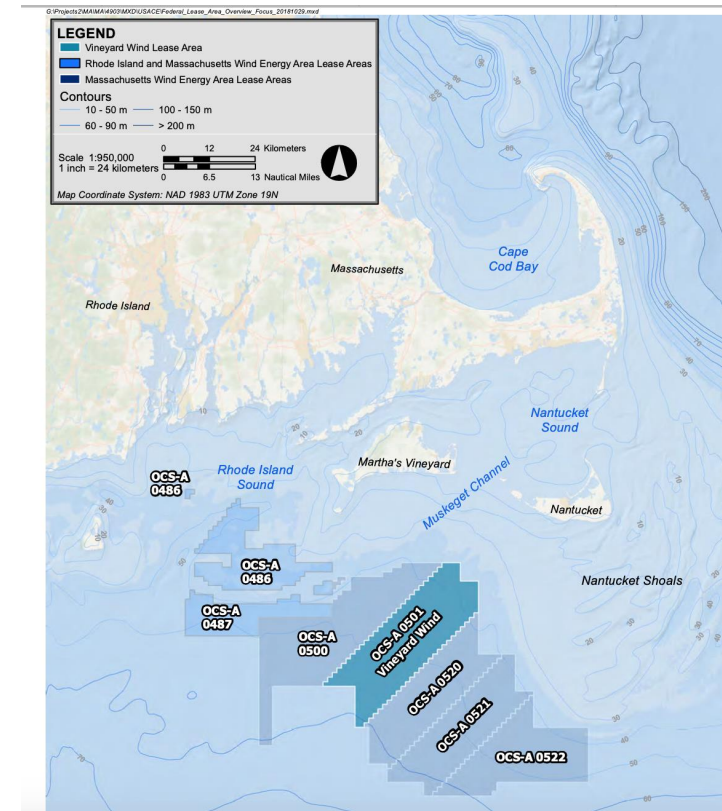
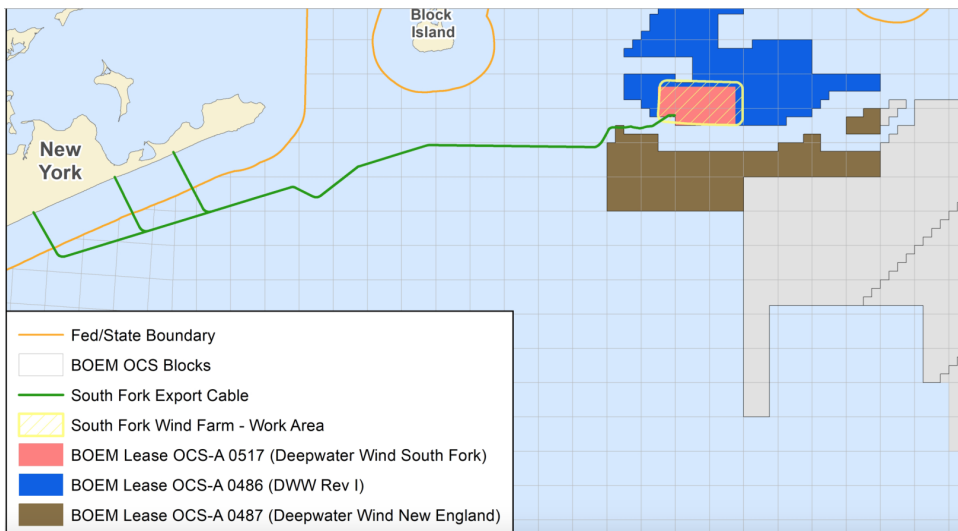


