >100 MWh, and large new transmission projects



Current processes are confusing and delay much needed clean energy infrastructure as much as a decade.



Local and state permitting authorities remain largely the same, but timelines are shortened.

*Small utility projects like small transmission expansions can opt into the EFSB permitting process.

More Meaningful & Just Community Engagement

- Formal establishment of the Office of Environmental Justice and Equity in statute, with a specific mandate to develop guidance regarding community benefits agreement and cumulative impact analyses.

- A new Division of Public Participation at DPU to assist communities and project applicants with engagement and process questions in DPU and EFSB proceedings.

- A new Division of Siting and Permitting at DOER to assist communities and project applicants with engagement and process questions in local permitting.

- First-ever mandatory community engagement requirements, including:
  - Requirements to post specific project information on a publicly accessible website and in locations where communities commonly gather at least 15 days prior to an initial public meeting, which must be translated into languages spoken in the community;
  - Specificity on the number and types of meetings that must occur prior to filing with the EFSB;
  - A 60-day written public comment period prior to filing with EFSB;
  - Documentation of efforts to involve community organizations; and
  - Demonstration of efforts to develop community benefit agreements.

Additional Recommendations

- Create explicit seat for municipal interests on EFSB.
- Conduct management study to identify increased staffing requirements and clarify and expand funding sources for EFSB.
- Create site suitability methodology and guidance to inform state and local permitting processes about the suitability of sites for clean energy development, and help developers to avoid, minimize and mitigate environmental impacts.
- Additional complementary reforms to ensure more efficient permitting processes, provide public education, and incentivize responsible clean energy development.
  - Permit extensions for projects delayed by interconnection
  - Clarification on appeals process for local permits
  - Allow for large storage projects to apply for EFSB certificate
  - MassDEP noise policy review
  - Statewide education, zoning guidance, and technical assistance
  - Expand incentives and requirements for solar canopies

Administration Proposal

- The Administration worked the legislature to draft legislative language that closely aligns with Commission's recommendations.

- Includes proposals for several important issues that were not included in the Commission's recommendations:
  - Exempts EFSB-jurisdictional clean energy infrastructure from Massachusetts Environmental Policy Act (MEPA) review;
  - Requires cumulative impact analysis for projects before the EFSB to ensure that existing environmental and public health burdens are considered in the siting and permitting process;
  - Proposal developed in coordination with the AGO for providing intervenor funding support in DPU and EFSB proceedings;
  - EFSB and DOER regulations would need to be promulgated by March 1, 2026; and
  - Transfer DPU siting authority (eminent domain for transmission and pipelines) to EFSB.

Current Status

- Both the House and Senate have passed bills that contain very similar versions of the siting and permitting reform language.
- Governor Healey has included administration's preferred language in her end of year supplemental budget.
- House and Senate remain in conference committee negotiations.

