

Developing New Jersey's Offshore Wind Supply Chain

Thursday, March 11th

Committee Co-Chairs

Sam Donelson, AECOM | Bill Whelan, OceanFirst Bank



WELCOME REMARKS



Jane Asselta
Vice President
SNJDC



SOUTH JERSEY PORT CORPORATION



COME GROW WITH US.

We have expanded the Southern New Jersey International Seaports and there is much more to come. South Jersey Port Corporation provides the best inter-modal terminal and supply chain solutions on the Delaware River for bulk, breakbulk and project cargoes. And our on terminal rail capacity is unparalleled in the region.

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YOUR OFFSHORE CONSTRUCTION WORKFORCE

SNJDC'S 2021 Offshore Wind Seminar



Eastern Atlantic States

REGIONAL COUNCIL OF CARPENTERS

William C. Sproule, Executive Secretary- Treasurer

The Eastern Atlantic States Regional Council of Carpenters is part of the United Brotherhood of Carpenters and Joiners of America and is made up of over 41,000 highly skilled men and women living and working in Delaware, Maryland, New Jersey, Pennsylvania, Washington DC, Virginia, West Virginia, and Puerto Rico.

@EASCarpenters

Learn more at EASCarpenters.org

Your geotechnical partner for onshore interconnection challenges.

For all the promise that offshore wind can bring eastern seaboard states and utilities, there are many hurdles that stand in the way of bringing these projects to life. Unless you proactively identify and get ahead of these concerns, they have the potential to derail the success of your project.

That's where Haley & Aldrich comes in.

As part of your team of experts, we can help you assess and proactively develop solutions to the environmental and geotechnical challenges that emerge throughout project development and construction.

Visit info.haleyaldrich.com/offshore-wind to read our latest insights on:

- Reducing ground risk for subsea cables
- Preparing U.S. port facilities for offshore wind construction
- Building the right foundation for your turbine
- Making your offshore wind project a success



EXCEPTIONAL SERVICE AND PROMPT DELIVERY ARE OUR TRADEMARKS



We've been adapting to the Energy Industry for over 30 years.

We'll be there for OSW for the next 30.

Supplying Industrial Contractors for over 30 years



Advancing Our Client's Vision. Improving Our World.



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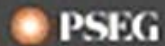




POWERING PROGRESS

EMPOWERING PEOPLE > POWERING LIFE

In these challenging times, our homes have become our everything. PSEG is committed to providing the energy that powers our homes, our lives and our connections to the world.



VIRTUAL PUBLIC POLICY SPEAKER SERIES

Presented by  **Jefferson Health.**
HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

Tuesday, March 30th | 10:00 a.m. - 11:00 a.m.

KEYNOTE SPEAKER



U.S. Congressman Andy Kim

SNJDC Members: \$30 | Non-Members: \$55

Sponsorships are available

contact SNJDC (856) 228-7500 | snjdc@snjdc.org

WELCOME REMARKS



Andy Saporito
Executive Director & CEO
South Jersey Port Corporation



South Jersey Port Corporation

Andy Saporito, Executive Director and CEO

*Our mission is to attract **cargo and maritime related activity** to foster economic development to **create jobs**.*

