New England Restructuring Roundatble

Transmission System Evolution for Decarbonizing New England

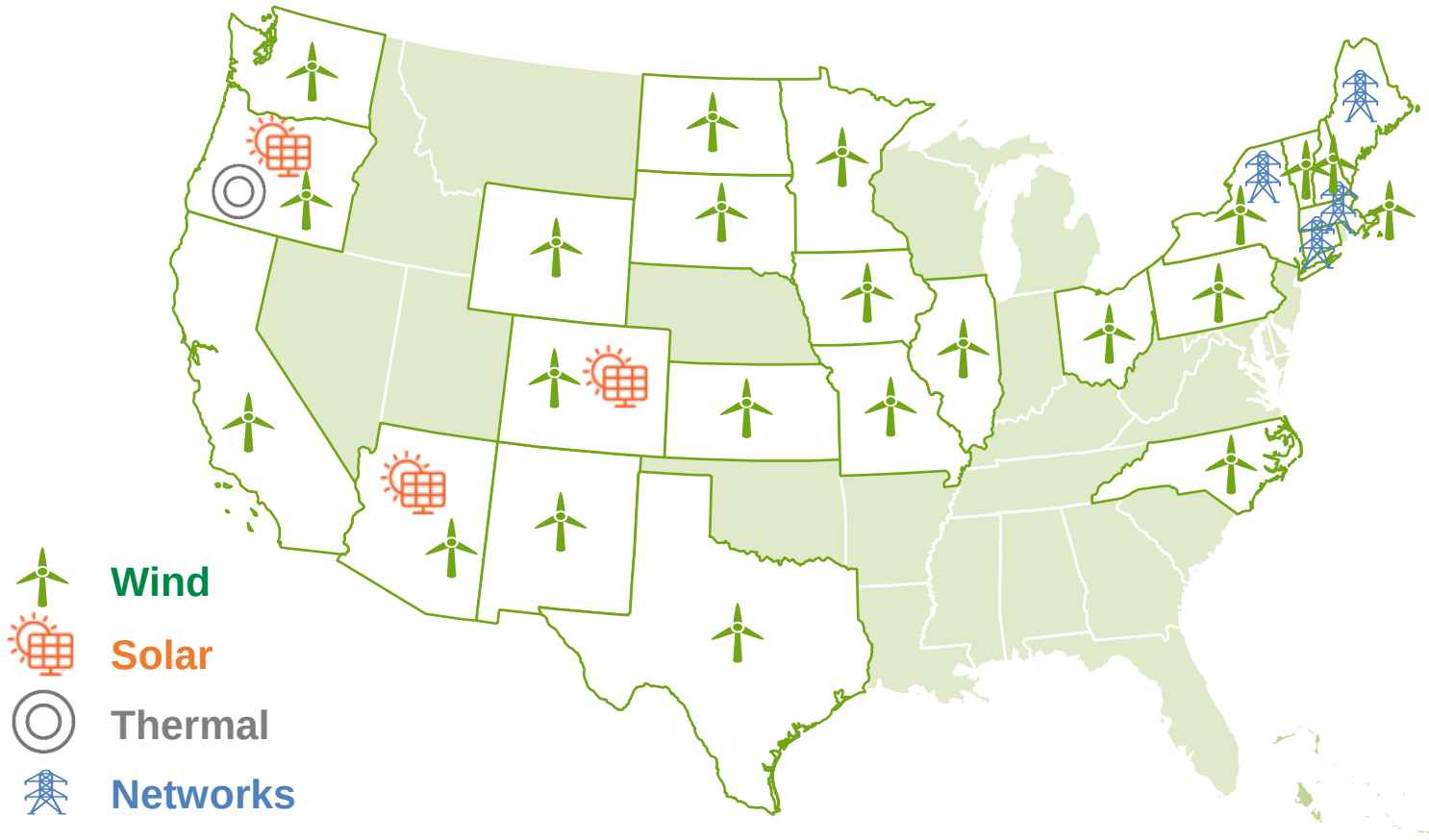
Bob Kump

Deputy CEO & President, AVANGRID INC.