New England's Regional Transmission Planning Process and OSW Networks

Jason Marshall, Deputy Secretary and Special Counsel

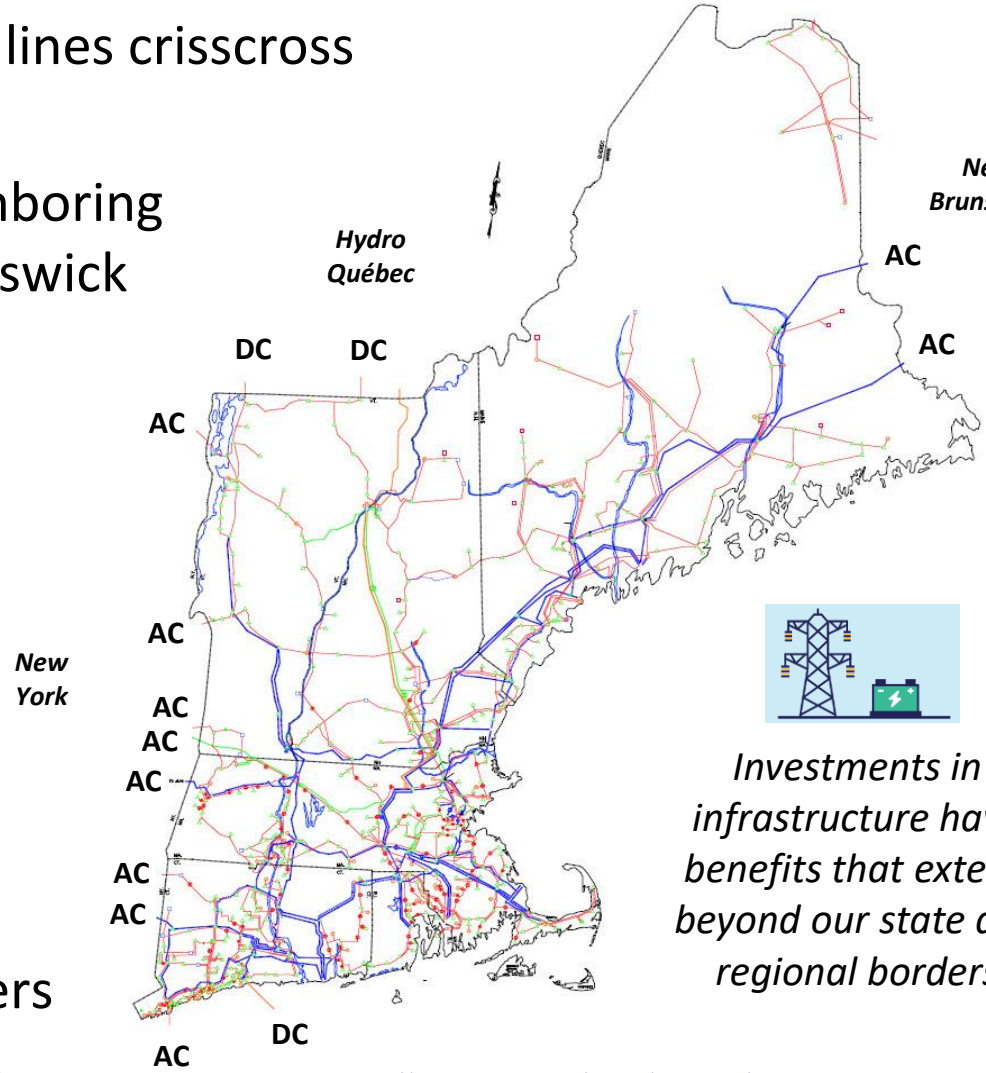
Federal and Regional Energy Affairs

Massachusetts Executive Office of Energy and Environmental Affairs

September 27, 2024

Massachusetts Is Not an Energy Island – It Shares a Regional and Interregional Power Grid

- More than **9,000 miles** of high-voltage transmission lines crisscross the New England region
- **13 transmission lines** connect New England to neighboring power systems in New York, Québec, and New Brunswick
  - **13%** of the region's energy needs were met by imports of power in 2023
- More than **350 generators** are connected to the high-voltage transmission system with roughly **30,000 MW** of total generating capacity
  - Region's all-time summer peak demand for electricity set in August 2006 at **28,130 MW**
- The high-voltage transmission system is planned by **ISO New England**, the region's grid operator, in coordination with New England's transmission owners



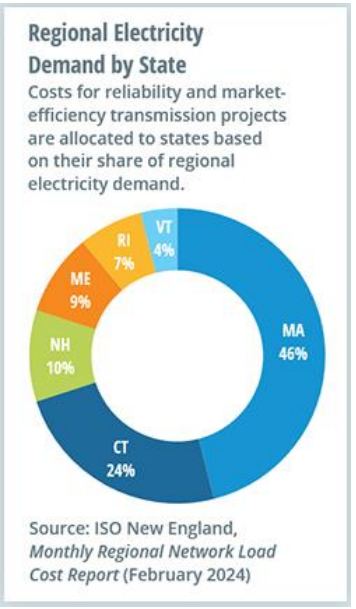
Investments in infrastructure have benefits that extend beyond our state and regional borders

Sources: https://www.iso-ne.com/about/key-stats/transmission/ and https://www.iso-ne.com/about/key-stats/resource-mix/

Source: https://www.iso-ne.com/about/key-stats/maps-and-diagrams

Overview of ISO New England's Regional Transmission Planning Process

- **Needs.** ISO New England administers a continuous regional transmission planning process, conducting ongoing engineering assessments that analyze transmission system needs on the New England power system looking 10 years into the future.
- **Solutions and Cost Allocation.** Transmission solutions are developed to meet identified needs, with costs allocated across the region on a load-ratio-share basis -- i.e., the amount of electricity demand in each state relative to the other states.*
- **Benefits.** Upgrading the transmission system is critical to maintaining power system reliability, administering an efficient wholesale electricity marketplace, and integrating new clean energy resources into the grid.



- **New Longer-Term Transmission Planning Process.** In addition to its ten-year regional system planning process, ISO New England now conducts longer-term analyses of transmission system needs in response to requests from the New England states.

Source: https://www.iso-ne.com/about/what-we-do/plan-the-power-system

* Note: A different cost allocation is used for public policy projects identified through the Order 1000 process.

