

NEW HAMPSHIRE



OFFICE OF STRATEGIC INITIATIVES

# New Hampshire Offshore Wind Energy Outlook

Matthew Mailloux

*Energy Advisor, OSI*

December 12, 2019

# Topics for Today

- Brief Introduction to the Office of Strategic Initiatives' scope and role
- Offshore wind observations
- State led offshore wind efforts
- State energy goals

# About OSI

- OSI provides information, data & guidance to assist decision-makers on issues pertaining to energy use, development, land protection & community planning.
- We guide the state's future growth through public policy development, education, research, & partnership building.

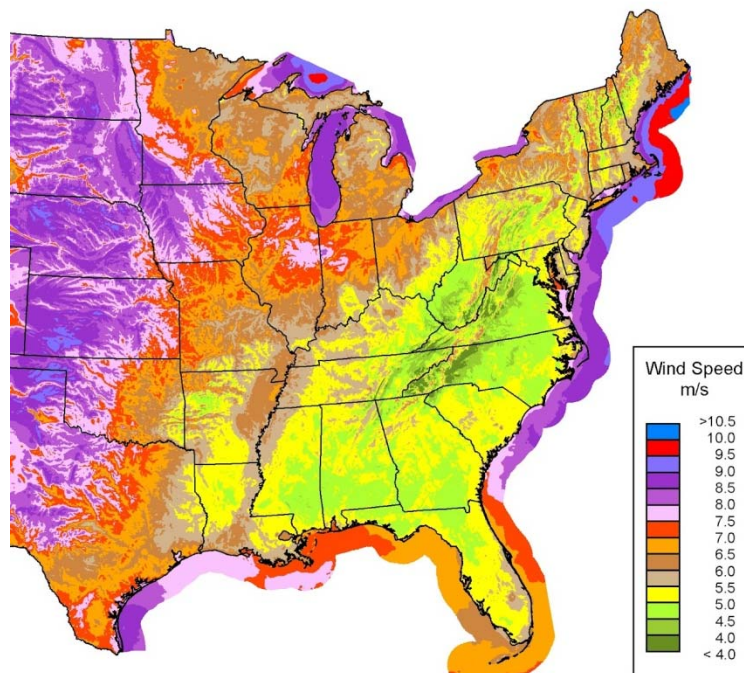
# Energy Division

- The Office of Strategic Initiatives operates several Energy Programs in partnership with both private and public entities to promote a sustainable, environmentally sound and least-cost energy future for New Hampshire.
- We function as the Governor's Energy Office & we are administratively attached to the Office of the Governor.