OFFSHORE WIND POWER BRIEFING for A.C.T. Part 2 Host community Benefits

Bonnie Ram
University of Delaware
*Ram Power LLC &
Center for Research in Wind*

**Knowledge Exchange (zoom)
November 6, 2020**



Agenda

- ❖ **Background and Motivations**
- ❖ **Overview of Benefits**
- ❖ **Host Community Benefit Packages for Cable Connections**
 - ❖ **South Fork - NY**
 - ❖ **Vineyard Wind - MA**
- ❖ **Possible Next Steps to Explore in Delaware**
 - ❖ **Port Redevelopment -- DE City Refinery/OxyChem Site**
 - ❖ **Alternative Cable Connection Locations in DE**

Background

- ❖ **Three month research grant**
- ❖ **Follow on from 2017-18 research & engagement**
- ❖ **Funded by First State Marine Wind (UD)**
- ❖ **Partners**

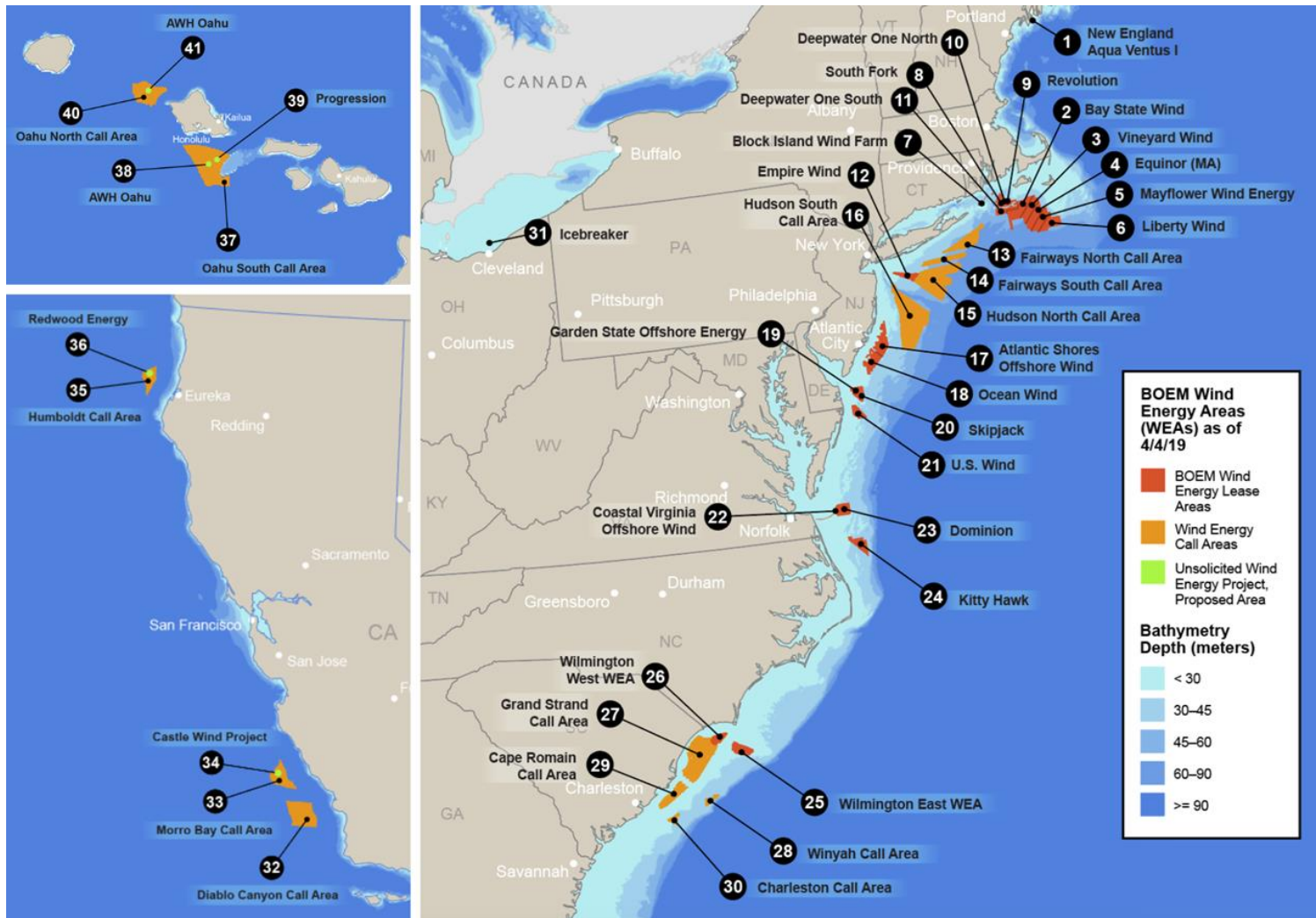


Motivations for Our Research

- ❖ **Climate change urgencies to reduce CO₂ and other GHGs**
- ❖ **Offshore wind = one of the only utility scale low-carbon electricity sources available now**
- ❖ **Establish an independent, science-based voice on siting challenges, benefits, and uncertainties**
- ❖ **Highlight how local communities can engage in the decision process – “early and often”**

U.S. Offshore Wind Industry Regulatory Activity

- Bureau of Ocean Energy Management (BOEM) given authority under EPOA 2005
- 30 CFR 585 released in 2009 provides regulatory framework for federal waters
- Offshore wind lease sales began in 2011
- BOEM works with state task forces prior to lease area designation
- 16 lease areas have been sold in public auctions
- ***Call areas (13)*** are nascent ocean tracts under consideration for possible leasing



How can Delaware reap some of the potential benefits?

- Reduce greenhouse gas (GHG) emissions & other pollutants
- Reduce regional water consumption
- Reduce electricity transmission congestion in Delmarva Peninsula
- Train new generation of workers
- **Realize economic development commitments**
 - Port developments – DE City Area
 - Community benefits
 - Regional supply chain
 - Lease payments to the US Treasury



Rehoboth Knowledge Exchange (2018)