Newly Approved Longer-Term Transmission Planning Process Puts States in the Driver's Seat

- In July, the Federal Energy Regulatory Commission (FERC) approved new regional transmission planning rules, enabling ISO New England to procure transmission at the states' request to meet public policy and system needs decades into the future with cost allocation across the six-state region.
  - 100% state-driven process, guided by ISO New England analysis and designed to meet multiple system and policy-related needs (e.g., grid reliability, market efficiency, and clean energy) in a more holistic, forward-looking manner

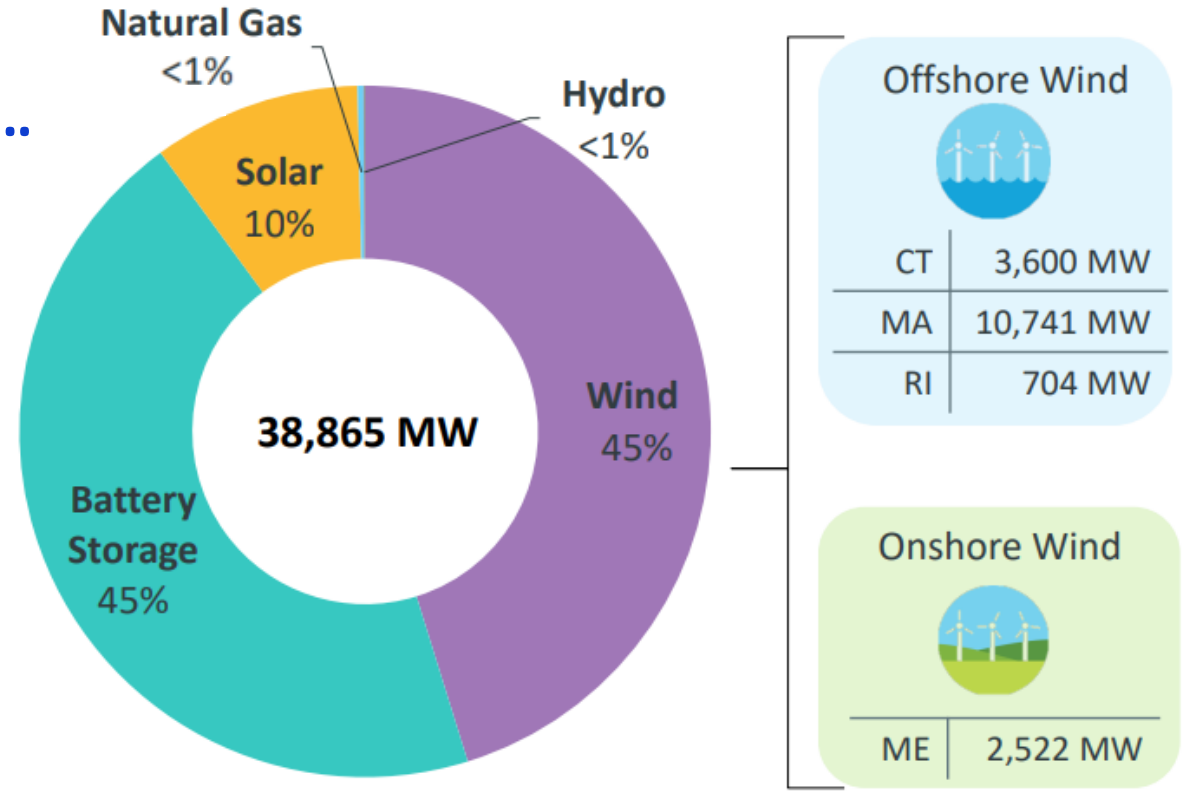
Sources:
https://www.iso-ne.com/system-planning/transmission-planning/longer-term-transmission-studies
https://www.iso-ne.com/static-assets/documents/100008/2024_02_14_pac_2050_transmission_study_final.pdf

Decarbonization Laws and Clean Energy Policies Are Driving a Dramatic Shift in the Resources Seeking Interconnection to the Grid

Now…

ISO New England Generator Interconnection Queue

Nameplate Capacity Ratings
FERC-jurisdictional proposals (March 2024)