# Offshore Wind Observations

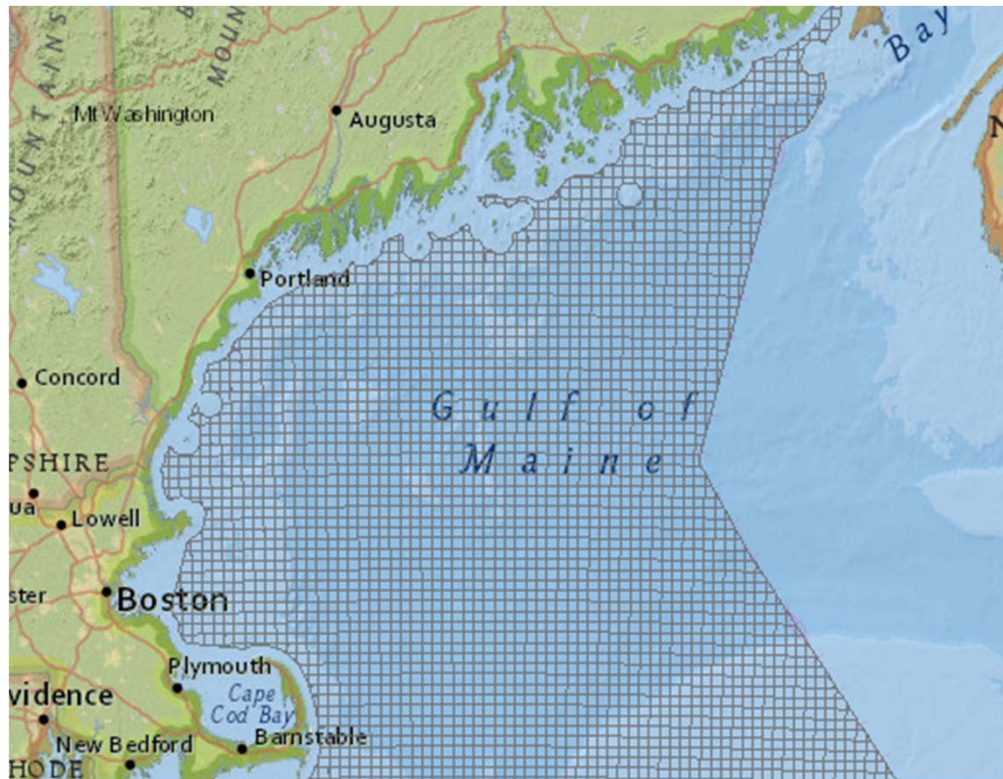
# Observed Wind Speeds

Offshore Annual Average Wind Speed at 100 m



- Gulf of Maine has some of the best wind resources anywhere in the world
- Considerably stronger than mid- and southern Atlantic coast states

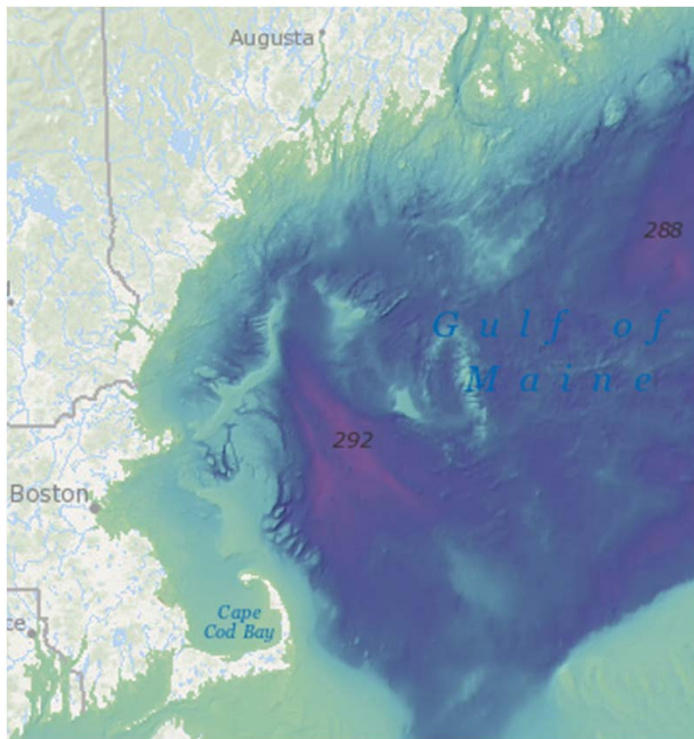
# Federal Waters in Gulf of Maine



- Federal Waters are between 3 to 200 miles offshore
- “Exclusive Economic Zone” (EEZ) established in the 1982 United Nations Convention on the Law of the Sea



