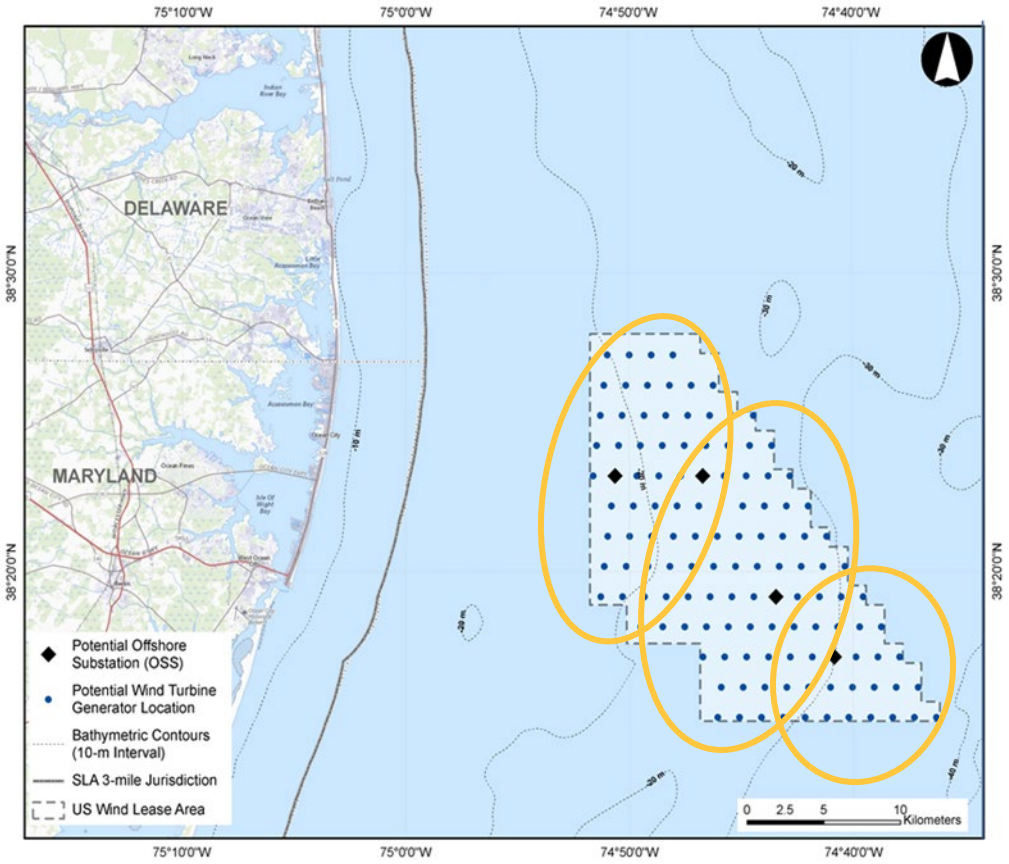
Maryland Offshore Wind Project
BOEM Scoping Meetings
June 21, 23, and 27, 2022

Maryland Offshore Wind Project



Construction and Operations Plan (COP) encompasses full buildout of the 79,707-acre Lease area.

- **MarWin**
  - Approximately 300 MW project awarded ORECs in 2017
  - 913,845 MWhs/year for 20 years
  - Build starting in southeastern-most corner of the Lease area
  - Maryland expects commercial operations to begin in 2025
- **Momentum Wind**
  - Approximately 808 MW project awarded ORECs in 2021
  - 2,513,752 MWhs/year for 20 years
  - Build starting immediately west of MarWin
  - Maryland expects commercial operations in 2026
- **Future Development**
  - Approximately 600-800 MW
  - Ready to meet demand from entities seeking clean power contract(s)