➔ **Four Facilities located in Camden, Paulsboro, and Salem**

➔ **World-Class Deepwater Ports**

We handle 4 million tons of bulk, breakbulk and containerized cargo each year

➔ **Part of tri-state Delaware River maritime complex**

\$77.8 Billion of Economic Activity

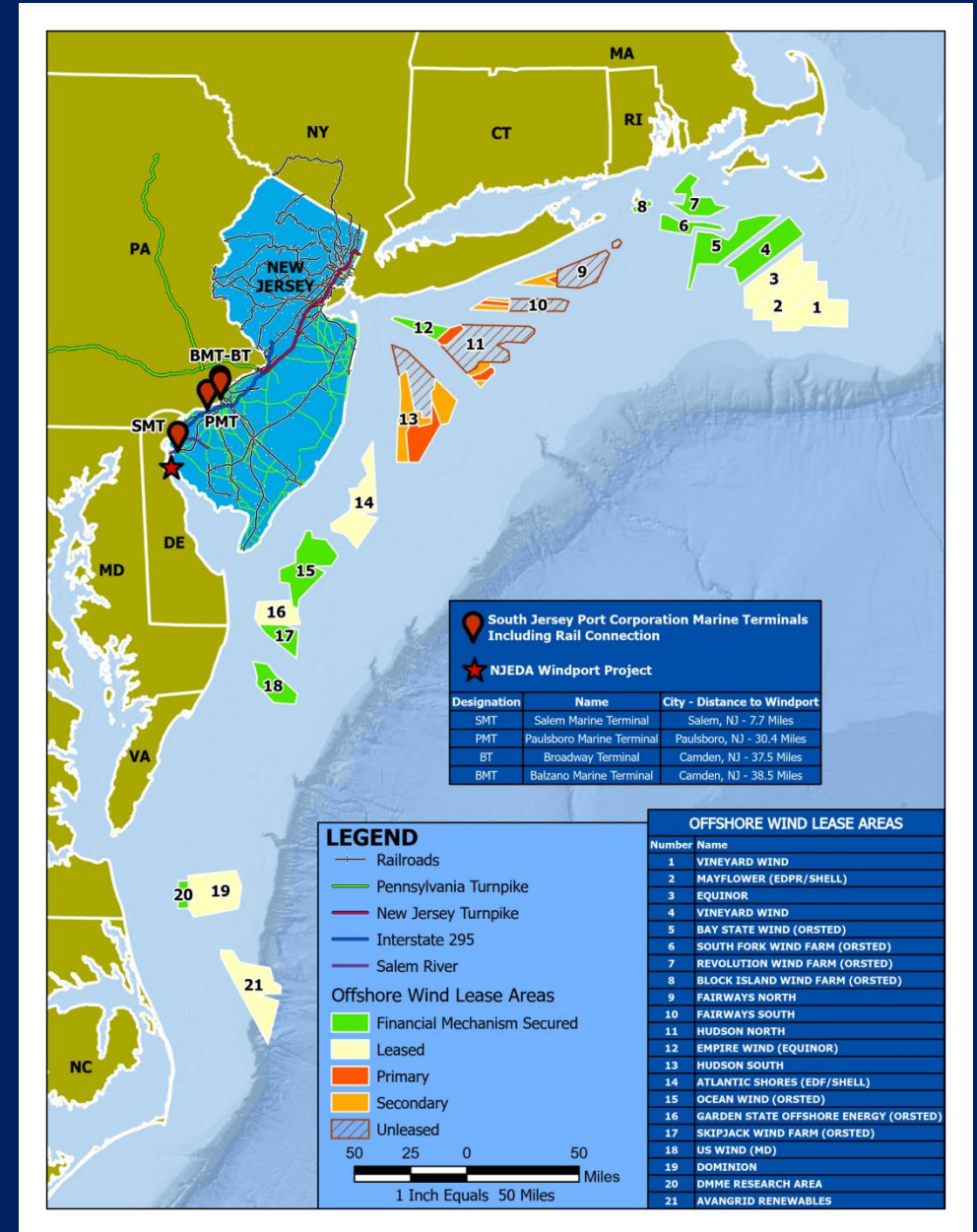
Supports 191,000 jobs



South Jersey Port Corporation & Offshore Wind

➔ ADVANTAGES

- Premier Mid-Atlantic Location
- **World-Class Deep-Water Ports**
- Integrated Highway, Rail, and Port Network
- **Statewide Clean Energy Policy Support**
- Available Land for Development
- **Available Warehouse Space**
- Highly Trained Workforce
- **Wind Energy Financing & Incentives**



New Jersey Offshore Wind & Supply Chain Opportunities



Julia Kortrey
Sr. Project Officer
NJEDA



OPPORTUNITIES IN NEW JERSEY'S OFFSHORE WIND ECONOMY

NJEDA logo featuring the text "NJEDA" with a green outline of New Jersey integrated into the letter "J".

NJEDA



choose:
new jersey



**Offshore wind is a once-in-a
generation opportunity**

**\$100 billion in investment over
the next 15 years**

NJ BPU is issuing a new solicitation every two years through 2028

Solicitation	Capacity Target (MW)	Issue Date	Submittal Date	Award Date	Est. Commercial Operation Date
1 (2018)	1,000	Q3 2018	Q4 2018	Q2 2019	2024
2 (2020)	1,200	Q3 2020	Q4 2020	Q2 2021	2027
3 (2022)	1,200	Q3 2022	Q4 2022	Q2 2023	2029
4 (2024)	1,200	Q2 2024	Q3 2024	Q1 2025	2031
5 (2026)	1,400	Q2 2026	Q3 2026	Q1 2027	2033
6 (2028)	1,400	Q1 2028	Q3 2028	Q1 2029	2035