# Gulf of Maine Bathymetry

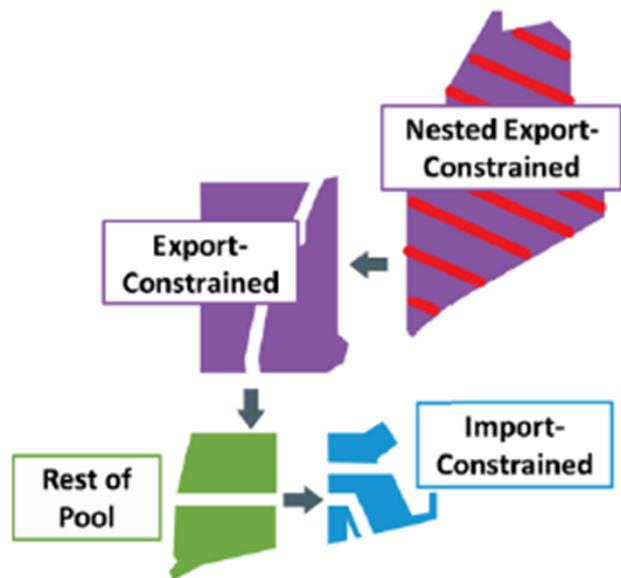


- Gulf of Maine will likely require floating offshore wind turbines, due to water depth >100 meters
- This technology is not yet at commercial scale, but rapidly nearing.



# ISO New England Forward Capacity Market (FCM) Zones

Zones  
FCA 14



- Northern New England is “export constrained” meaning there is insufficient transmission to export power to load centers in southern New England
- **New transmission investment may be required to site and interconnect OSW**

# NESCOE Offshore Wind Study Request to ISO-NE

- In April 2019 the New England States Committee on Electricity (NESCOE) requested that “ISO-NE perform a **comprehensive study of the transmission system and wholesale market impacts related to increasing penetration of incremental offshore wind resources.**”
- The goal of the study request is to examine both potential transmission system issues and wholesale market impacts.

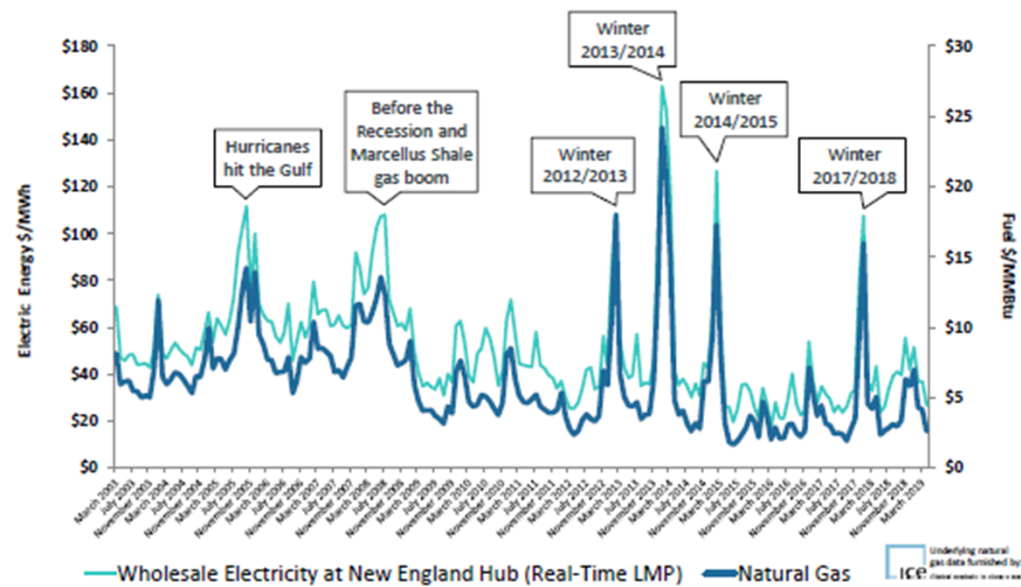
# Scenarios To Be Studied

- In the request, NESCOE specified the following:
  - Existing scenarios of 1,000 MW and 2,000 MW by 2030 from the 2015 Economic Study *Evaluation of Offshore Wind Deployment*
  - A 4,000 MW scenario of offshore wind by 2030
  - Additional scenarios for 5,000 to 7,000 MW of offshore wind by 2035.
  - ISO New England expects to release results in Q2 of 2020

# ISO-NE Wholesale Market is Vulnerable to Winter Price Spikes

## Natural Gas and Wholesale Electricity Prices Linked

Monthly Average Natural Gas and Wholesale Electricity Prices at New England Hub



# Offshore Wind Efforts

# Offshore Wind Background

- Jan 2, 2019: Governor Sununu issued a request to BOEM to initiate the offshore wind regulatory process
- April 17, 2019: BOEM returns Acknowledgment Letter, paving the way to begin the Task Force Process
  - For better coordination, BOEM opted to make this a regional effort with Maine & Massachusetts
- December 3, 2019: Governor Sununu issued an offshore wind executive order