AVANGRID

~$34 billion in assets with operations in 24 states

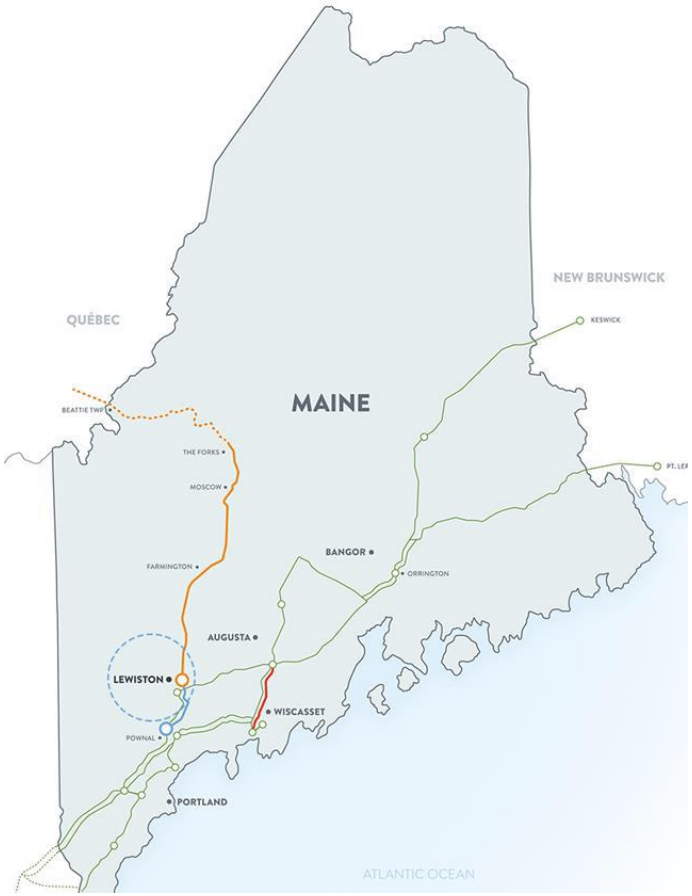
3rd largest wind operator in the U.S.
~7.3 GW Wind & Solar in operation (1)



Investing ~$11.8B in a Smarter & Cleaner Energy Future in '19-'22 with goal of carbon neutral by 2035(2)

(1) As of 12/31/2019, including JVs.
(2) February 26, 2019 Long Term Outlook update

New England Clean Energy Connect Transmission project



Lowest cost solution to deliver hydro to NE

- **1,200 MW** Transmission project delivering Canadian hydro-power from Hydro-Québec
- CAPEX ~$950M (1)
- Maine Land Use Planning Commission (LUPC) Site Law Certification received January 8, 2020
- Additional Approvals needed: Maine DEP, USACE, ISO-NE I.3.9 & Presidential Permit
- Expect **start of construction 3Q ’20**
- Expect **COD by year-end ’22**

✓ **Significant benefits and jobs to NE**

✓ **Clean electricity for up to 1.5M homes**

✓ **CO2 emissions reduction of 3-3.6M tons, like 700,000 fewer cars on the road**