New Jersey Wind Port



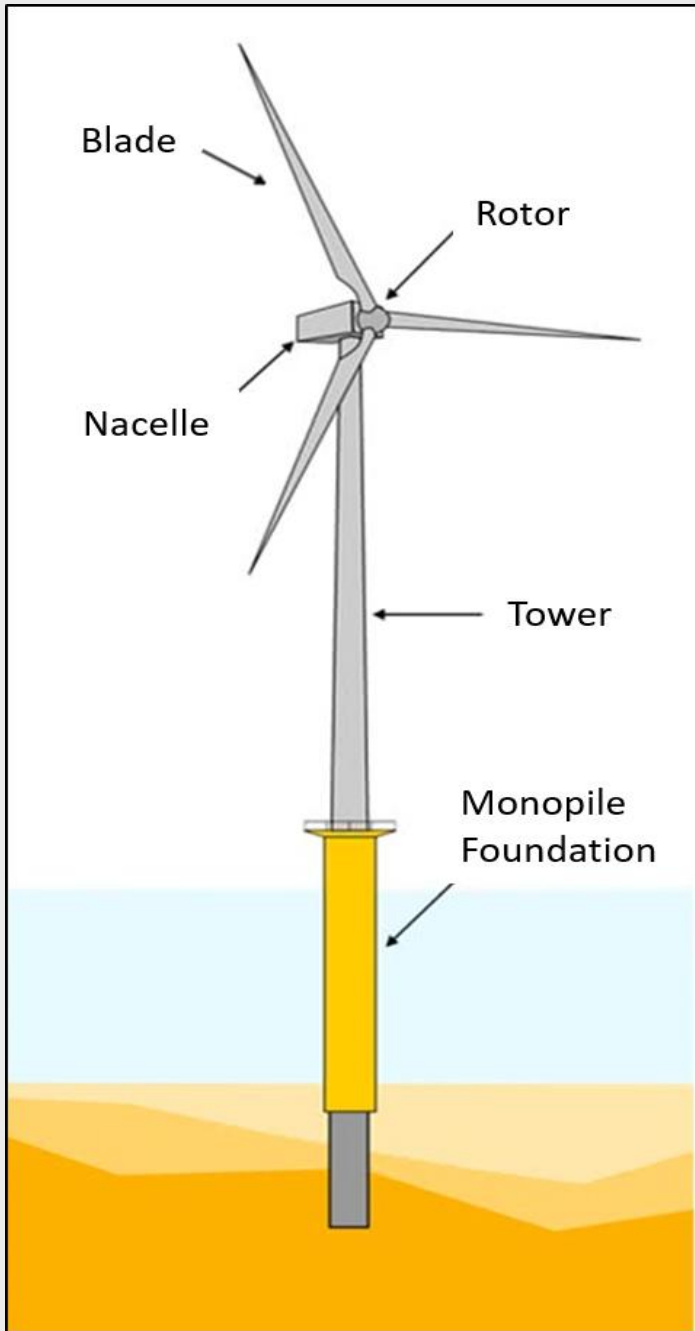
Lower Alloways Creek,
Salem County, NJ

New Jersey is building the first
purpose-built offshore wind port in the U.S.



200+ acres for marshalling and manufacturing over the next six years

-  PHASE 1 (2023): MARSHALLING AND MANUFACTURING
-  PHASE 2 (2024-2026): EXPANDED MARSHALLING AND MANUFACTURING
-  DREDGING



NEW JERSEY



 OTHER IDENTIFIED NEW JERSEY OFFSHORE WIND PORTS

Expected economic impact:

- **Construction targeted to start last 2021 and open in 2023**
 - Construction Manager request for proposals (RFP) to be issued this month
- **\$300-400 million** green infrastructure investment (Phase 1); \$200 million announced toward the port in Gov. Murphy's 2022 budget
- Up to **1,500 permanent** manufacturing, assembly, and operations jobs and **hundreds of construction jobs** targeted to start in 2021
- **\$500 million** in new annual economic activity



NJEDA's commitments for NJWP:

- **New standard** for minority and women-owned business inclusion
 - 15 percent set-aside MWVBE goal of CM contract value
 - Advisory Committee to help fortify commitment to inclusion
- Constructed using **union labor**
- **Environmentally responsible** development
- **Enable competition** that lowers energy costs

