

# Offshore Wind Energy in the Northeast Region Special Session

## I. Introduction

**NEFMC Meeting**  
**April 18, 2019**



# Objectives

- Council members learn more about offshore wind development.
- Council members engage in active thinking and discussion about offshore wind energy and how the Council can continue to be engaged in the issue moving forward.
- Provide an opportunity for developer representatives, Council members, and Council stakeholders to understand each other better.

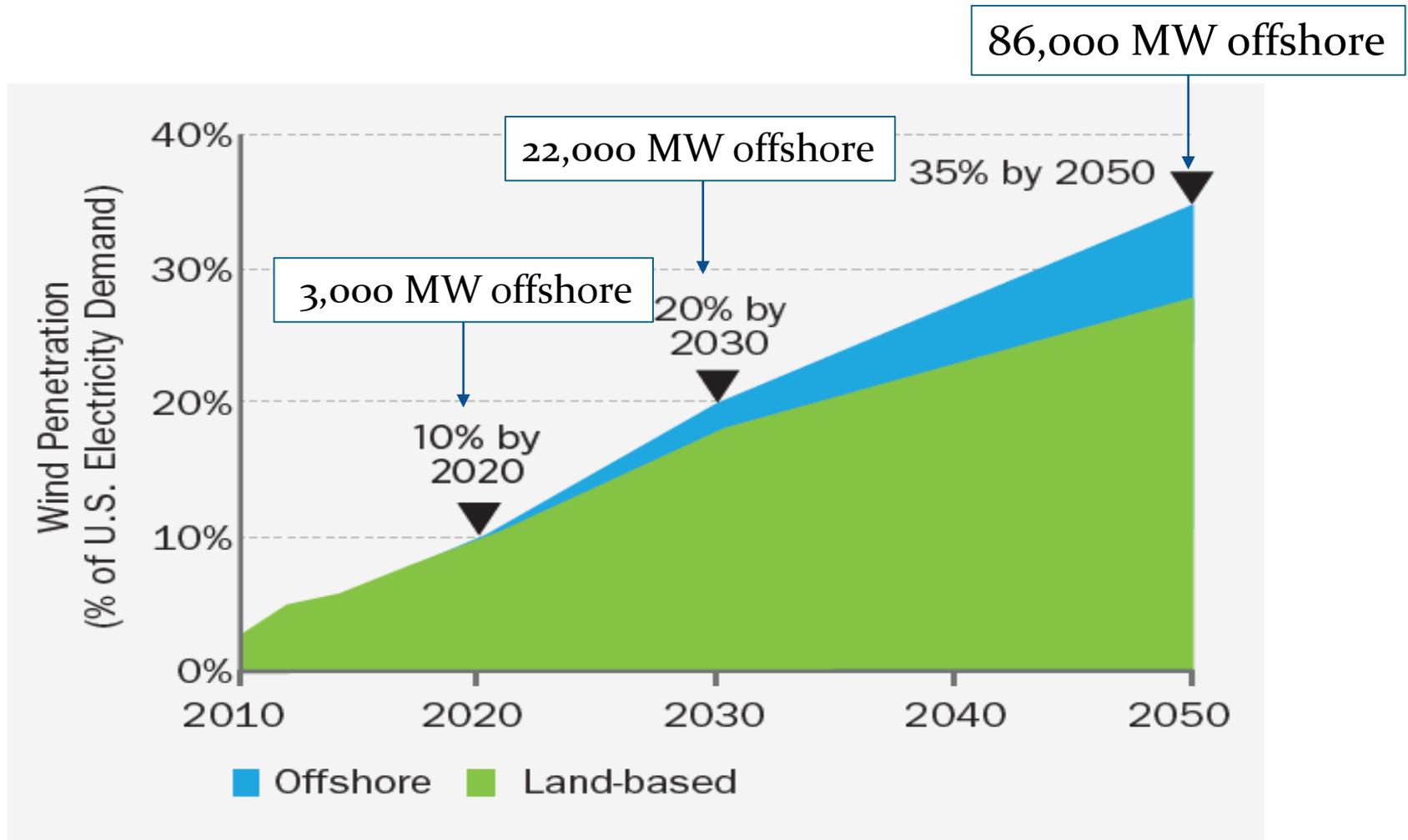
# Topics

- I. Total scope of planned offshore wind energy development in the region, with emphasis on projects off New England and New York.
- II. The players involved and the roles of each in the process, with an emphasis on NOAA Fisheries consultations with BOEM.
- III. Better understanding of research and monitoring issues including current efforts, implications for fishery independent surveys, and regional coordination initiatives.
- IV. Update on timing and status of specific projects including an opportunity for developers to share pertinent updates.

