Scaling up Offshore Wind – Industry Momentum

Offshore Wind – Fundamentals

- **Capacity Factor/Winter Coincidence.** Increased capacity factor with larger turbines coupled with high production in winter. High level ISO model indicated roughly 70 percent capacity factor during the 16 day cold snap in 2017-2018. Resource can meaningfully contribute to energy security challenges.

- **European Market Development.** “The reductions in the levelized cost of offshore wind energy since 2014 have been aided by technology improvements in energy capture, reduced capital expenditures, the advent of larger turbines, competition in international markets, and reduced international lending rates, among many other factors.”

- **Economic Development Opportunity.** Construction activity related to the deployment of 1,600 MW of OSW is estimated to create between 2,279 and 3,171 direct jobyears. In total, construction activities are estimated to support between 6,878 and 9,852 job-years, which includes direct, indirect (supply chain), and induced impacts.
Offshore Wind – Fundamentals (Part 2)

- **Lease Sites/Global Leadership.** Lease areas have ideal water depths, location to interconnection points, and have attracted globally leading offshore energy companies.

- **Interconnection Points.** Short-term opportunities for interconnection into the transmission system (Brayton Point, Bourne/Canal Pilgrim, Kent County, and Montville).

- **Research and Development.** Capacity factors and scale continue to disrupt cost assumptions and has the potential to minimize the footprint of turbines. Companies continue to dedicate R&D budgets for new technology for offshore wind.
MA/Rhode Island Lease Area Development

- Request for Interest (Dec 2010)
- Call for Information and Nominations (Feb 2012)
- Proposed Sale Notice (July 2014)
Scaling up Offshore Wind

DOER Study on Offshore Wind

- In May, DOER released the results of the offshore wind study and recommended soliciting an additional 1,600 MW of offshore wind per “An Act to Advance Clean Energy of 2018.”
  - 1,600 MW of offshore wind is 6,000,000 MWh energy annually or 15% of total EDC demand;
  - With an additional 1,600 MW of offshore wind over half (~60%) of the EDCs electricity load will be supplied through long-term contracts instead of the wholesale competitive markets.

- **Authorizes Solicitations.** Recommends the EDCs proceed with an additional 1,600 MW of offshore wind generation solicitations in 2022, 2024, and (if necessary) 2026 and that it could lead to cost-effective projects.
- **Assesses Independent Transmission.** Raises the potential for an independent transmission solicitation in 2020-2021.
- **Recommends Increased Competition.** The Legislature should authorize DOER to assess whether there would be benefits of including other clean resources -- Class I renewable resources, hydroelectric resources, etc. -- in future solicitations to expand competition and could also enable price cap to be lifted.
Scaling up Offshore Wind

MA Offshore Wind Advisory Groups

• To augment federal process, EEA with MassCEC, CZM, DMF convened two groups for dialogue, input and guidance on fisheries and marine habitat issues:

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

  – Habitat Working Group on Offshore Wind Energy: scientists and technical experts from environmental organizations, academia, and state and federal agencies
Scaling up Offshore Wind – Challenge – Transmission Constraints in Southern New England

Regional Context: Transmission

- On April 1st, the New England States Committee on Electricity (NESCOE) submitted a request to undertake an economic study to analyze the integration of offshore wind.
  - Assess the region’s transmission capability to interconnect 4,000MW of offshore wind by 2030 and consider additional scenarios beyond 2030 for 5,000 to 7,000MW by 2035.
- DOER currently working with MassCEC to organize a transmission technical conference as recommended in their May 2019 Offshore Wind Study

Updated: 12/17/2019
Offshore Wind Update: Priorities for Scaling Up Offshore Wind

- Continue to Attract Industry Leaders;
- Maintain Predictable Schedules;
- State Coordination on Layouts, Transit Lanes, and Appropriate Fisheries Mitigation;
- Data Gathering and assessment of Gulf of Maine natural resources (e.g. benthic habitat, fisheries, marine mammals, turtles, birds, etc.);
- Research and Development on Impacts on Natural Resources;
- Voids in Fisheries Data for Gulf of Maine;
- Achievable OSW Ambition/Targets;
- Strategic Electrification Load Growth;
- State Coordination on Supply-chain;
- Transmission Planning/Competition;
- Incorporation with Regional Wholesale and Capacity Markets.