NEW JERSEY

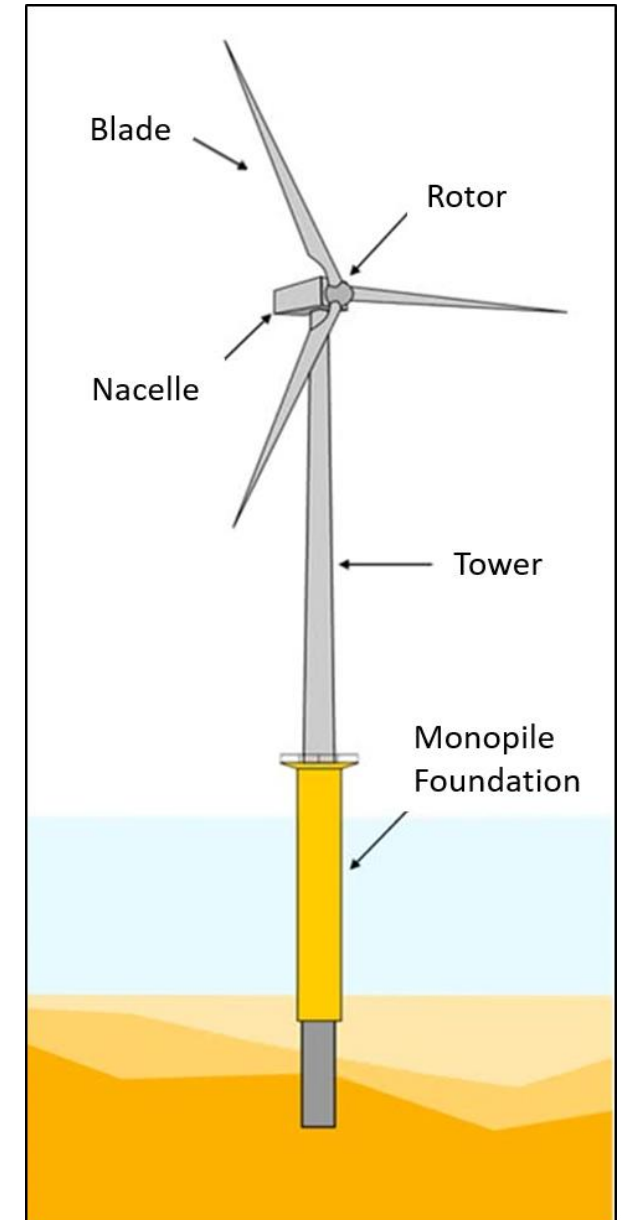


Supply Chain Development

- New Jersey's Offshore Wind Strategic Plan, issued by the BPU, identifies New Jersey's supply chain localization
- Emphasis on local content and energy price in solicitations
- Offshore wind industry will localize over time driven by solicitation schedule

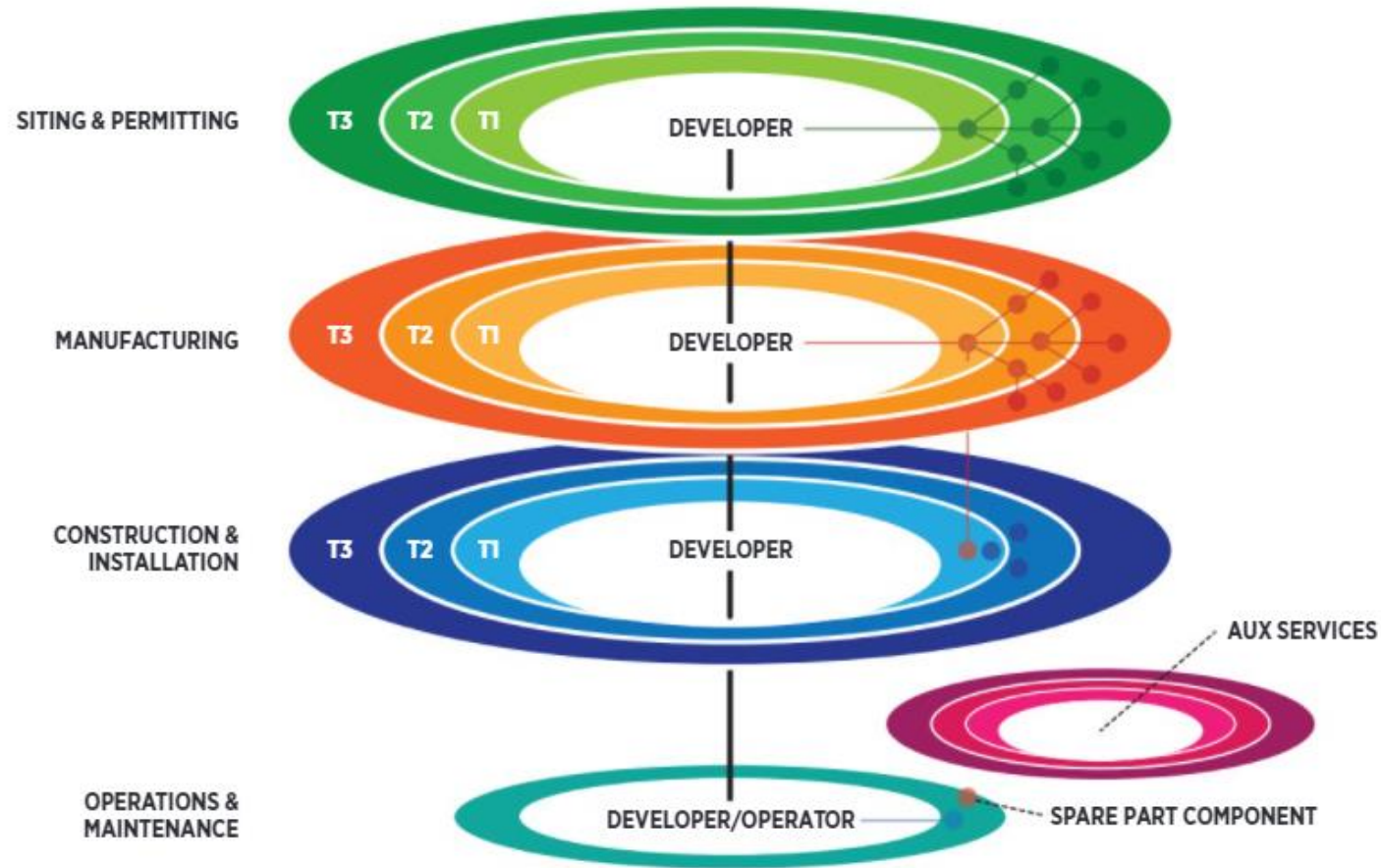
New Jersey Offshore Wind Strategic Plan can be found here:

https://www.nj.gov/bpu/pdf/Final_NJ_OWSP_9-9-20.pdf



Source: European Wind Energy Association

Offshore Wind Supply and Value Chains



Schematic illustration of the offshore wind supply chain map throughout the offshore wind project's life cycle

Understanding Tiering

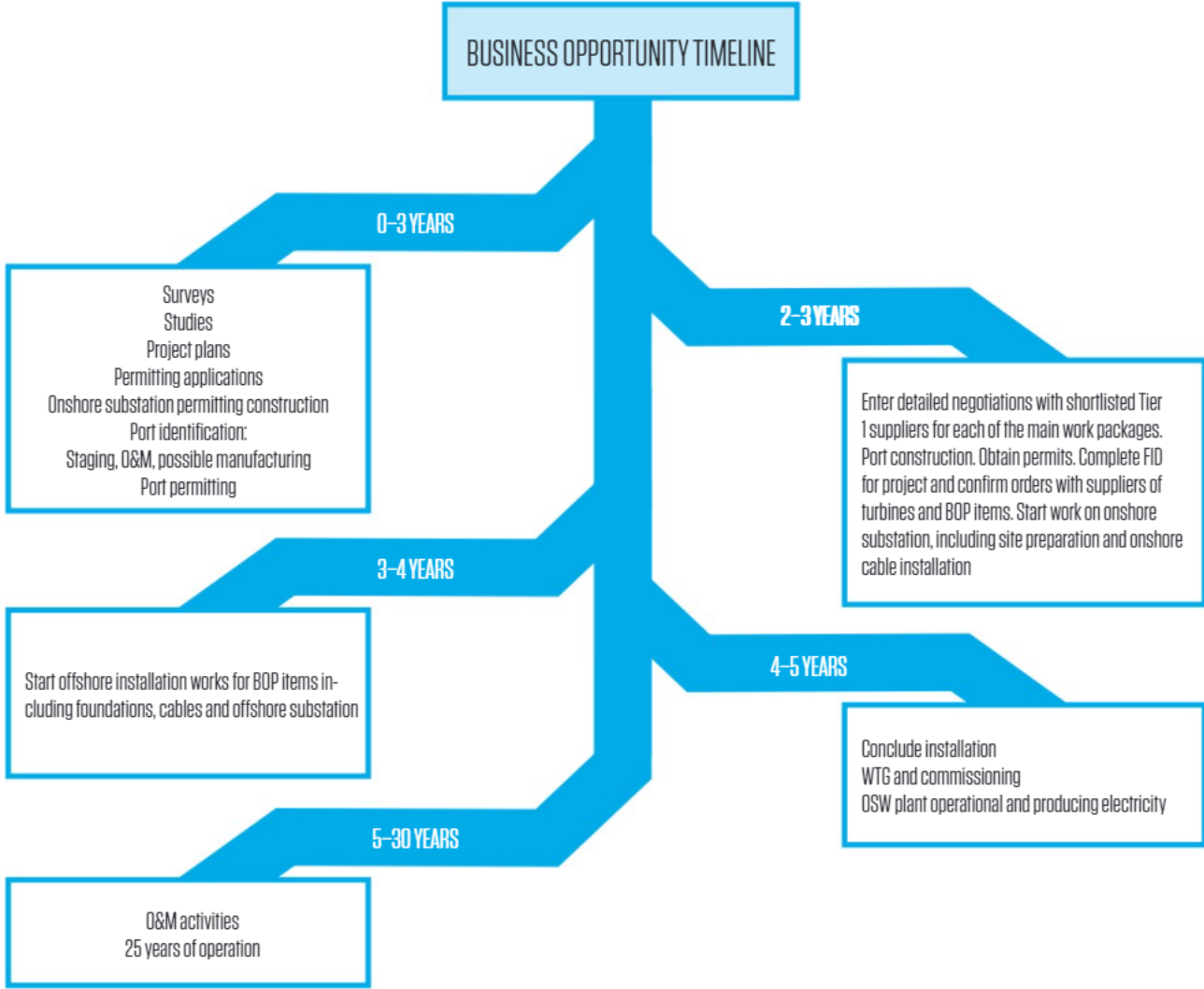
- **Developer:** Manages all the activities required to deliver the project
- **Tier I:** Primary suppliers that contract directly with the developer
- **Tier II:** Secondary suppliers that contract with Tier 1 suppliers as a subcontractor
- **Tier III and Tier IV:** Tertiary suppliers that contract with Tier 2 suppliers for goods and services