L-R

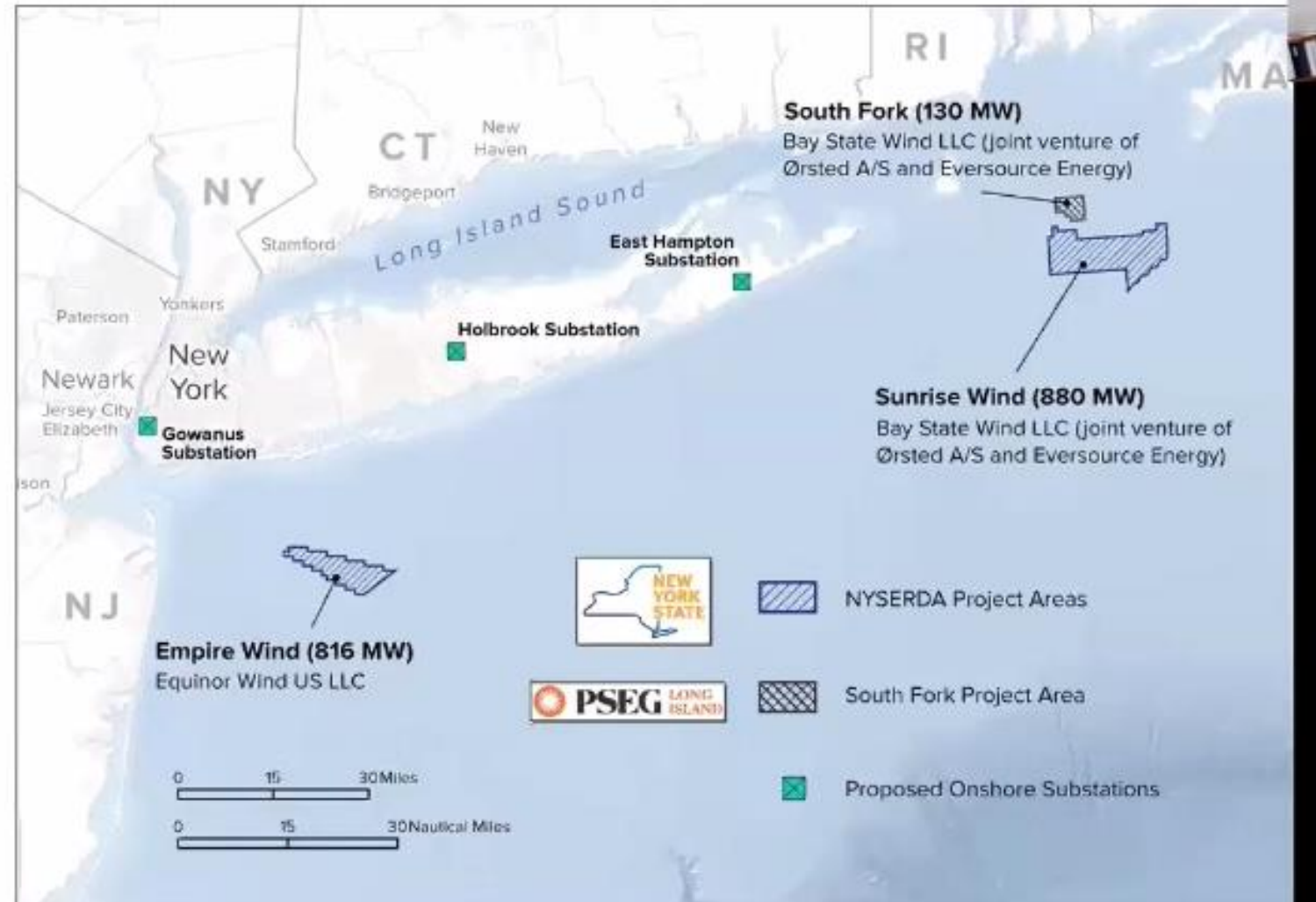
Mayor Becker (Lewes), Bonnie Ram, Former Mayor Kuhns (Rehoboth), Dr. Jame McCray (DE Sea Grant), Jen McCann (RI Sea Grant)