Offshore Wind	
CT	3,600 MW
MA	10,741 MW
RI	704 MW

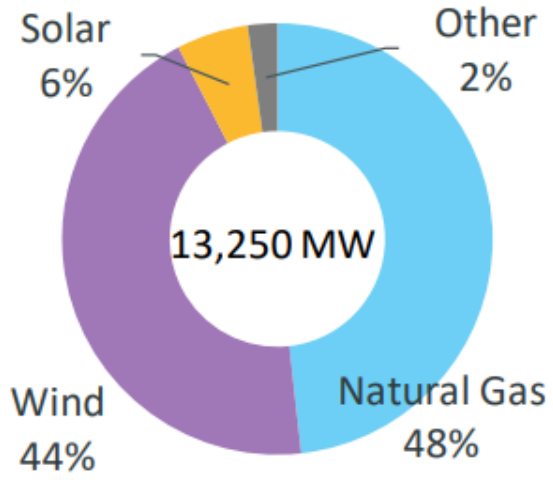
Onshore Wind	
ME	2,522 MW

State greenhouse gas reduction mandates, clean energy requirements, and resource procurements are driving a dramatic shift in the generator proposals seeking interconnection to the New England electric grid

Then…

ISO New England Generator Interconnection Queue

Nameplate Capacity Ratings
FERC-jurisdictional proposals (July 2017)

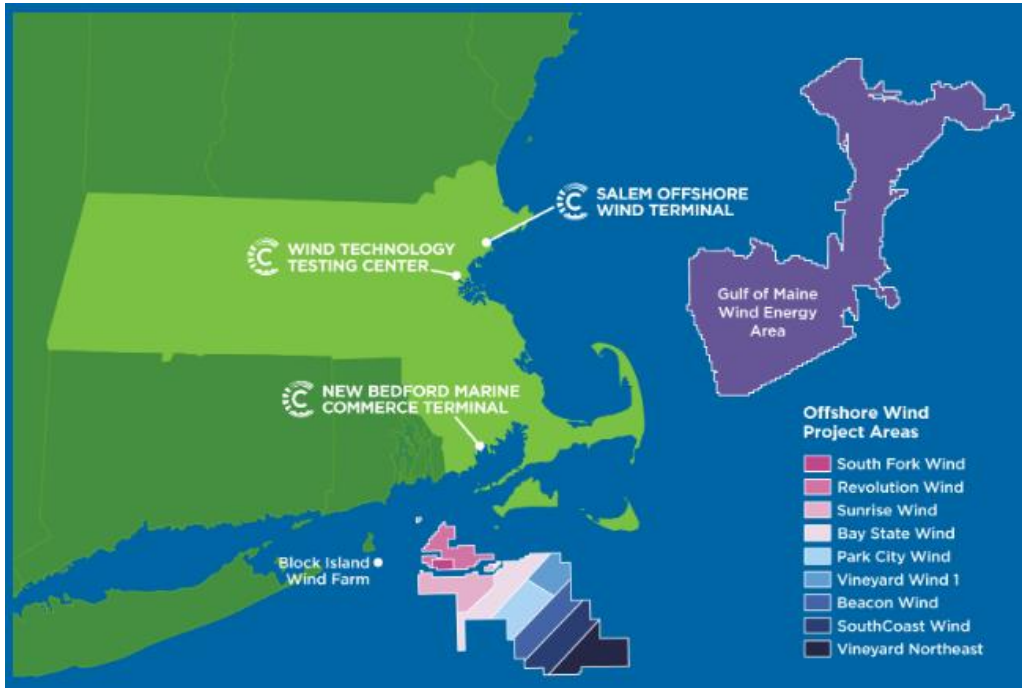


June 2017

Sources:
https://www.iso-ne.com/system-planning/interconnection-service/interconnection-request-queue/
https://www.iso-ne.com/static-assets/documents/100010/final_nec_slide_deck_2024_05_04.pdf

Offshore Wind Will Play a Critical Role in the Commonwealth's Clean Energy Transition

- Massachusetts is statutorily required to procure **5,600 MW** of cost-effective offshore wind generation by June 30, 2027
- The Commonwealth's 2050 Clean Energy and Climate Plan envisions **23,000 MW** of offshore wind, 27,000 MW of solar, and 6,000 MW of battery storage to enable necessary GHG emissions reductions
- Today, offshore wind is interconnected to the region's transmission system using radial, generator lead-lines to reach the onshore grid
  - This equipment is planned and developed by individual offshore wind developers; it is <u>not</u> the subject of regional transmission planning processes



Sources:
https://www.mass.gov/doc/2050-clean-energy-and-climate-plan/download
https://www.masscec.com/our-focus/offshore-wind

Recent Analysis Shows Planned Offshore Transmission Has Significant Benefits Over Current Generator Lead-Line Approach