Find partners and suppliers on the New Jersey Supply Chain Registry:

www.NJEDA.com/offshorewind

Timing of Activities

- **Siting and Permitting:** 5-7 years
- **Manufacturing:** Up to 3 years
- **Construction and installation:** Up to 3 years
- **Operations and maintenance:** 25 to 30 years



Source: Foundation 2 Blade, Business Network for Offshore Wind

Assess your current capability to service the industry

- Determine what you will be supplying – is it a new product?
- Identify the procurement timeline
- Understand the safety and business practice expectations
 - Do you need a certification?
 - Is there a prequalification process? Audit?
 - Can you demonstrate quality and ability to deliver on-time?
- Networking and Relationship building

We'd love to connect with you!



Julia Kortrey

Sr. Project Officer

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Email: jkortrey@njeda.com



Brian Sabina

Chief Economic Growth Officer

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Email: bsabina@njeda.com



Aaron Roller

Project Officer

Phone: +1 609-649-6908

Email: aroller@njeda.com

Ensuring Diversity & Local Engagement in the Offshore Wind Industry



Vince Maione
Director, NJ Market Affairs
Ørsted



Pro-NJ Grantor Trust



Origin of the Pro-NJ Grantor Trust

- Ørsted believes that the growing offshore wind presents an opportunity not just for developers but for local businesses too.
- Trust established following the NJBPU award to Ørsted for the 1100 MW offshore wind project called Ocean Wind
- 1,100 MW – one of the **largest** offshore wind farms in the U.S. to date
- 15 miles off the coast of Southern New Jersey to minimize visual and environmental impacts
- Will create a significant number jobs in the construction phase of the project
- Will power over half a million NJ homes with clean energy



Governance Structure

- The Trust is governed by three trustees representing Ocean, Cape May and Atlantic Counties: Belinda Manning, Beverly McCall, Esq. and Lori Pepenella
- Volunteer Advisory Committee of nine New Jersey professionals serving to review Expressions of Interest and applications
- Florio Perucci Steinhardt Cappelli, Tipton & Taylor LLC – Trust Manager