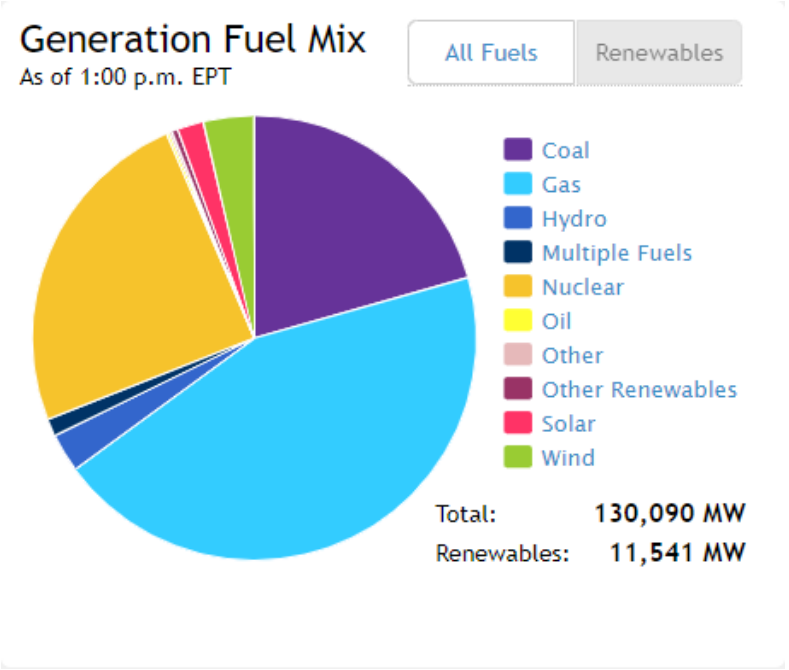
Why the Maryland Offshore Wind Project?

- Reducing CO_2 emissions from electricity generation in the region while meeting electric demand.
  - President Biden goal of deploying 30 GW of offshore wind by 2030
  - President Biden goal of 100% emissions free electricity by 2035

- Maryland goals for CO_2 emissions reductions and decreased reliance on fossil fuels
  - Clean Energy Jobs Act of 2019
    - 2019 law targets a minimum of 1.2 GW of offshore wind operational by 2030
  - 50% renewable electricity by 2030, goal of 100% by 2040

- Maryland goals to capture economic benefits of emerging industry:
  - US Wind committed to at least 15% participation of Minority Business Enterprises (MBEs) in all phases of MarWin and Momentum Wind development
  - US Wind has labor agreements in place with the United Steelworkers, Baltimore/DC Building Trades Council, and International Brotherhood of Electrical Workers (IBEW)

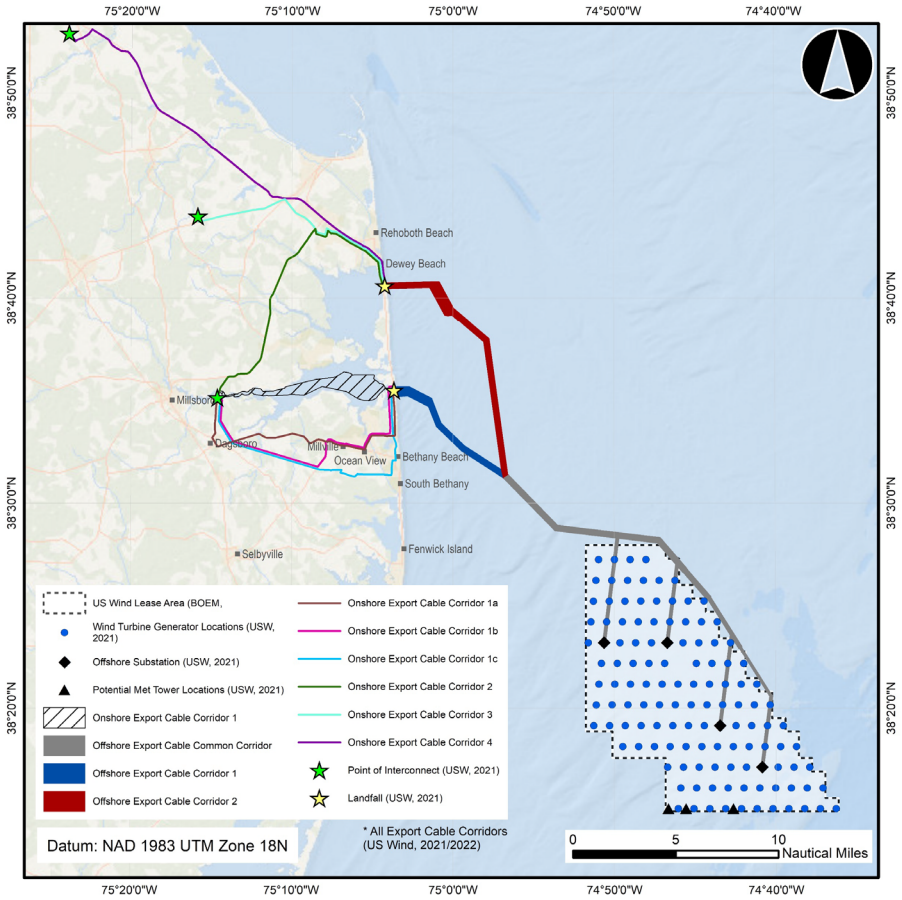
https://www.pjm.com/markets-and-operations.aspx



