

Commonwealth of Massachusetts

Gulf of Maine Intergovernmental Task Force

Secretary Beth A. Card

Executive Office of Energy and Environmental Affairs

May 19, 2022



Building a Net-Zero Commonwealth

An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy – March 26, 2021

- **Offshore Wind Authorization**
 - Total of 5,600 MW by 2027
- **Emission Limits**
 - Commits Massachusetts to achieve Net Zero emissions in 2050
 - Authorizes the Secretary of Energy and Environmental Affairs (EEA) to establish an emissions limit of no less than 50% for 2030, and no less than 75% for 2040
 - Sets emissions limits every five years and sub-limits for at least six sectors of the Massachusetts economy
- **Environmental Justice**
 - Statutorily defines Environmental Justice and environmental burdens, including climate change as an environmental burden





2050 Decarbonization Roadmap: Key Take-Aways

Electricity Generation

- **Offshore wind is the backbone** of decarbonized electricity generation in Massachusetts.
- **Across all pathways, the Commonwealth needs a minimum of 15 GW of offshore wind by 2050**
- Solar PV made up 25%-30% of electricity generation across most pathways. Both rooftop PV and ground-mounted PV were needed

Electricity Balancing

- Challenge with infrequent but long-lasting periods (approx. 6 days) of fallow wind production
- Thermal power plants and imports required at a large scale to maintain reliability on a low-wind days
- Flexible operation of electrolysis facilities to produce hydrogen

Transmission

- Expanded transmission capacity between Quebec and Massachusetts is important in all pathways
- Intra-NE transmission capacity found to be economic in multiple pathways
- Substantial **expansion of transmission and distribution within Massachusetts** is necessary to meet the approximately doubled final electricity demand resulting from electrification



Commonwealth Procurements to Date

Three Procurements:

- **Round 1: Vineyard Wind 800 MW project**
 - Onshore and export cable construction underway
 - **Round 2: Mayflower Wind 804 MW project**
 - Project in advanced planning/permitting
 - **Round 3: Two projects Totaling 1,600 MW**
 - Avangrid 1,200 MW project
 - Mayflower 400 MW project
- = 3,200 MW OSW in the pipeline (approx. 25% of MA annual electricity demand)**
- **Next MA RFP must be released by May 2023**