# Overall scope and timing of offshore energy development

Heather Deese and Michelle Bachman

# Department of Energy's 2050 Wind Vision



GW = 1,000 MW

Source: <https://www.energy.gov/eere/wind/downloads/updates-wind-vision-roadmap>

# DOE's Wind Vision for offshore

Year	MW (offshore)	Turbines (estimate based on 9.4MW each)
2020	3,000	319
2030	22,000	2,340
2050	86,000	9,149

Offshore wind MW from: <https://www.energy.gov/sites/prod/files/2016/09/f33/National-Offshore-Wind-Strategy-report-09082016.pdf>

# Changes in offshore wind technology

- Turbine size and capacity is increasing:
  - BIWF turbines 6 MW
  - Vineyard Wind likely to be 9.4 MW
  - 12 MW are in design and testing
  - Larger turbines will lead to more production from a given lease area
- Floating platforms currently in R&D will expand the offshore areas where wind farms could be developed

# Wind industry perspective

- 1,800 MW - total capacity of U.S. offshore wind project pipeline (6 commercial projects, 2 demo projects).
- 16,970 MW - offshore wind capacity that could be supported by a state-supported financial mechanism (Power Purchase Agreements or Offshore Renewable Energy Credit)
- 21,000 MW - total potential offshore wind generation from the 16 wind energy areas BOEM has leased to date, from North Carolina to Massachusetts
  - Source: interview with Liz Burdock, Business Network for Offshore Wind, 3/18/19

<https://www.windpowerengineering.com/business-news-projects/an-update-on-offshore-wind-liz-burdock-answers-our-questions/>

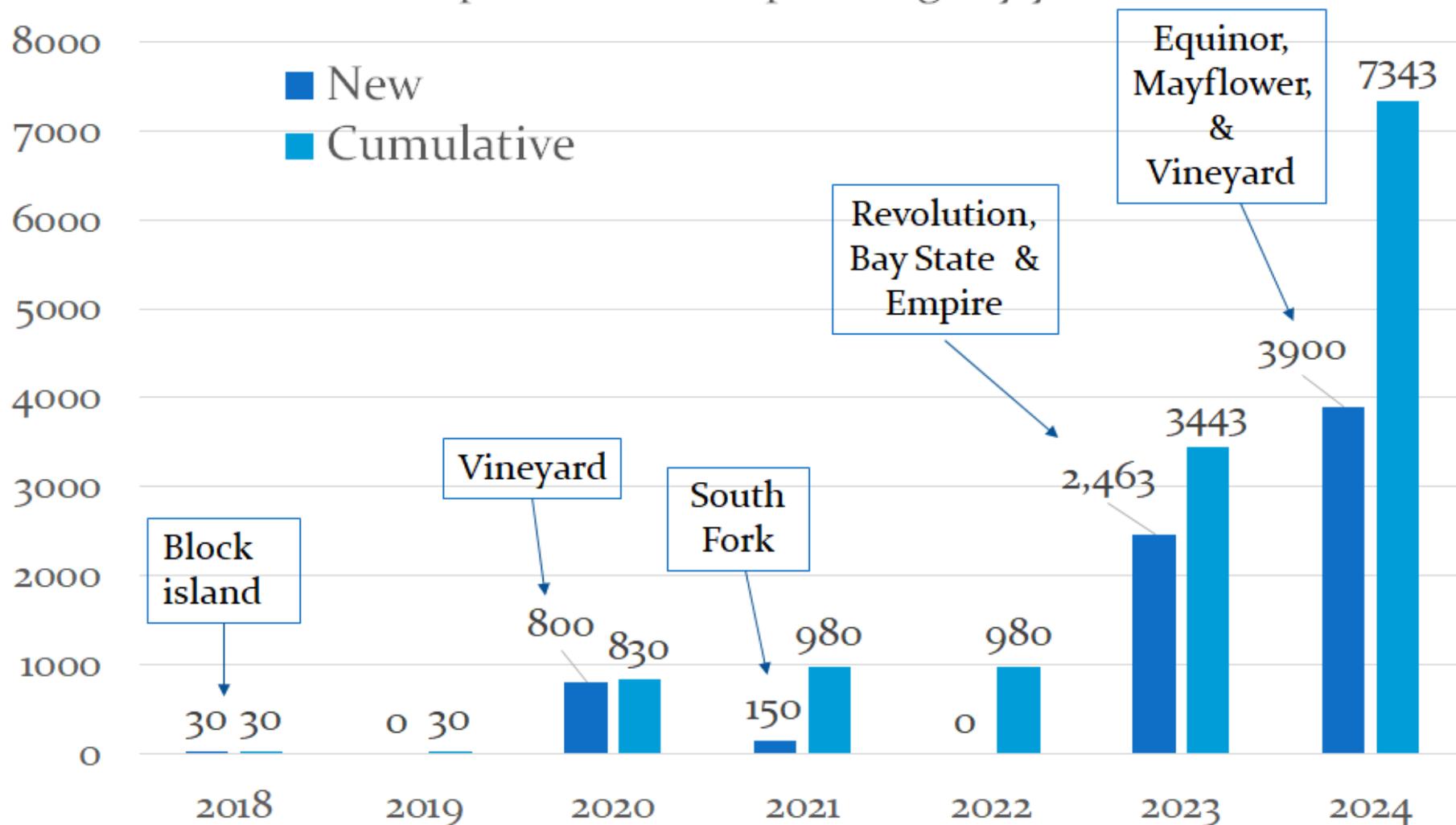
# New England & NY Offshore Wind Projects by Department of Energy project stage