(1) Excluding AFUDC

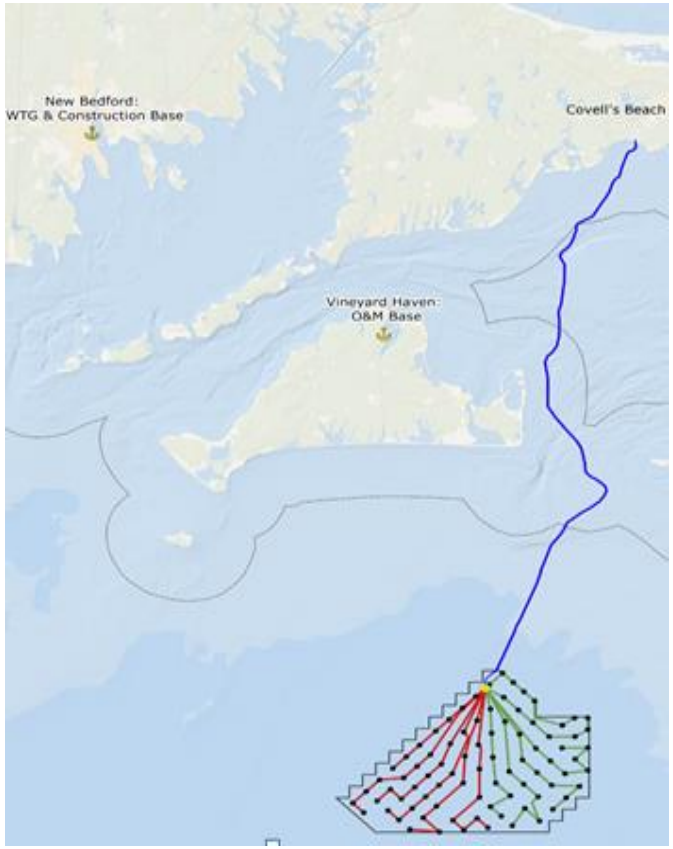
Vineyard Wind Offshore (1)

VINEYARD WIND

US first utility-scale offshore wind project

Executed 800 MW PPA in MA RFP

- 15 miles off the coast of Massachusetts
- Project COD no earlier than 2023
- BOEM's Supplemental Environmental Impact by 11/13/20 & Record of Decision by12/18/20
- Other key permits have been secured



Also awarded 804 MW in CT Offshore RFP (Park City Wind

- Project COD expected by end 2025
- Establishes Bridgeport (CT) as offshore wind hub
- Creates jobs & direct economic benefits of ~$890M

- ✓ **A new industry for East Coast**
- ✓ **Clean electricity for up to 0.8M homes**
- ✓ **Over 6,000 direct jobs created**

(1) *AVANGRID's 50/50 partnership with Copenhagen Infrastructure Partners (CIP).*

Facilitating the evolution of the grid

Decarbonized grid means…

- Up to 200 GW of additional capacity (renewables and storage)
- New load patterns require an automated and reconfigured grid to integrate DR, electric vehicles, heat pumps, renewables, etc.
- Expanding and incentivizing energy efficiency (HVAC, residential)
- Implementing energy storage technologies and enhancing demand response to provide flexibility and help meet future system balancing needs

Transmission will facilitate the energy transition

- Developing an offshore transmission network to accommodate large amounts of OSW
  - Over 3000 miles of offshore lines will be required to integrate approx. 15 to 24GW[1]
- Maximizing the use of on-shore renewable resources in the region
- Increasing transmission capacity with Canada from an energy, capacity and storage standpoint
  - 4GW of additional transmission is needed to balance intermittent resources[2]

But before let's…

- Expand regional planning and cost allocation approach to meet our aggressive targets
  - Ensure correct price signals for capacity and ancillary services
- Introduce more competition in transmission across the region for both onshore and offshore opportunities
- State and Federal coordination to reduce permitting and siting risks. Leaving developers to navigate through these key areas is inefficient and leads to unachieved targets
  - In Chile for instance the government and an independent planning authority defines the scope of the project, provides a preferred route and works with the awarded developer on permitting and siting
- Further enhancement/automation of T&D grid.

1- Brattle – Reaching 2050 climate goals is feasible but New England must keep its foot on the accelerator

2 - MIT – Two-way Trade in Green Electrons: Deep Decarbonization of the Northeastern U.S. and the Role of Canadian Hydropower