New York's State's Offshore Wind

Empire Wind
816 MW

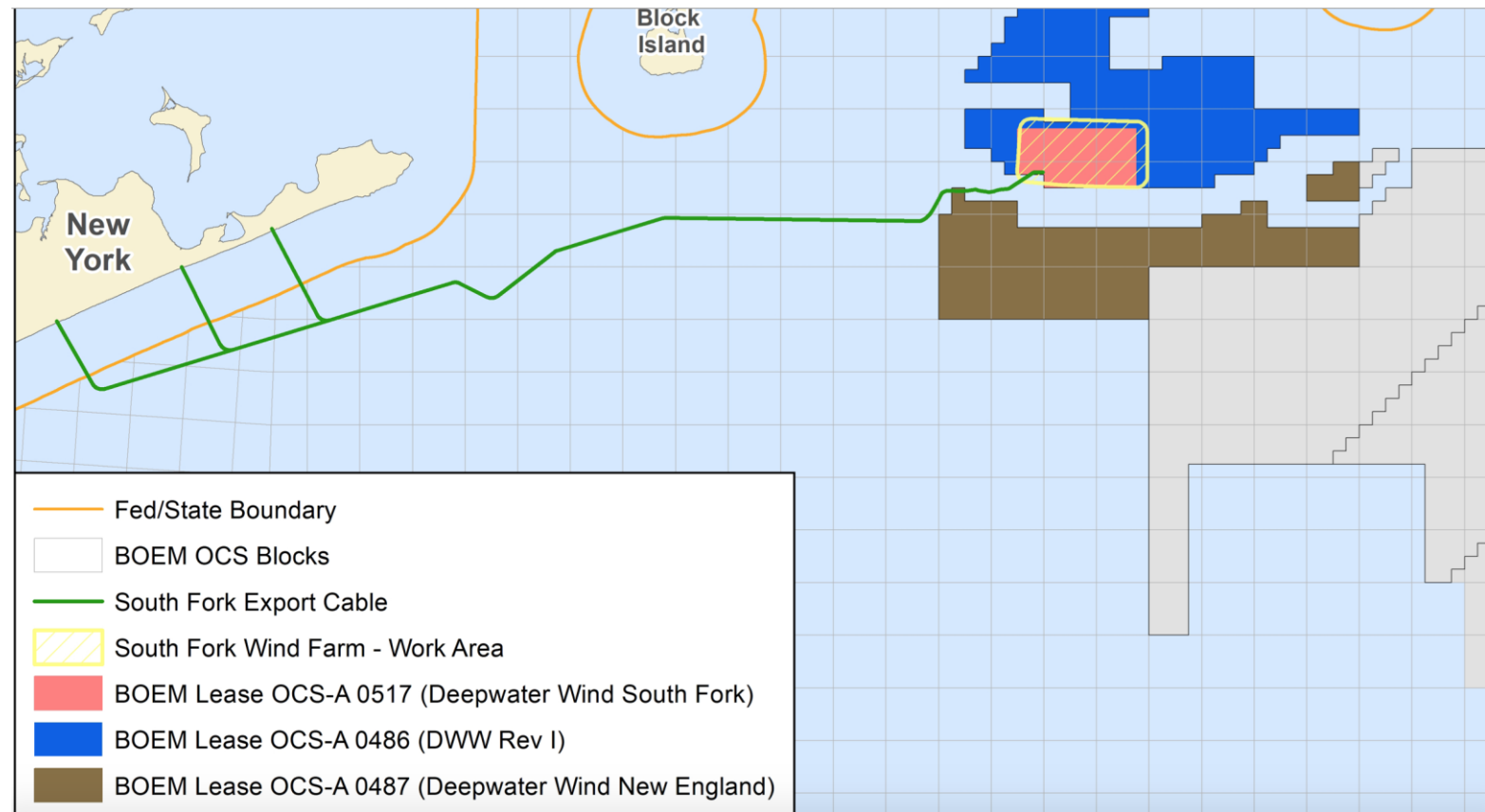
Sunrise Wind
880 MW

South Fork
130 MW



South Fork Project – 132 MWs for Long Island Power Authority (LIPA)

- Scheduled to be operational in 2022.
- The project is a 50-50 joint venture between Ørsted and Eversource, New England's largest energy company.
- State approved 15-turbine project located ~56 km off Long Island, New York.