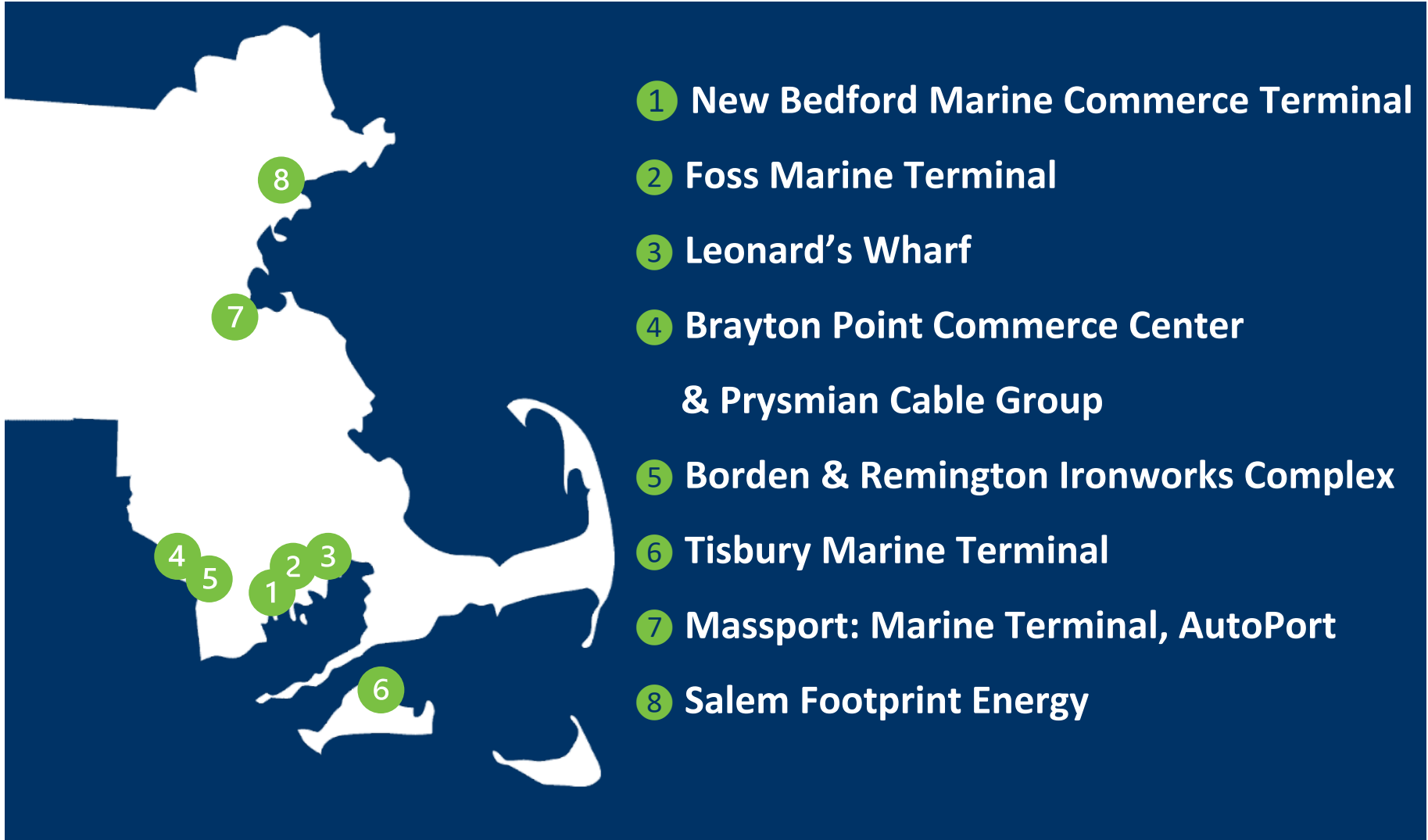
Ports & Infrastructure to Support OSW

- **New Bedford Marine Commerce Terminal**
 - 29-acre pre-assembly and staging
 - Leased through mid-2027
 - Improvements and expansion planned
- **Salem Footprint Energy site**
 - Marshalling and staging port
- **Studies assessing existing port areas for offshore wind re-use**
- **Recent legislation creating Offshore Wind Industry Investment Fund**
 - \$90 million for OSW port infrastructure
 - OSW Industry Ports Investment Challenge