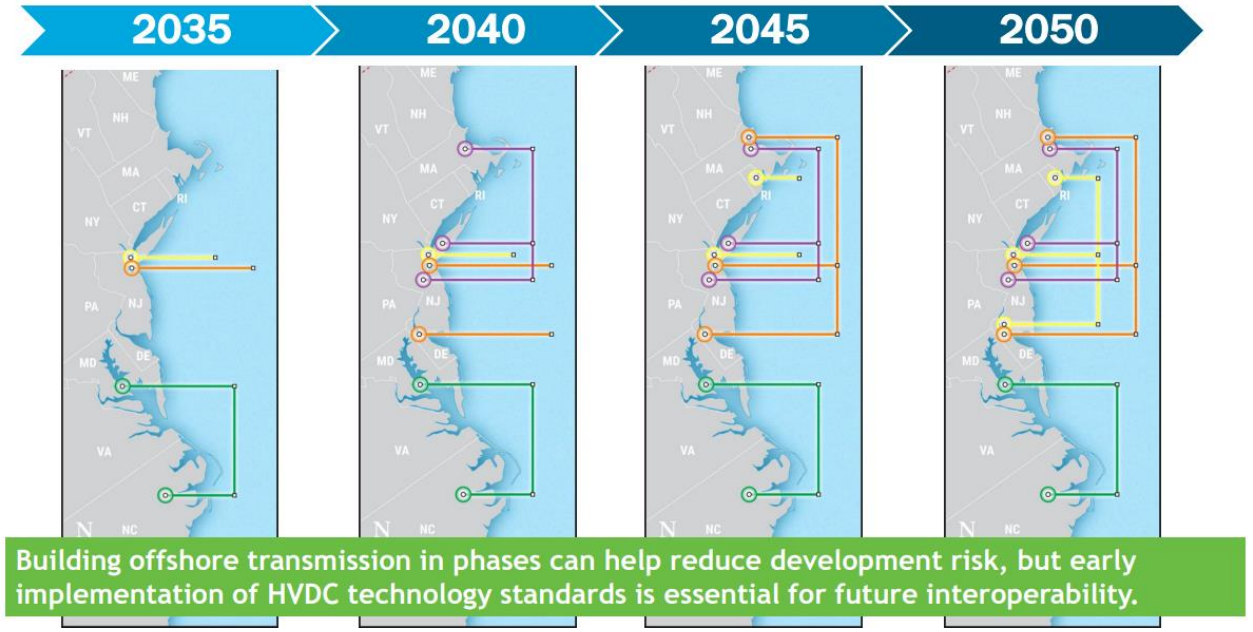
Vs.

Source:
https://www.energy.gov/sites/default/files/2024-04/Atlantic_Offshore_Wind_Transmission_Plan_Report_v16_RELEASE_508C.pdf

U.S. DOE Has Identified Significant Benefits to Networked Offshore Transmission, But Analysis Shows Extended Development Timelines

- U.S. DOE's **Atlantic Offshore Wind Transmission Study** competed earlier this year identifies benefits to networked offshore transmission solutions, but many threshold issues remain, and potential development timelines extend many years (multiple decades)
- Benefits of coordinated, networked offshore transmission identified by U.S. DOE –
  - Reduce environmental impacts and promote ocean co-uses (habitat, fishing, shipping, military operations, etc.)
  - Enhanced grid reliability and resilience in the face of grid contingencies and extreme weather events
  - Reduced wholesale energy production costs
  - Reduced offshore wind curtailment

Potential Build Timeline for Interregional Topology



Building offshore transmission in phases can help reduce development risk, but early implementation of HVDC technology standards is essential for future interoperability.

Sources: https://www.nrel.gov/wind/atlantic-offshore-wind-transmission-study.html and https://www.iso-ne.com/static-assets/documents/100011/a02_ipsac_atlantic_offshore_wind_transmission_study.pdf