South Fork Project

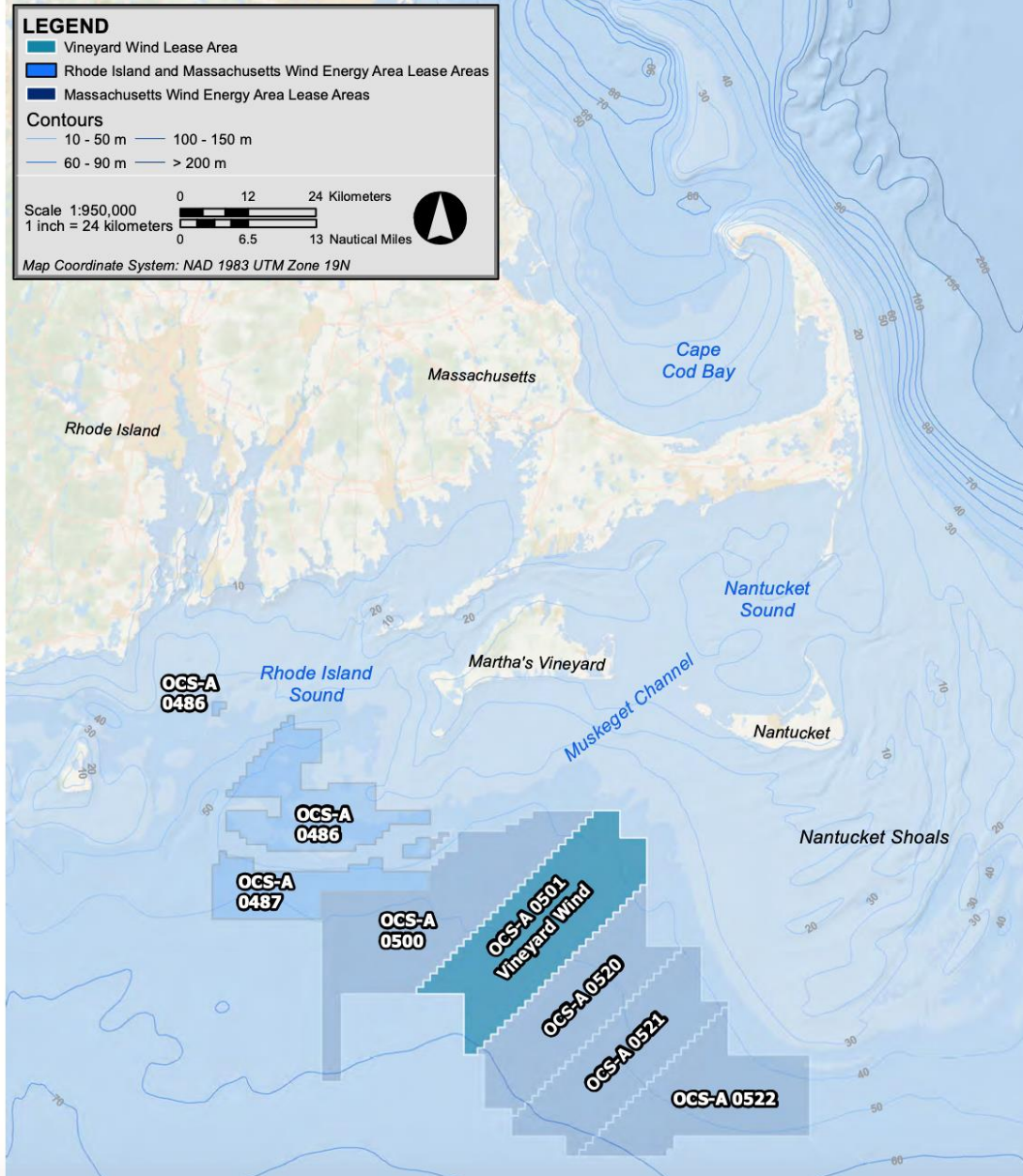
- Selected by the Long Island Power Authority (LIPA)
- Tie in to the existing Cove Hollow substation and help meet local energy demands.
- Negotiations began to provide for payment in exchange for the granting of easements required for installation of the approximately four-mile length of the onshore portion of a 138-kilovolt electricity transmission line.

Host Community Agreement (Draft)

- Ørsted/Eversource would pay East Hampton Town a total of USD \$28.9 million over 25 years.
- Make two initial “milestone payments” of US\$ 500,000 each
 - First, which will be nonrefundable, to be made within 90 days of the Host Community Agreement date of effectiveness, and
 - The second payment to be made within 90 days of the start of construction.
- Provided the project obtains PSC final approval, the developer would then make **25 annual payments**
 - Beginning at US\$ 870,000 the first year and increasing by two percent each subsequent year for a total payment of approximately US\$ 28.9 million
- includes US\$ 100,000 in geotechnical access and license fees already paid to the town.

Host Community Agreement (Draft)

- Also calls for the wind farm developer to employ a liaison to facilitate communications between the company and the commercial fishing community for the life of the project.
- Requires its turbine maintenance contractor to establish a wind farm support facility and transfer vessel base in Montauk.
- Ørsted required to pay town property taxes on its onshore infrastructure (~an additional USD 4 million over the life of the project).