Current and Future Port Development





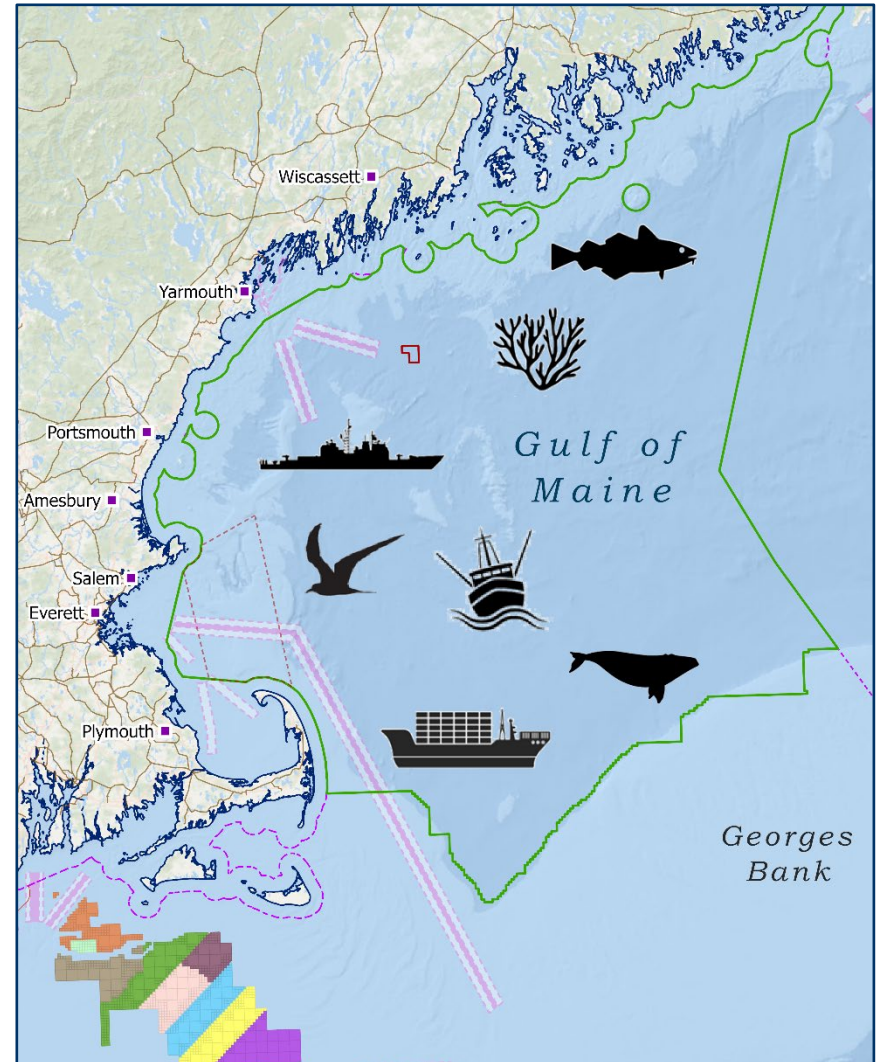
Transmission

- Offshore wind presents the challenge of bringing large volumes of high voltage current to customers through a **limited number of onshore interconnection sites**
- Bringing large volumes of offshore wind onshore and delivering it to demand centers will require **substantial upgrades** to the onshore bulk power grid
- Transmission planning underway: **ISO-NE Transmission Study** to assess infrastructure necessary to incorporate clean energy and meet state energy goals of the region
- **Collaboration across states** will be key to ensuring energy generation will be maximized



Science & Wildlife: Data Resources & Data Gaps

- Valuable resource for wildlife, fisheries, and maritime uses
- Wealth of existing marine geospatial data
- Assess current data resources
- Identify and fill data gaps
- Advance new data products
- Incorporate onshore transmission and port infrastructure upgrades





Stakeholder Engagement: MA Working Groups

Leverage existing MA working groups to receive guidance and share resources relative to fisheries and marine habitat uses in Gulf of Maine:

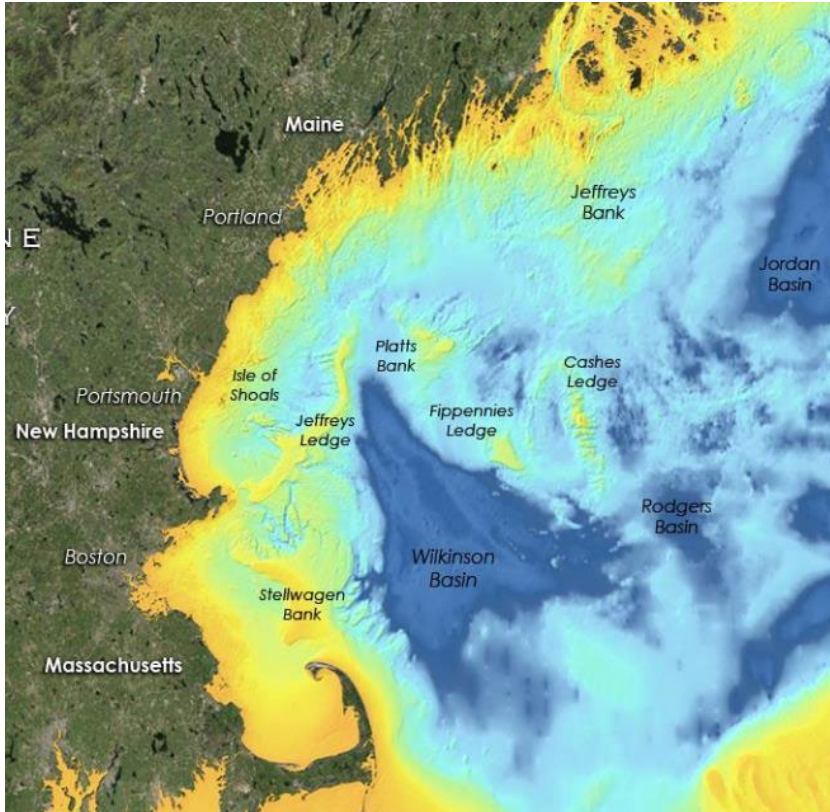
Fisheries Working Group on Offshore Wind Energy: commercial fishermen and reps, recreational fishermen, researchers, state/federal agencies

Habitat Working Group on Offshore Wind Energy: Scientists and technical experts from environmental organizations, academia, and state/federal agencies





Regional Collaboration



- Proven track record with data-driven planning & analysis with other states and partners in the region
- Existing frameworks to leverage and work within
 - Gulf of Maine Council on the Marine Environment
 - Northeast Regional Ocean Council
 - Regional Wildlife Science Collaborative
 - Responsible Offshore Science Alliance



Thank you

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