New Planning Opportunities Raise New Challenges

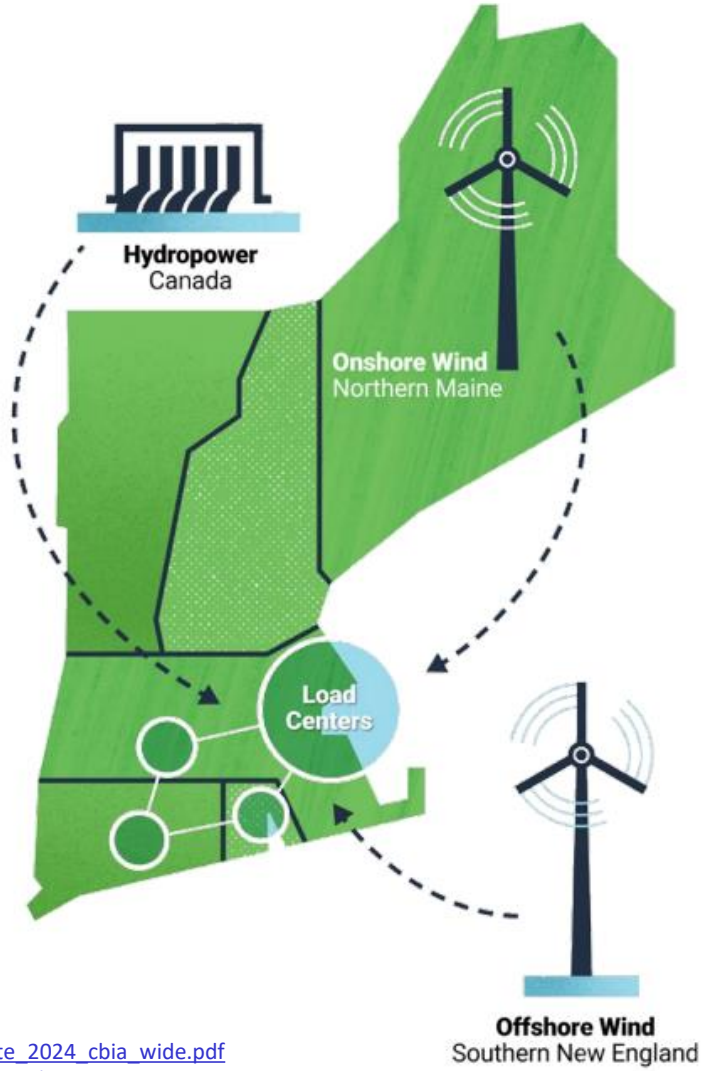
Pix4Free.org

- Who Plans?
  - New Structures/Entities Needed?
  - Protecting Marine Environment and Addressing Co-Use Conflicts
- Who Owns?
  - Separate ownership has enormous tax implications
- Who Pays?
  - Cost allocation

Not An Exhaustive List

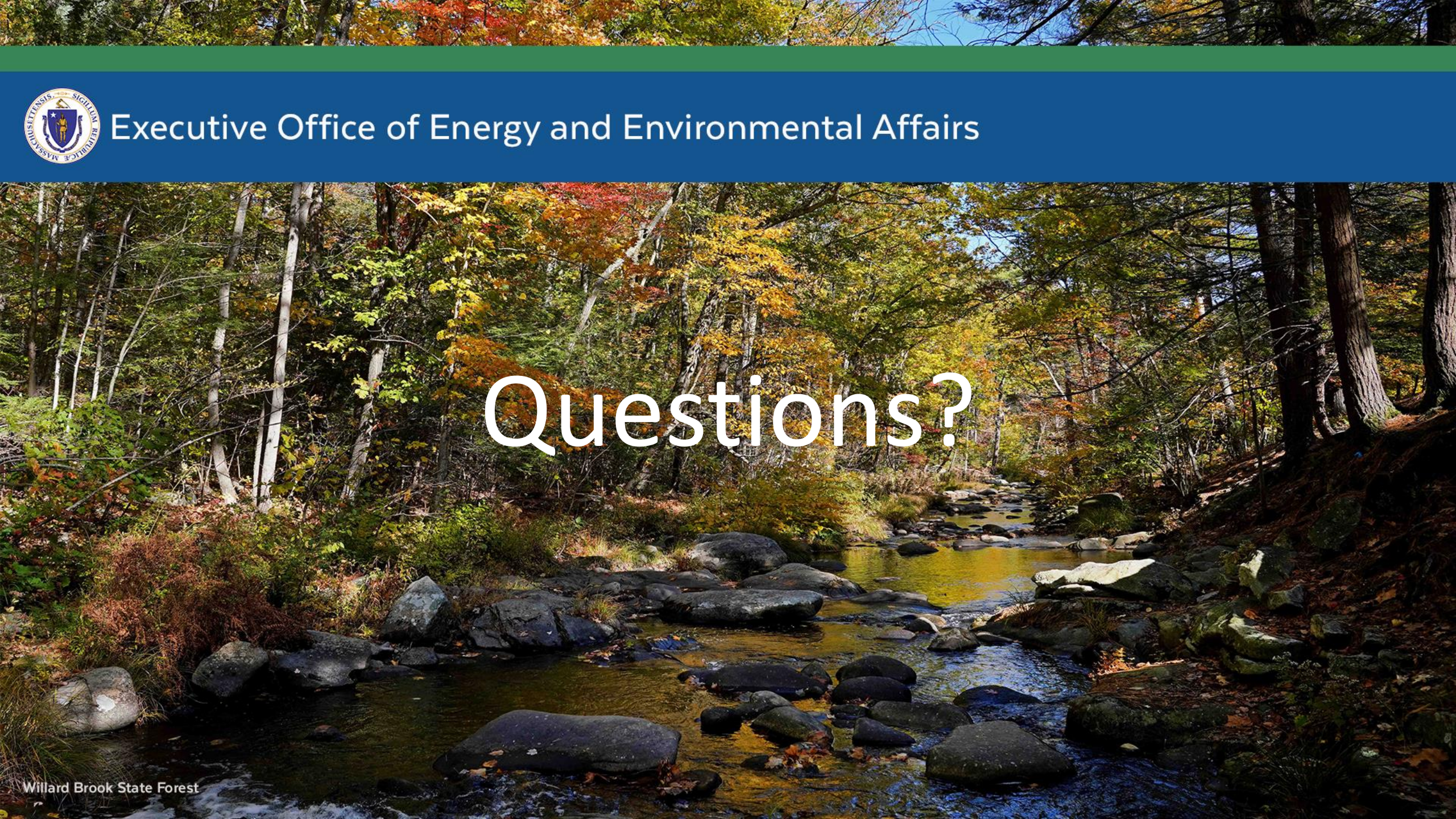
Massachusetts Must Work with State, Regional, and Federal Partners as We Build Out Our Shared System