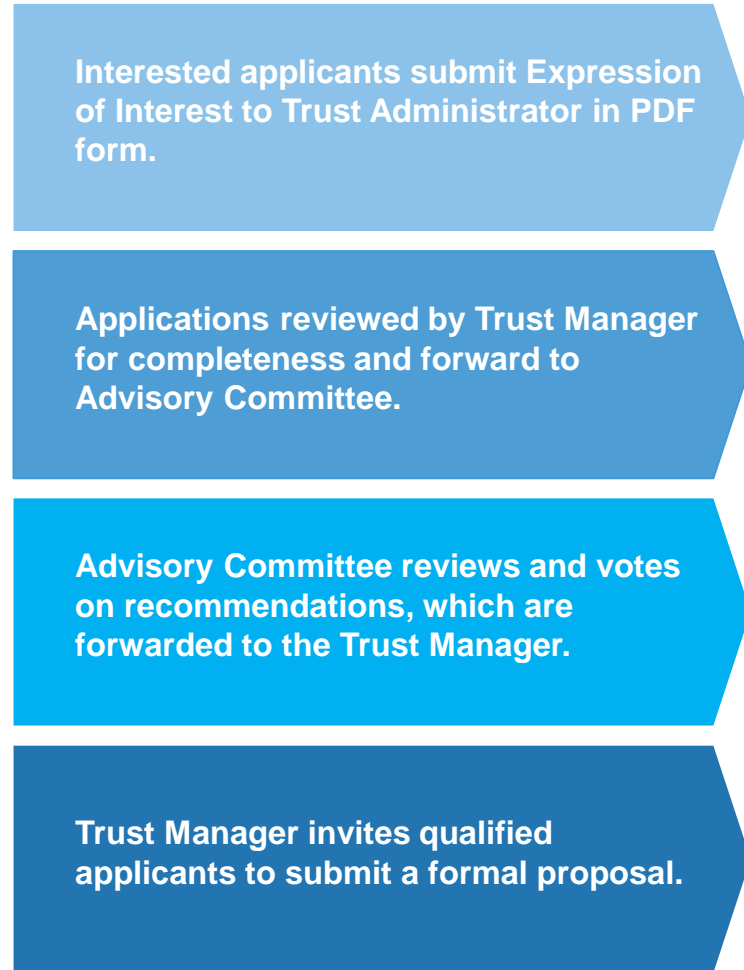


Funding Categories

- Initial application window closed last week:
 - Small businesses (SBE)
 - Woman-owned businesses (WBE)
 - Minority-owned businesses (MBE)
- Anticipate awarding successful applicants in the small, woman-owned or minority-owned businesses category in the **summer of 2021**
- Second Request for Expressions of Interest directed toward coastal municipalities and counties in Ocean, Atlantic and Cape May counties – **available in Q2.**



EOI & Application Review Process



OCEAN WIND PRO-NJ GRANTOR TRUST

REQUESTS FOR EXPRESSIONS OF INTEREST – SBE/MBE/WBE

PURPOSE

In August 2010, the Offshore Wind Economic Development Act (OWEDA) was enacted for the purpose of establishing a program for Offshore Wind Renewable Energy Certificates to incentivize the development of offshore wind facilities in New Jersey. In furtherance of this purpose, Governor Murphy issued the 2018 Executive Order No. 8, calling upon the New Jersey Board of Public Utilities (BPU) to fully implement the OWEDA. Ocean Wind LLC, a subsidiary of Ørsted, was selected by the BPU on June 21, 2019 to build an offshore wind farm and to perform certain related activities.

As part of the selection process, Ocean Wind committed to starting a Pro-NJ Grantor Trust (the Trust) and to fund the Trust with \$15,000,000 over the course of seven years to support economic development throughout the State of New Jersey. The Trust seeks to provide monetary support to New Jersey-certified small business enterprises (SBE), minority-owned enterprises (MBE), and women-owned enterprises (WBE) located throughout the State, as well as to back resiliency projects located in Ocean County, Atlantic County, and Cape May County, to further development in the Offshore Wind Industry in New Jersey. Through this Request for Expressions of Interest, the Trustees of the Trust would like to ascertain the number and types of SBE, MBE and WBE businesses that may be interested in applying for monetary support from the Trust. The Trust will release a Request for Expressions of Interest for resiliency projects at a later date.

PROCESS

Prospective applicants should submit an Expression of Interest to the Trust administrator in PDF form through the Trust's website at ProNJTrust.com. The submission, excluding certain supportive documents noted below, should not exceed five pages in length. Following review of the Expressions of Interest, the Trustees may request specific formal applications from certain respondents to this request. At this time, prospective Applicants should not submit a formal application unless invited to do so. The Trustees, or any review committee established by the Trustees, will only be considering Expressions of Interest that are determined by the Trust administrator to have complied with these terms. The Trustees anticipate awarding grants to successful applicants in or about the Summer of 2021.

ELIGIBILITY

The Trust encourages New Jersey businesses certified as small business enterprises, minority-owned enterprises, and women-owned enterprises with a desire to enter into the Offshore Wind Industry, or those already operating therein, to submit Expressions of Interest for projects located throughout the State of New Jersey. Only those organizations that meet these eligibility criteria will be considered.

EOI Fields

- Onshore and offshore light logistics and services
- Marine vessel supply and maintenance
- Aviation supply and maintenance
- Buildings – construction and repair
- Professional services (communications, environmental/permitting, engineering, etc.)
- Turbine blade inspection and service
- Fuel service and supply
- Network/wireless communications supply, service, and repair
- Workforce training, trade/safety, etc.
- Cleaning and janitorial
- Food service and catering
- Onshore and offshore surveys
- Project and risk management
- Health and safety equipment and clothing
- Marine clothing/equipment supply

For further details, view our
FAQ sheet:

www.pronjtrust.org/faqs

Contact

- **Website:** www.pronjtrust.org
- **Email:** info@pronjtrust.org
- **Ørsted Procurement:** www.orstedprocurement.com