Project stage As of August 2018	MW	Cumulative MW	Turbines (estimate)	Cumulative turbines (estimate)
Operating	30	30	5*	5
Contract awarded	90	120	15*	20
Procurement initiated	1,412	1532	150**	170
Site Control	5,776	7,308	902**	1,072
Planning	4,719	12,027	502**	1,574

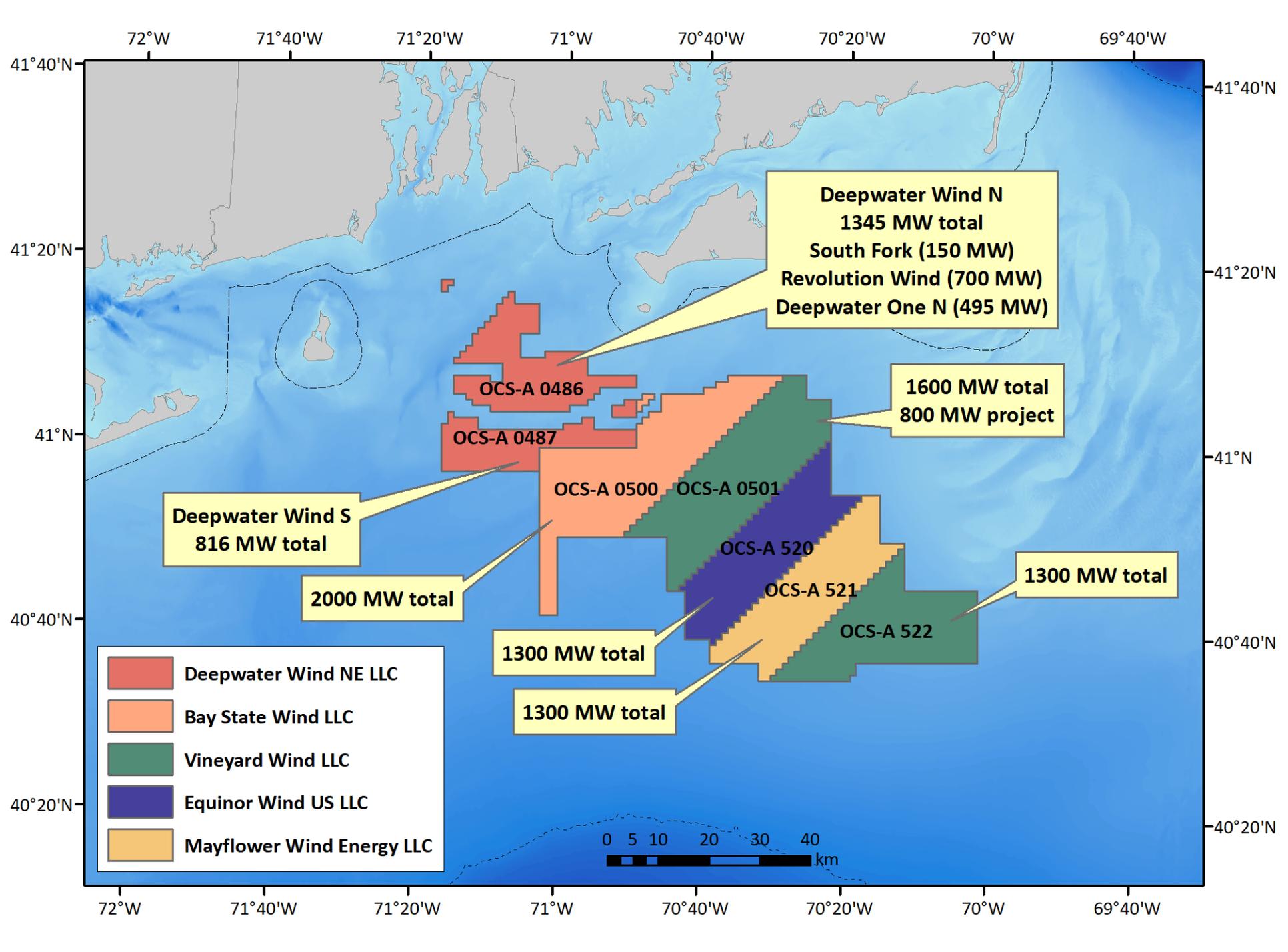
\*turbines at 6 MW each; \*\* turbines at 9.4 MW each