- The transition to a cleaner grid depends on a **robust transmission system** capable of interconnecting significant additions of renewable energy and safely transmitting that energy to homes and business across New England
- Ongoing work with state, regional, and federal partners includes:
  - Competitive solicitation(s) for transmission through ISO New England's newly approved Longer-Term Transmission Planning process
  - Funding through U.S. DOE's Grid Innovation Program
  - Northeast States Collaborative on Interregional Transmission
    - Recent MOU
    - Expected external engagement Fall 2024



Sources:
https://www.iso-ne.com/static-assets/documents/100012/iso_new_england_overview_and_regional_update_2024_cbia_wide.pdf
https://energyinstitute.jhu.edu/northeast-states-collaborative-on-interregional-transmission/

Questions?



Willard Brook State Forest

BOEM Bureau of Ocean Energy Management

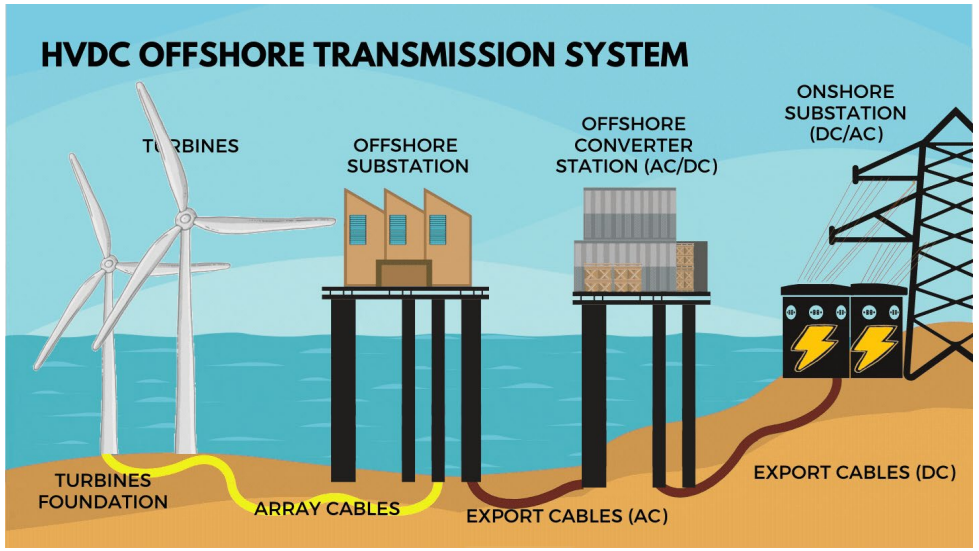
Offshore Wind Transmission

Fisheries & Habitat Working Groups

September 27, 2024

Two Paths

1. Transmission as part of an offshore wind lease
   - 585.200(b) - a lease confers the right to one or more project easements without further competition for transmission
2. Transmission under a Right-of-Way (ROW) Grant
   - 585.300 - an ROW grant authorizes the holder to install on the OCS cables, pipelines, and associated facilities that involve the transportation or transmission of electricity or other energy product from renewable energy projects.

