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

1. New Bedford Marine Commerce Terminal
2. Foss Marine Terminal
3. Leonard’s Wharf
4. Brayton Point Commerce Center & Prysmian Cable Group
5. Borden & Remington Ironworks Complex
6. Tisbury Marine Terminal
7. Massport: Marine Terminal, AutoPort
8. Salem Footprint Energy
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
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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