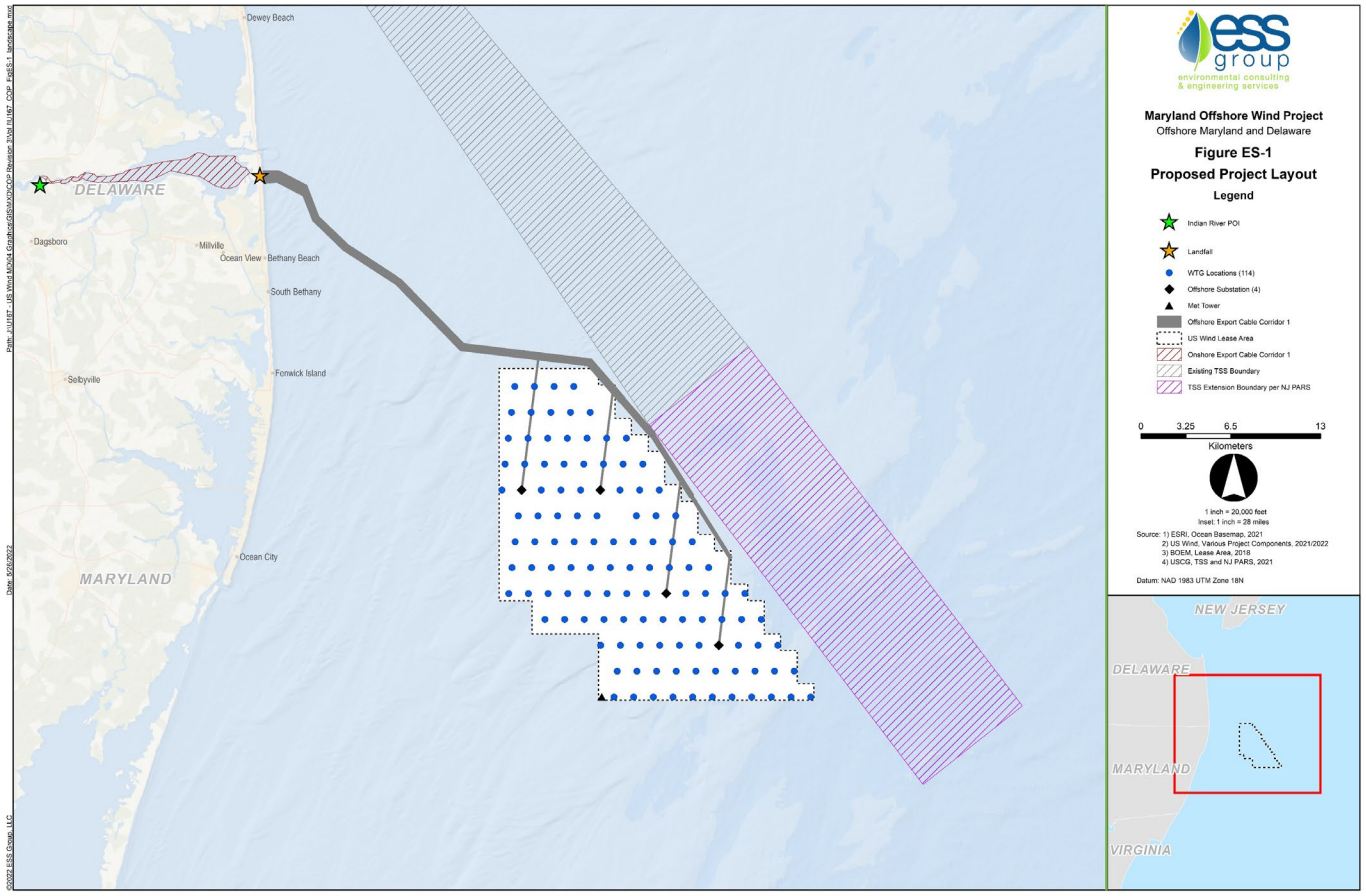
June 16, 1pm hourly generation online in PJM
Coal: 26,833 MW
Gas: 57,668 MW
PJM CO_2 emissions this hour: 55,141 short tons