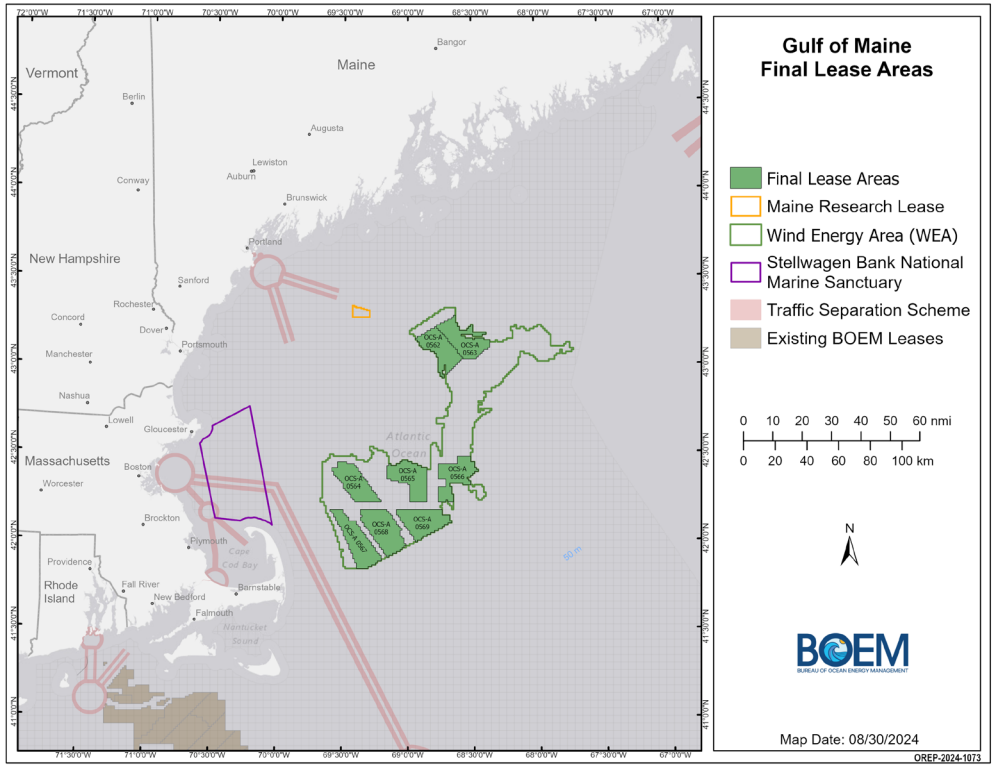


Roles in Transmission Planning

1. Federal Government
   - BOEM
   - FERC
   - Permitting Agencies – Natural Resources, etc.
   - NOAA - Sanctuaries
2. Grid Operators
   - Independent System Operator – New England
3. State Role
   - Renewable Energy Goals/Legislation
   - Conditions in Offtake Agreements
   - State Utilities
   - Property Interests in Landfall Connection Points

Alignment with State & Regional Initiatives

- Planned approach transmission requires close coordination with states
  - Any ROW for transmission to land requires issuance of state grant in state waters and on land
- Timing
  - Desire to avoid stranded assets
  - ROW process has shorter minimum time than lease development
- Easements to existing offshore transmission infrastructure
- RTO/ISO studies & plans



Considerations and Reference Used to Evaluate Siting

- Statutory Requirements (OCSLA 1337(p)(4))
  - Prevention of waste
  - Conservation of the natural resource of the OCS
  - Protection of the environment
- Minimization of conflict with other ocean uses and sensitive areas
  - Fisheries
  - Sand & Gravel Resources
  - Other Cables
  - Benthic Conditions
  - Navigation
  - DoD
  - Sensitive Habitat
  - Cultural Resources
- NEPA & Associated Consultations
- BOEM Offshore Wind Cable Spacing Guidance
- Marine Cadastre & Ocean Data Portals

Lease Conditions & Transmission Planning

- Final sales notices since NY Bight state that BOEM may condition Construction and Operations Plan (COP) approval on the use of cable corridors, regional transmission systems, meshed systems, and other mechanisms where appropriate
- Lease stipulations requiring seeking input from Tribal Nations and other ocean users prior to proposing easements
- Communication plans requirements in the leases
- Meshed requirements or shared/overbuilt transmission infrastructure incorporation in COP

Efforts to Improve Transmission Coordination

- DOE-BOEM Recommendations and Action Plan for OSW Transmission Development in the Atlantic
- Regulatory Guidance
  - Process & Timing for Complex Shared Transmission
  - Modernization Rulemaking – State/RTO/ISO
- Continued Collaboration with DOE & NOAA's NCCOS, NROC & other regional initiatives

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Josh Gange, OREP, joshua.gange@boem.gov