800 MW VINEYARD WIND PROJECT

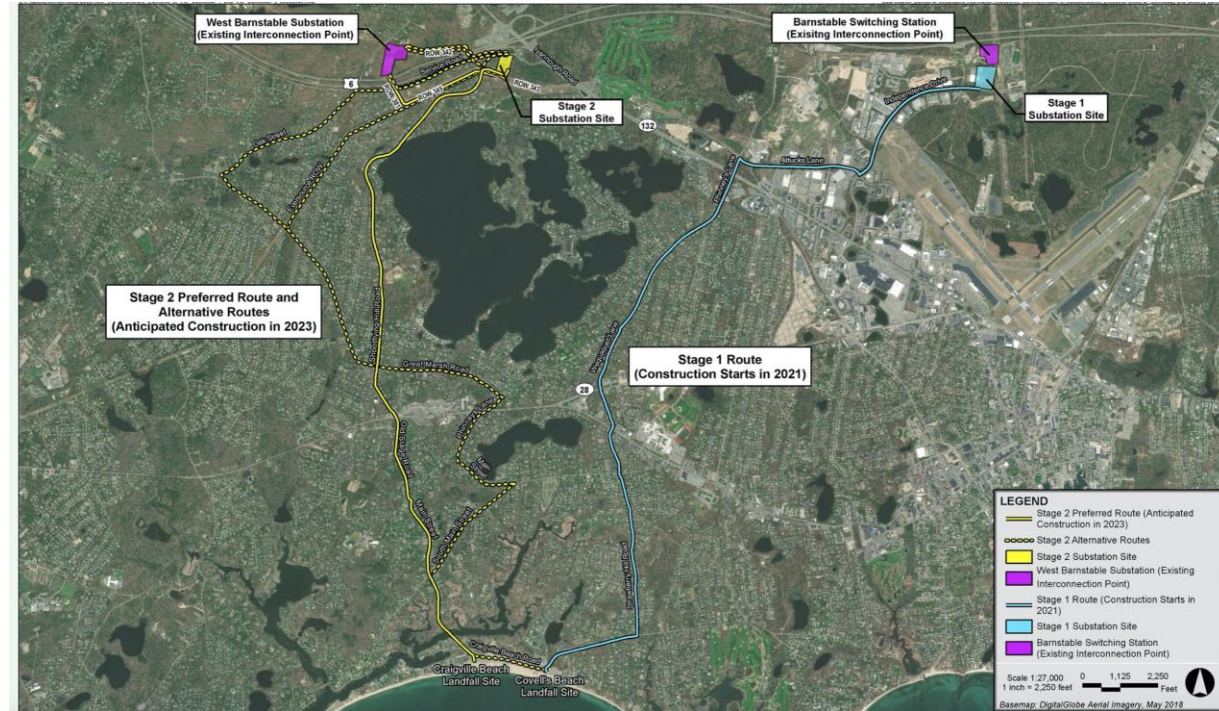
New Bedford, MA based project company owned by Copenhagen Infrastructure Partners and Avangrid Renewables

- ~57-66 turbines depending on turbine size
- Electrical Service Platforms
- An onshore substation
- Offshore and onshore cabling, and
- Onshore operations & maintenance facilities

NOTE: Located approximately fifteen miles from Madaket Beach, its closest point on Nantucket.

Cable Interconnection & Shoreside Infrastructure

- Vineyard Wind and the Town of Barnstable entered into a Host Community Agreement (HCA) to establish a guide for a long-term, cooperative relationship while providing specific benefits, predictability, and revenue for the town of Barnstable for years to come.
- This HCA supposes two Vineyard Wind projects interconnecting in Barnstable and the possibility of a third.



