

2015 Economic Study Offshore Wind Scope of Work – Revised Draft



Planning Advisory Committee Meeting

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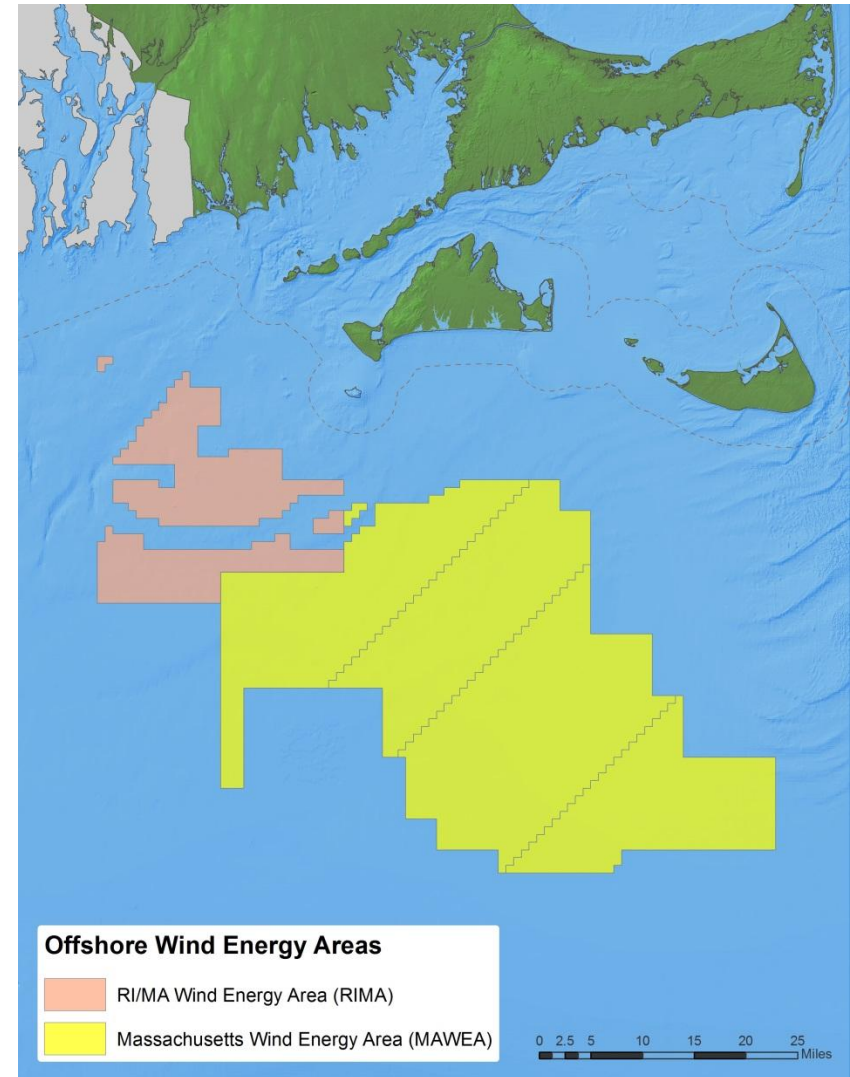
Outline

- Goal
- 2015 Economic Study Requests
- Scope of Work
- Scenarios and Cases



Background: Offshore Wind Resource

- Development Potential
 - Rhode Island/Massachusetts Wind Energy Area – 164,000 acres
 - Massachusetts Wind Energy Area 740,000 acres
- Offshore Wind Characteristics
 - Close to load centers
 - Coincident with peak demand periods



Goal: Offshore Wind Economic Study

- Develop economic and environmental metrics
 - Addition of offshore wind south of Rhode Island and southwestern Mass
 - Reduce fossil fuel consumption in New England
- Evaluation period of a single representative year
 - Assume a year at the end of the planning horizon: 2024
- The results *may* be used to inform Public Policy requests for projects facilitating the integration of wind resources

SCOPE OF WORK

Offshore Wind Economic Study

Base Case

- Offshore wind expansion held consistent to determine effects of varying input assumptions
- Scenarios
 - Three levels of offshore wind
 - 0 MW (baseline case)
 - 1000 MW
 - 2000 MW
 - Interconnection point into New England network
 - 50% near Brayton Point
 - 25% near Kent
 - 25% near Barnstable



Base Case and Sensitivities

- Scenarios
 - Base Case (Business-as-usual)
 - Most favorable economic case
 - No surplus capacity - exactly meets ICR
 - Higher oil / gas prices
 - Only FCA 9 renewable resources
 - Least favorable economic case
 - Surplus capacity in the market – more capacity than ICR
 - Lower oil / gas prices
 - All renewable resources in the queue with “active” status
 - Other sensitivity cases as needed
 - Change in fuel prices
 - Change in CO₂ allowance prices

Each Offshore Wind Scenario

- Identify congestion and constraints without additional transmission
- Quantify benefits of relieving transmission constraints
 - With the hypothesized transmission upgrade(s)
 - Without hypothesized new transmission upgrade(s)
- Compare annual carrying charges of transmission cost estimates with production cost savings resulting from relieving transmission constraints
- Develop other metrics related to dispatch of the system



Major Cases

- Base Case (0, 1000, and 2000 MW of offshore wind)
- Most Favorable economic case (0, 1000, and 2000 MW of offshore wind)
- Least Favorable economic case (Base Case (0, 1000, and 2000 MW of offshore wind))

Sensitivity Cases

- Other Sensitivities for 0, 1000, and 2000 MW of offshore wind (if needed)
 - Using higher fuel prices Base Case
 - Using lower fuel prices Base Case
 - Using higher CO2 allowance prices Base Case
 - Using lower CO2 allowance prices Base Case

Questions