Project Design Envelope

- US Wind has not yet made final selections regarding technology, like wind turbines, or spatial elements, like cable routes, landing locations, and grid interconnection points.
  - The Project Design Envelope, or "PDE", is a permitting tool to provide flexibility in the design of energy projects.
  - Using a PDE for elements such as maximum wind turbine size allows BOEM and other agencies to evaluate the maximum impacts of a potential project.
  - Final selections fit within or "under" the design envelope.
- PDE includes:
  - Up to 121 wind turbine generators on monopile foundations
  - 4 offshore substations
  - 1 Met Tower, 3 potential locations
  - 2 offshore export cable corridors to 2 landing locations
  - 7 onshore export cable corridors to 3 interconnection points to the grid



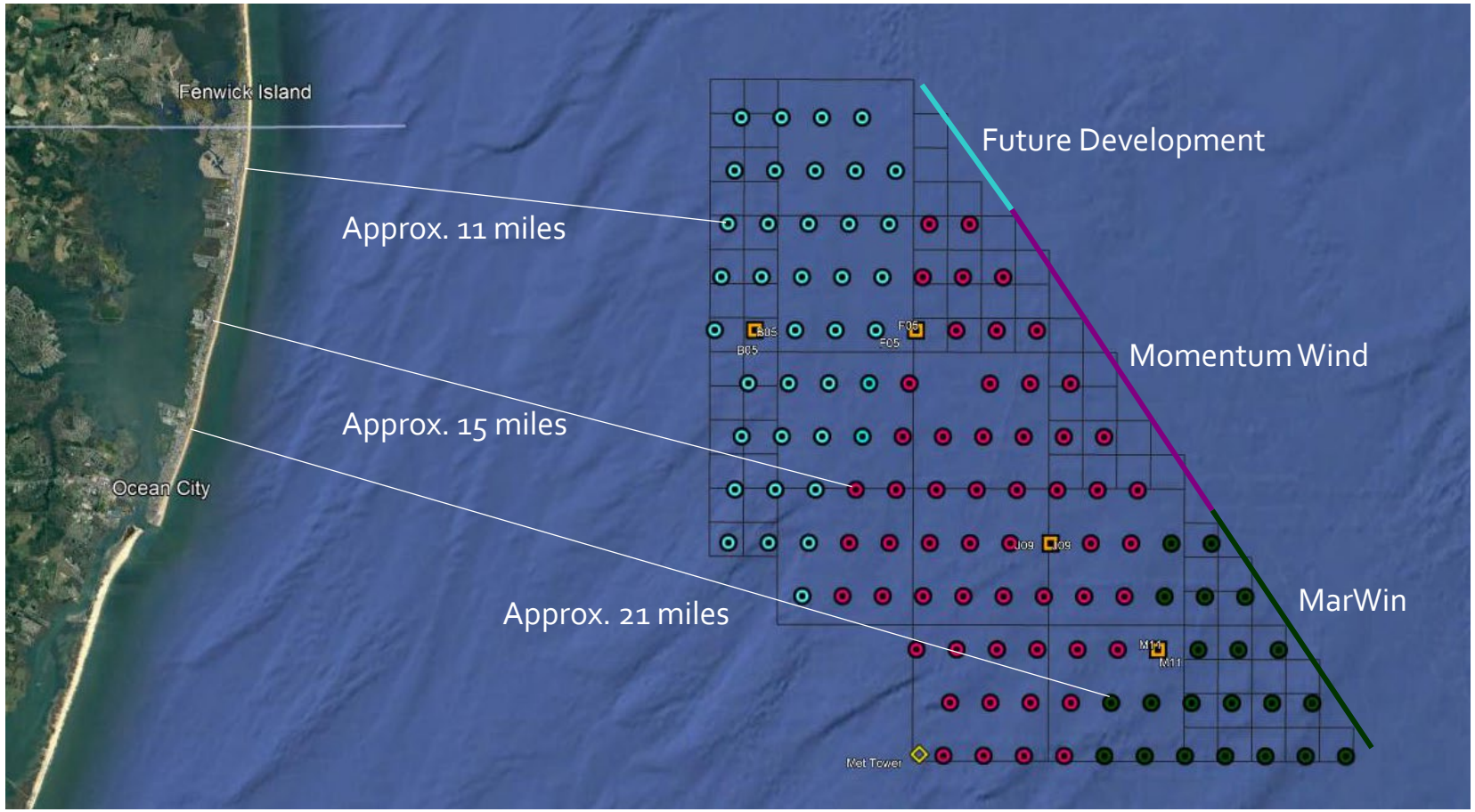
US Wind's Proposed Project



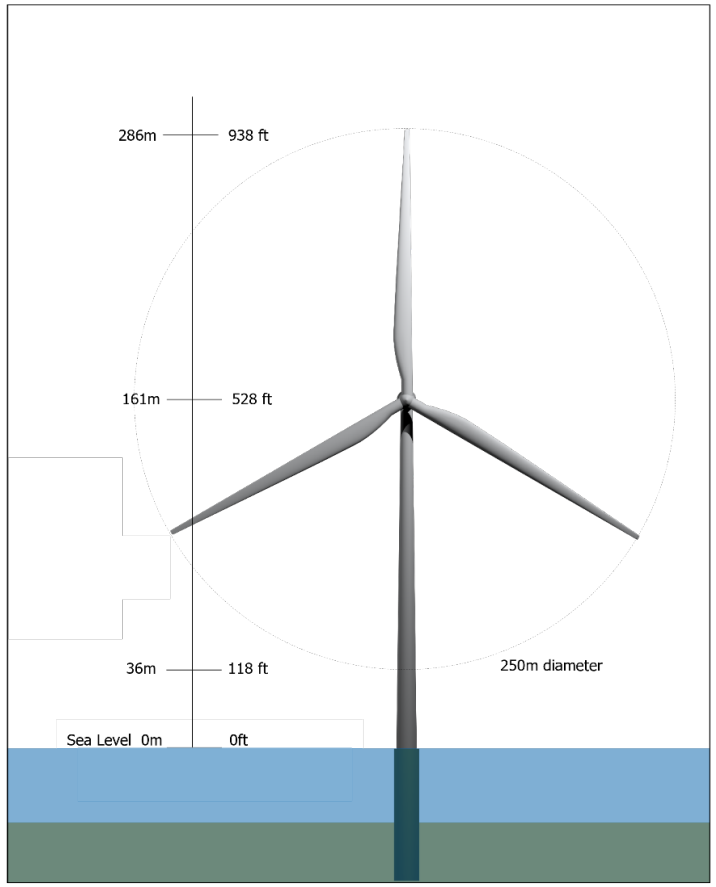
- Within the PDE, US Wind proposes a particular project layout:
  - Up to 114 wind turbine generators
    - Spaced 0.77 NM east to west 1.02 NM north to south
    - Monopile foundations
  - 4 offshore substations
  - 1 Met Tower
  - 1 offshore export cable corridor and 1 landing
  - 1 "onshore" export cable corridor through Indian River Bay
  - New US Wind substations interconnecting to Indian River Substation near the Indian River Power Plant
- **US Wind mitigation measure**: 1NM setback from Traffic Separation Scheme (shipping lanes).

Indicative Project Layout and Distances to Shore

- Preliminary layout and subject to change during the NEPA review and permitting process.
- Based on these preliminary layouts, the closest turbine to shore within each project is approximately:
  - MarWin – 21 miles
  - Momentum Wind – 15 miles
  - Future Development – 11 miles
- **US Wind mitigation measure**: Aircraft Detection Lighting System to illuminate FAA obstruction lights only when aircraft in immediate vicinity.