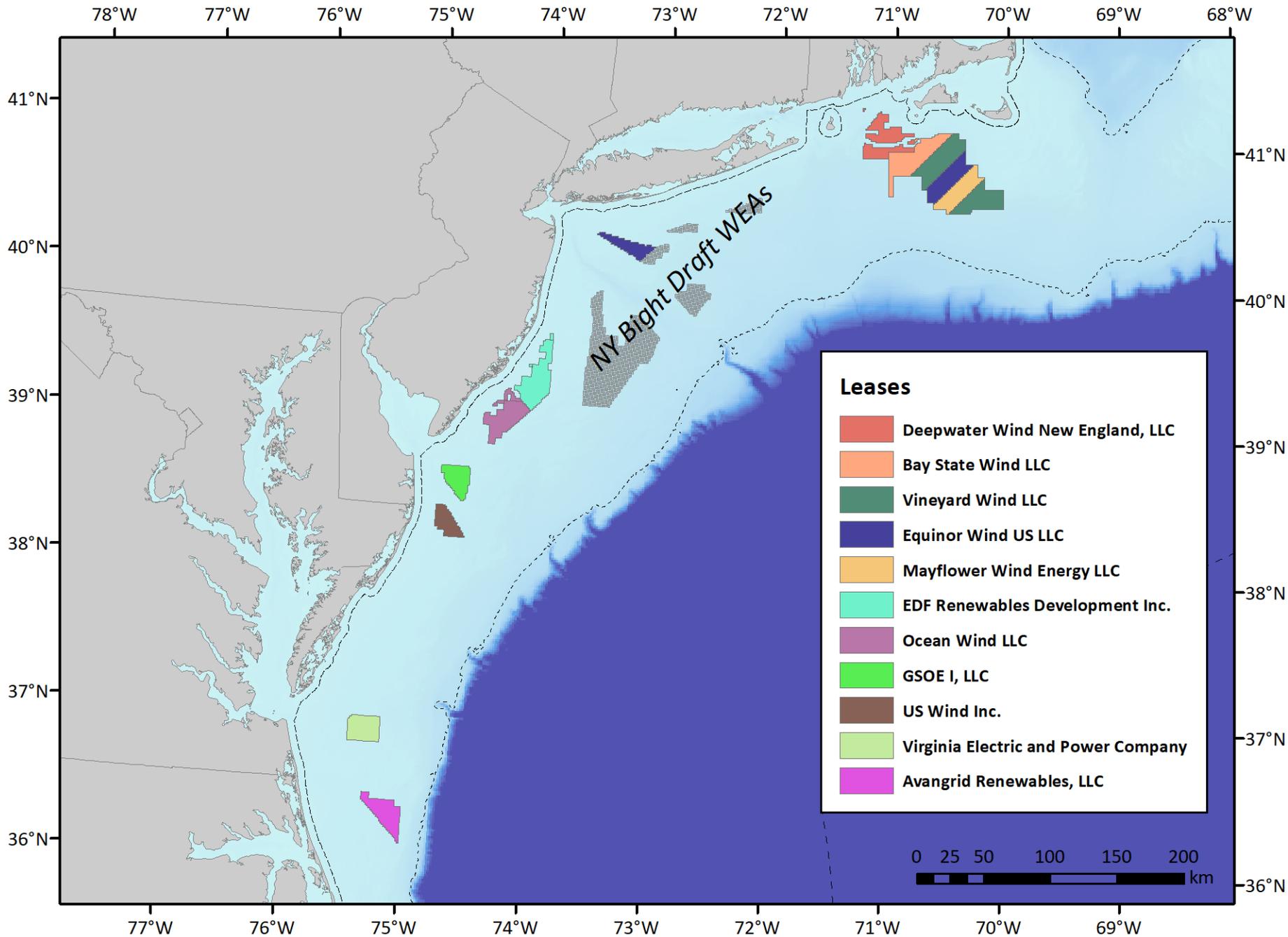
Source: MW for projects from U.S. Department of Energy; Estimated # turbines from NEFMC