# Offshore Wind Executive Order

- Establishes 4 Advisory boards:
  - Environmental impacts
  - Port infrastructure
  - Existing offshore industries
  - Transmission and siting
- Requires 2 studies by January 2021:
  - Potential reductions in greenhouse gas (GHG) emissions
  - Opportunities to attract offshore wind supply chain manufacturers

# NH Task Force Membership

- State agency commissioners from:
  - Department of Environmental Services
  - Public Utilities Commission
  - Department of Business and Economic Affairs
  - Department of Safety
  - Department of Natural and Cultural Resources
  - Office of Strategic Initiatives
  - NH Fish & Game
- **Elected Officials from Seabrook, Hampton, North Hampton, Rye, New Castle, and Portsmouth**
  - Selectmen, State Reps, State Senators, Mayor, and Executive Councilor
  - State Reps from the House Science Technology and Energy Committee
  - Senators from the Senate Environment and Natural Resource Committee

# State Energy Goals

# NH State Energy Strategy

- Released in April 2017, select goals include:
  - Prioritize cost-effective energy policies.
  - Ensure a secure, reliable, and resilient energy system.
  - Achieve environmental protection that is cost effective and enables economic growth.
  - Encourage market-selection of cost-effective energy resources.
  - Generate in-state economic activity without reliance on permanent subsidization of energy.
  - Protect against neighboring states' policies that socialize costs.

## Emphasis on “All-of-the-Above”

- Fundamental principle that all energy sources should be able to compete on a level playing field in an open energy market.
- Government intervention in energy markets should be limited, justified, and technology-neutral.

# Renewable Portfolio Standard

- Statutory obligation of 25.2 percent of total retail electric sales by 2025
- Obligation is divided among 4 classes:
  - Class I: New renewables
    - Class I-thermal carve out
  - Class II: Solar carve out
  - Class III: Existing Biomass/methane
  - Class IV: Existing small hydroelectric



# Breaking Down Barriers to Offshore Wind

- By initiating the BOEM process, Wind Energy Areas may be identified in federal waters in the Gulf of Maine
  - This is a vital step to identify potential opportunities for future offshore wind development
  - Signals to developers that NH is open for business

# Let the Offshore Wind Market Continue to Develop

- Prices for offshore wind energy have fallen dramatically in recent years, but are still above the market price.
- NH already pays some of the highest retail electric rates anywhere in the country
- Price is a top concern for ratepayers

# Economic Development

- Access lower cost, native electricity generation for NH ratepayers
- Reduction of environmental impact on NH natural resources, a key economic lifestyle and tourism driver
- Diversified opportunities for new industry jobs
- Modernization of NH port facilities
- Diversification options for growing NH component manufacturing industry in OSW supply chains

# Existing Offshore Industries

- While pursuing new offshore energy development, NH is cognizant of vital offshore industries in the Gulf of Maine
  - An ocean is open doesn't mean it is not busy
  - Northeast Ocean Data Portal will be crucial in incorporating all available data in decision making

# Stakeholder Engagement

- NH is committed to engaging with stakeholders at every step of the process
  - Task Force needs to be transparent, engaged, and responsive throughout the entire process
  - Stakeholders should have opportunities to be heard both at BOEM meetings and state led advisory boards.

# Key Takeaways

- New Hampshire is preparing for the offshore wind process along with BOEM and our neighboring states
- This is a long process of stakeholder engagement, permitting, environmental reviews, and siting of potential future resources
- The region is likely at least 6-10 years away from operational wind farms in the Gulf of Maine



# Questions?

## Contact:

Matthew Mailloux

603-271-8316

[Matthew.Mailloux@osi.nh.gov](mailto:Matthew.Mailloux@osi.nh.gov)