Barnstable Host Community Agreement

- **Financial Support for Barnstable:** Barnstable will receive tens of millions in property tax revenue over the life of the project and an additional \$16 million in host community payments for each stage of the project
- **No Development in Nantucket Sound**
- **Robust, standard-setting water protections for Vineyard Wind** substation infrastructure.
- **Off-season Construction:** to minimize disruption to neighborhoods, traffic, and beachgoers.
- **Benefits for Beachgoers:** The beach remains accessible throughout construction; construct a new bath house and, after construction is complete, the entire beach parking lot will be repaved.

Barnstable Host Community Agreement (cont.)

- **Underground Cables Protected:** Cables connecting Vineyard Wind to the mainland are buried deep below the seabed as well as deep below the beach (~30 feet deep at the tideline) and encased in cement under roads.
- **Collaboration on Project Design with the Town of Barnstable** and Vineyard Wind have collaborated closely on project design, ensuring that all aspects of the project in Barnstable include public safety and environmental protections above and beyond state-mandated standards.

Other Potential Benefits

- Vineyard Wind, the Town of Nantucket, and island nonprofits have announced plans to create The Nantucket Offshore Wind Community Fund (September 2020)
- \$4 million when construction financing is obtained for its first project to seed the Fund, which will be administered by the Community Foundation for Nantucket.

Possible DE Port Redevelopment

- The Delaware site is currently zoned for industrial use
 - Provides greater access to roads and railways
 - Repurpose current industrial sites--- the Delaware City refinery and Oxychem property in New Castle county
- The greatest drawback for the Delaware site is Delaware's current lack of wind energy commitment in the political realm. Lack of support from the state may push wind developers to pursue an investment in a state with a further commitment.

Reference: UD Port study 2020

<https://www.delawarepublic.org/post/ud-study-proposes-new-port-meet-strong-demand-offshore-wind-industry>

State regulations, permits & approvals

State Authorities

DNREC- State Environmental Review
(associated with EPA) Coastal Federal
Consistency Certification
Subaqueous lands permits and leases
Wetlands permit
Section 401 Water Certification
NPDES Storm Water Permit
Air Quality Permits
DNREC- Div. of Fish and Wildlife
DNREC- Div of Parks and Recreation
Beach Preservation Act of 1972
Delaware PSC
DE River Basin Commission
DE Heritage Commission
DE Economic Development Office
DE Energy Office
DelDOT

Local Authorities

- **Municipalities with potential visible impacts**
- **Communities transited by onshore cable route &/or substation**
- **Building permits as required**
- **Participant in NEPA/State review**

DE PORT REDEVELOPMENT

- Close proximity to current Wind Energy Areas
- Absence of overhead restrictions (e.g., bridges)
- Good highway connections, and
- Sufficient deep water access for vessels common to most break bulk projects



Figure; NOAA Navigational Chart with both areas of interest and the C&D Canal labeled; showing their proximity to highlight the potential for canal use.

Sources: <https://nauticalcharts.noaa.gov/> and <https://cpb-us-w2.wpmucdn.com/sites.udel.edu/dist/5/8632/files/2020/07/OEIP-Delaware-Bay-Port-Assessment.pdf>

Possible Next Steps to Explore

- Continue building the local knowledge base
- Explore host community benefit packages
- Interested parties could begin dialogue with both developers on alternative cable connects (US Wind & Ørsted)
- Initiate dialogues on Port Redevelopment possibilities with legislature and private investors
- Stay informed on the federal decision processes --- continue communicating with your local communities



Thank you for your attention!

- FAQs link here:
- [https://bit.ly/UD Offshore Wind FAQ](https://bit.ly/UD_Offshore_Wind_FAQ)
- See recent MD PSC Decision Summary on Skipjack's 12MW Turbine [here](https://www.psc.state.md.us/wp-content/uploads/Order-No.-89622-Case-No.-9629-Order-Approving-Turbine-Selection-1.pdf):
<https://www.psc.state.md.us/wp-content/uploads/Order-No.-89622-Case-No.-9629-Order-Approving-Turbine-Selection-1.pdf>