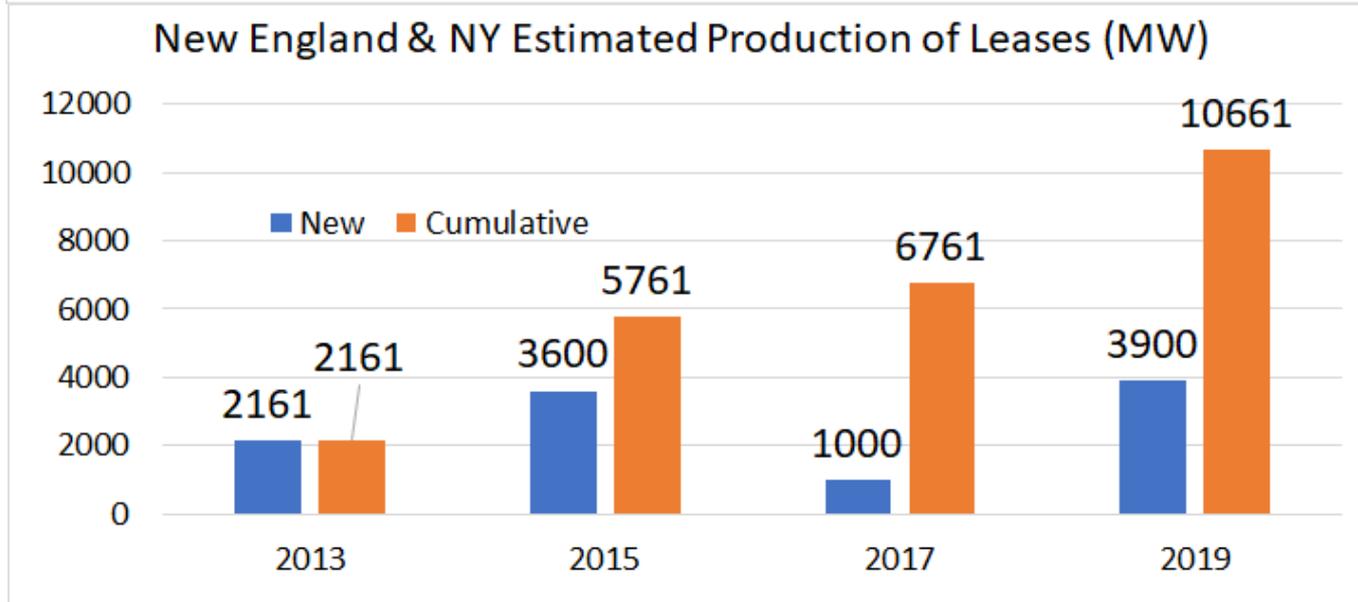
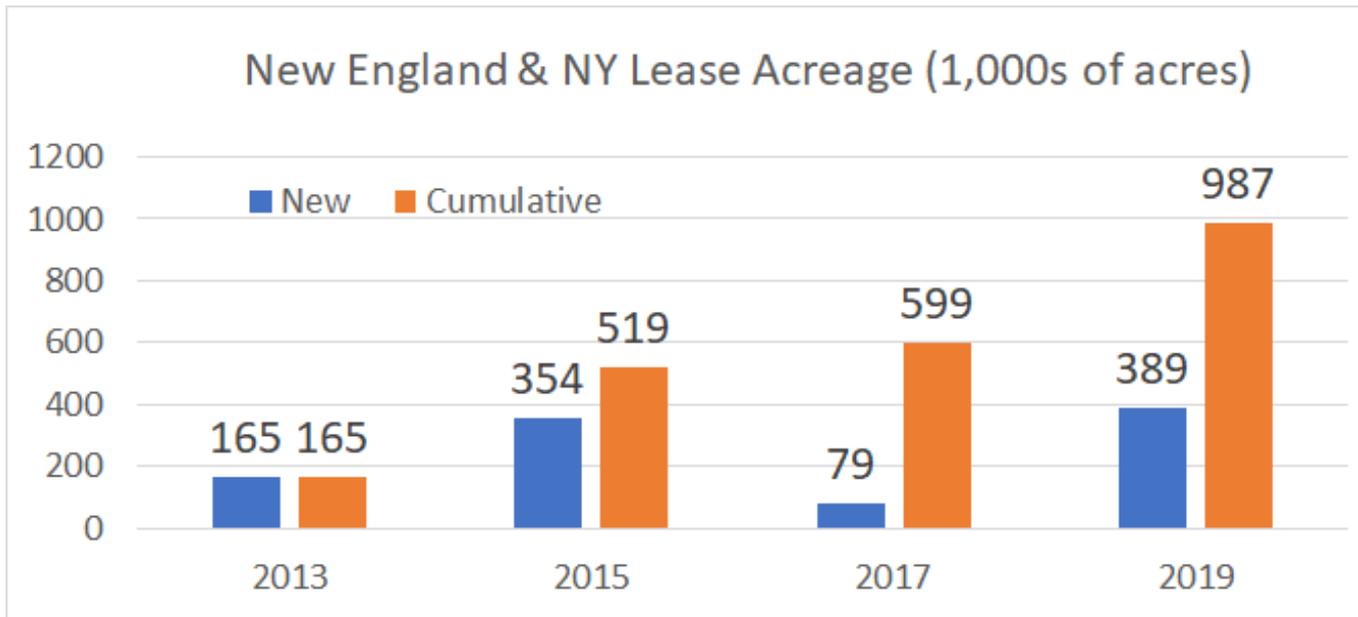
## Offshore Wind Energy, New England & New York planned and operating, by year