Wind Turbine Generators and Installation



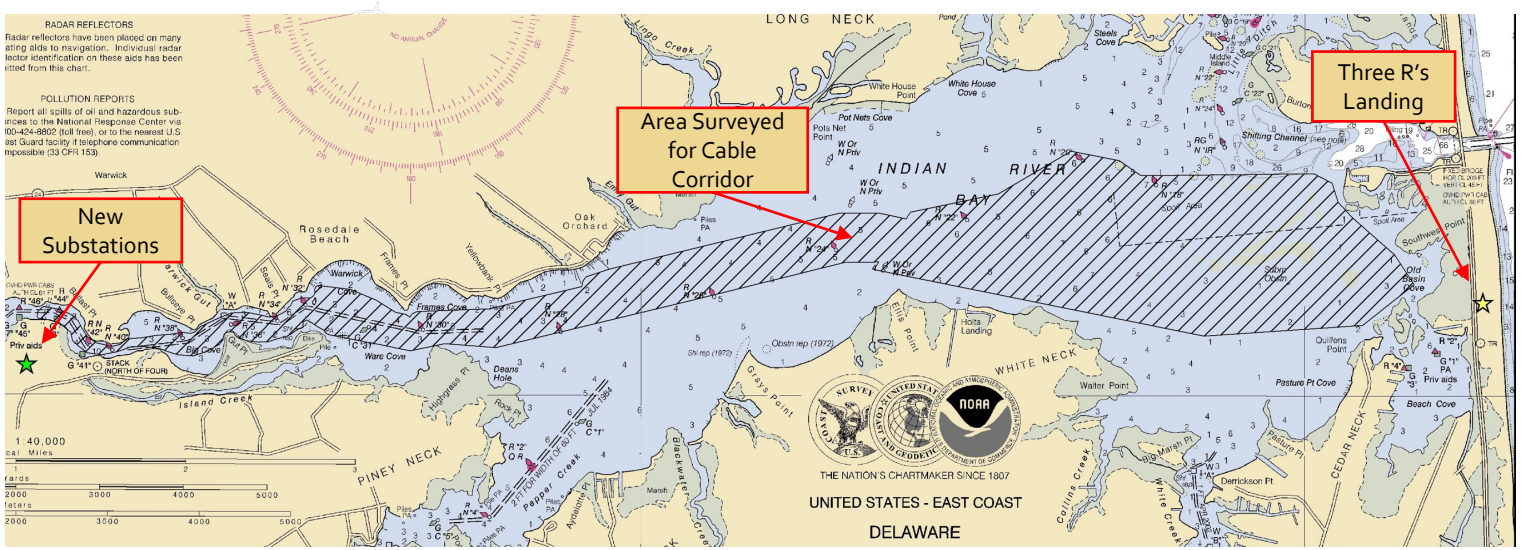
- Wind turbine in the PDE is hypothetical 18 MW turbine with 250-m rotor diameter.
- US Wind has not selected wind turbines. One model under evaluation is the GE Haliade-X 14.7 MW turbine with a 220-m rotor diameter.

Pile-driving mitigation measures in COP

- Sound attenuation at least 10dB with target of 20dB through combination of near- and far-field methods, such as bubble curtains and sound dampening technologies.
- Pile driving planned between April 1-November 30, with additional mitigation planned if construction in April or November.
- Clearance and exclusion zones prior to soft-start and throughout piling procedures.
- No simultaneous piling.
- No more than 1 monopile per day.
- Daylight piling only.
- Piling will not commence less than 1.5 hours before sunset.

Onshore Cable Installation

- All cables and cable vaults will be buried.
  - Up to 4 cables would be brought ashore via horizontal directional drilling (HDD) to vaults under 3 R's Beach parking lot.
  - Cables would exit the vaults and enter Indian River Bay via HDD and be buried 3-7 feet below the bay bottom.
  - A cable storage barge would be equipped with a turntable, loading arm, and cable roller highway towards a cable installation barge that would install cables.
  - Cables would exit the bay via HDD to underground vaults and then enter new substations next to the Indian River Substation.