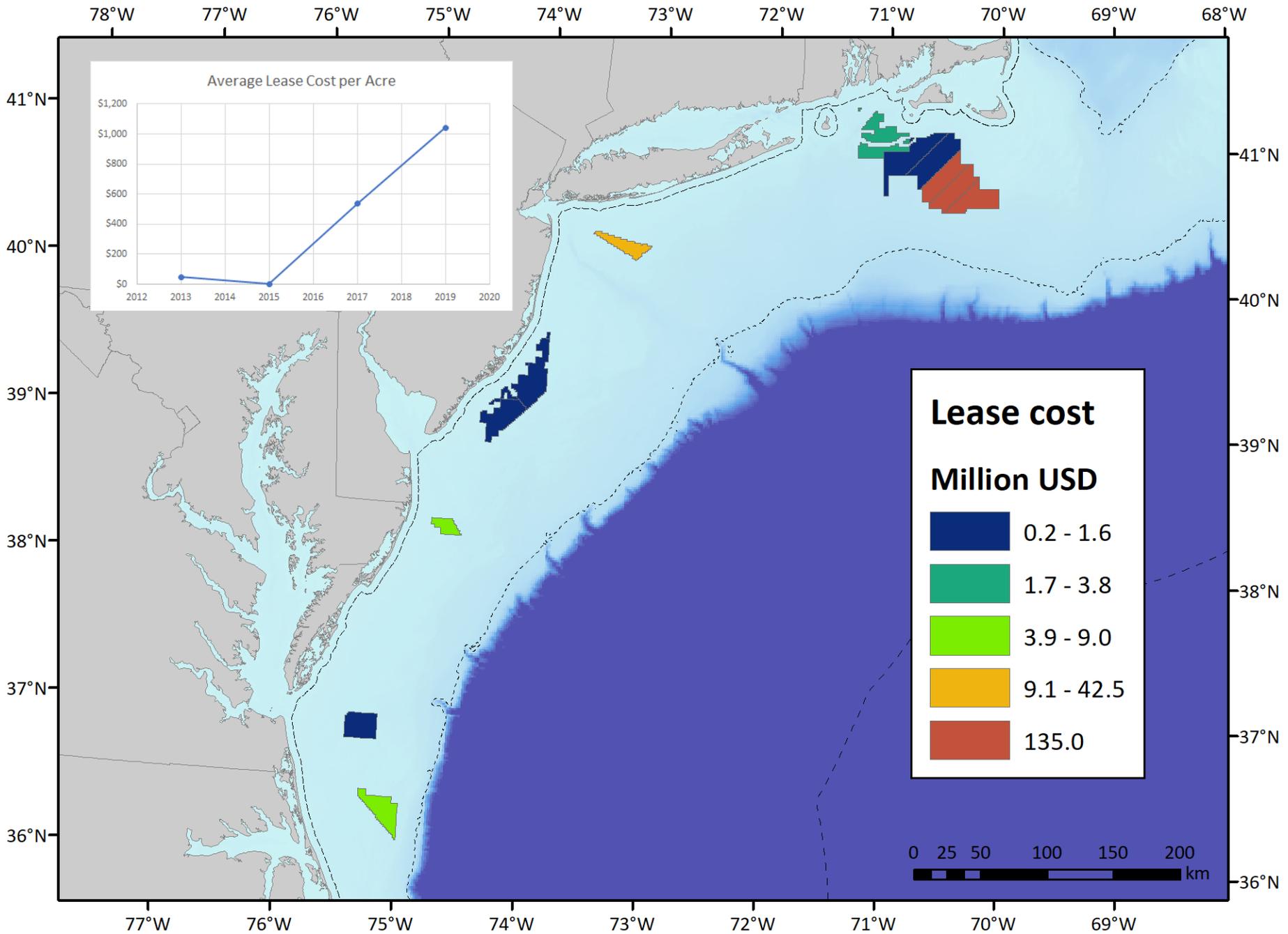
Source: MW and estimated operation timelines for projects based on U.S. Department of Energy, Offshore Wind Market Update (Sept 2018), Business Network for Offshore Wind, Market Update and Insights (March 2019), and individual developer websites.







Source: Lease acreage and lease dates from BOEM (Brian Hooker, pers. Comm. Feb 2019). Estimated production for lease areas based on U.S. Department of Energy, Offshore Wind Market Update (Sept 2018), Business Network for Offshore Wind, Market Update and Insights (March 2019), and individual developer websites.



# State power procurement process

- MA, RI, CT, NY have all specified amounts of power that should be purchased from offshore wind energy.
- Legislators or governors direct Utilities to purchase renewable energy, sometimes specifying the type of energy source (e.g. offshore wind energy).
- Utilities work together with state agencies to run RFP process. Developers submit proposals for the amount and price at which they will sell offshore wind energy.
- Projects do not need to land offshore cable in the state that purchases the power (Example: CT and RI both purchasing power from Revolution Wind, which would interconnect into RI)

# State procurement goals

	Awards/Goals (MW)	Renewable Goals
Massachusetts	3,200	35% by 2030
Rhode Island	1,000	38.5% by 2025
Connecticut	300	48% by 2030
New York	9,000	100% by 2040
New Jersey	3,500	100% by 2050
Maryland	368*	25% by 2020
<b>TOTAL</b>	<b>17,368 MW</b>	

# Example – MA procurement

- Total goal is 3200 MW from offshore wind energy
  - Round 1:
    - June 2017 RFP
    - July 2018 contract
    - Vineyard Wind was selected for all 800 MW
  - Round 2:
    - May 2019 RFP (planned)
    - Jan 2020 contract (planned)
    - One or more Developers will be selected for at least 400 MW, up to 800 MW