Operations & Maintenance Facility

- **Ocean City Marine Coordination Center**
  - Administrative building for 24/7 monitoring, control room, staff areas
  - Crews would be mobilized to service wind turbines and offshore substations
  - Wharf area for the loading of maintenance crews, replacement components and consumables onto approximately 3 crew transfer vessels
- US Wind evaluating properties in West Ocean City's inner harbor.
- **US Wind commitment**: Vessels will reduce speeds to 10 kts in required and voluntary slow zones for North Atlantic right whale protection.

Seafloor and Sediment Surveys

- **Lease area**
  - High-resolution geophysical (HRG) survey – completed March 2022
  - Deep geotechnical borings at ~30 turbine and offshore substation locations – completed April 2022

- **Offshore cable routes**
  - Shallow geotechnical sampling ~3 miles from shore eastward – completed October 2021
  - HRG survey ~3 miles from shore eastward – completed April 2022
  - HRG survey <3 miles from shore – completed May 2022
  - Atlantic geotechnical investigations to support horizontal directional drilling (HDD) – *planned September 2022*

- **Inshore cable routes**
  - HRG survey in Indian River Bay – conducted 2016 and 2017
  - Refresh HRG survey in Indian River Bay – *completion anticipated mid-June 2022*
  - Geotechnical work along cable routes and at HDD locations within the bay – *planned September 2022*

Environmental Studies

Digital Aerial Avian Survey

- 2 years pre-construction, 2 years post-construction
- 10 flights/year to collect seabird information
- Whales, sharks, large fish, sea turtles and other creatures at the surface also identified and catalogued

2-years Metocean Buoy data

- Avian acoustic detectors
- Bat acoustic detectors
- Nano-tagged bird detectors
- Acoustic detectors for dolphins and porpoises
- Sensors for various species of tagged fish

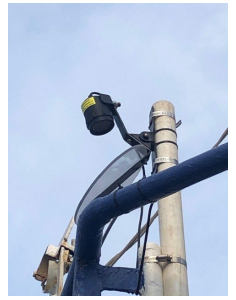
Protected Species Observer (PSO) data

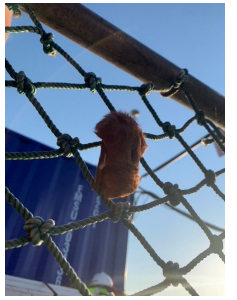
- PSOs aboard US Wind's survey vessels gathered 14 months (and counting) of marine mammal and sea turtle observations

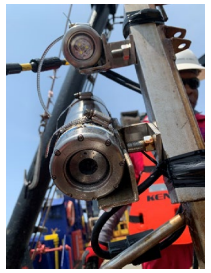
Courtesy of RPS Protected Species Observer Team

Acoustic bat detectors on survey vessels

- Anabat detectors on survey vessels recorded bat calls that are analyzed and identified







Benthic surveys

- Samples of seafloor sediments and organisms collected in 2021 and 2022

US Wind commitment: Reports and data will be hosted on a publicly-available database

Outreach

- **Federal agencies**, like the Bureau of Ocean Energy Management, NOAA Fisheries, U.S. Army Corps of Engineers, U.S. Fish & Wildlife Service, and the U.S. Department of Defense
- **State agencies**, like the Maryland Public Service Commission, Maryland Energy Administration, Maryland Department of Natural Resources, and the Delaware Department of Natural Resources & Environmental Control
- **16 Native American Tribes**, including the Lenape, Delaware Nation, and Upper Mattaponi
- **Maritime Community**, including the U.S. Coast Guard and the Mariners Advisory Committee of the Bay & River Delaware
- **Labor Unions**, including the United Steelworkers, IBEW, and the Baltimore-DC Building & Construction Trades
- **Minority, Women, Veteran, Disabled Person-Owned Businesses (MBEs)**
- **Local fishermen**
- **Local and national environmental organizations**
- **Coastal communities**, including the Town of Ocean City, Maryland, and Delaware coastal towns

Harbor Day at the Docks was a windy one, which helped Calvin Alexander and Ron Larsen of US Wind in promoting their offshore energy project.

US Wind

Fueling our future, naturally.

Laurie Jodziewicz

Senior Director of Environmental Affairs

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