Ocean Wind: NJ's First Offshore Wind Farm & Supply Chain Needs



Grant van Wyngaarden
Sr. Supply Chain Development Manager
Ørsted



Ørsted Offshore North America

Supply Chain Development

Ørsted

Grant van Wyngaarden

Ørsted Offshore: Global overview

25+ years of experience and unparalleled track record

The global leader in offshore wind

- › **7.6 GW** installed capacity
- › **2.3 GW** under construction
- › **1,500+** turbines spinning
- › **28** offshore wind farms in operation

The world's first

Vindeby, 1991
5 MW



America's first

Block Island Wind Farm, 2016
30 MW

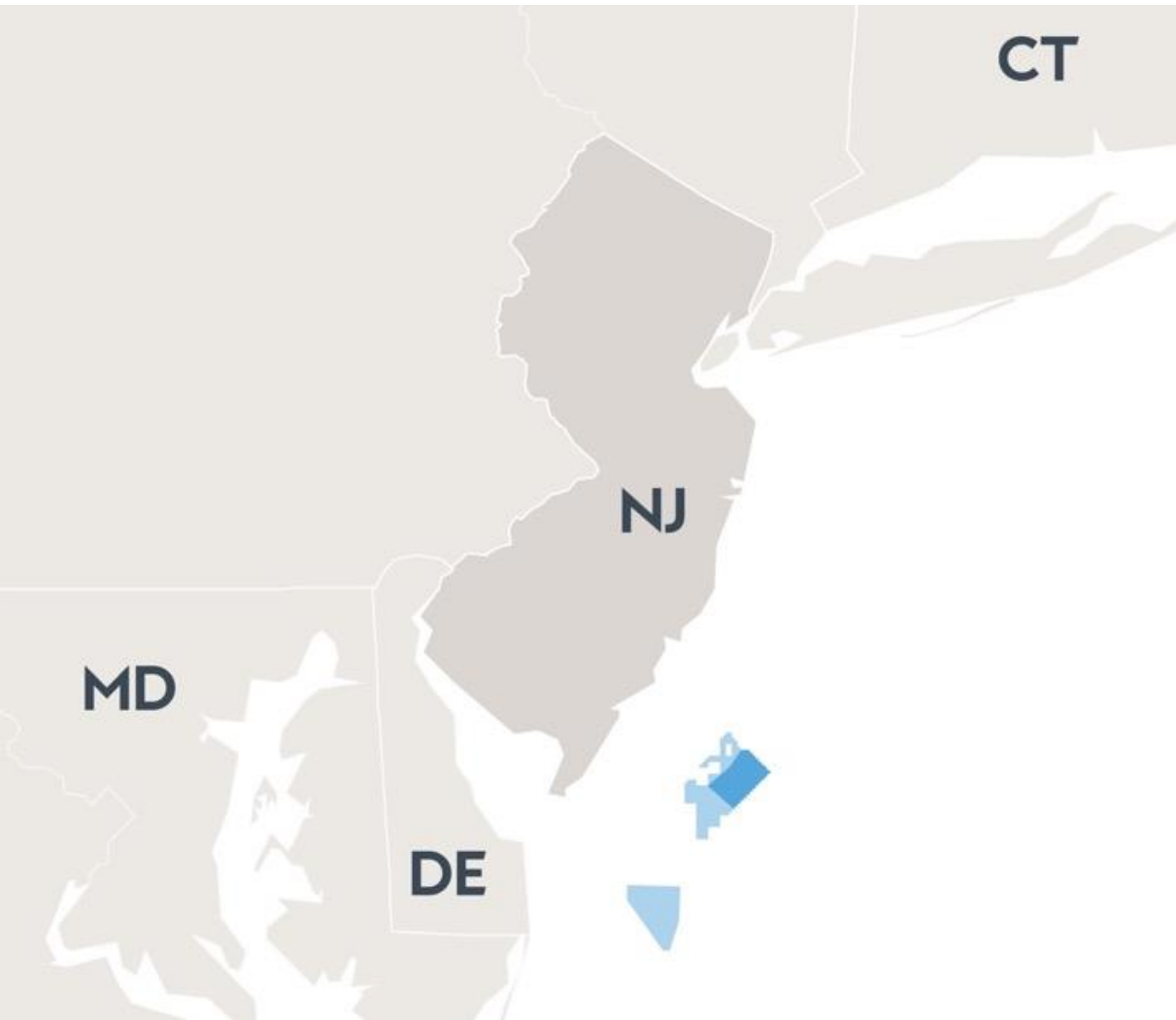


The world's largest

Hornsea 1, 2020
1.2 GW



Ocean Wind

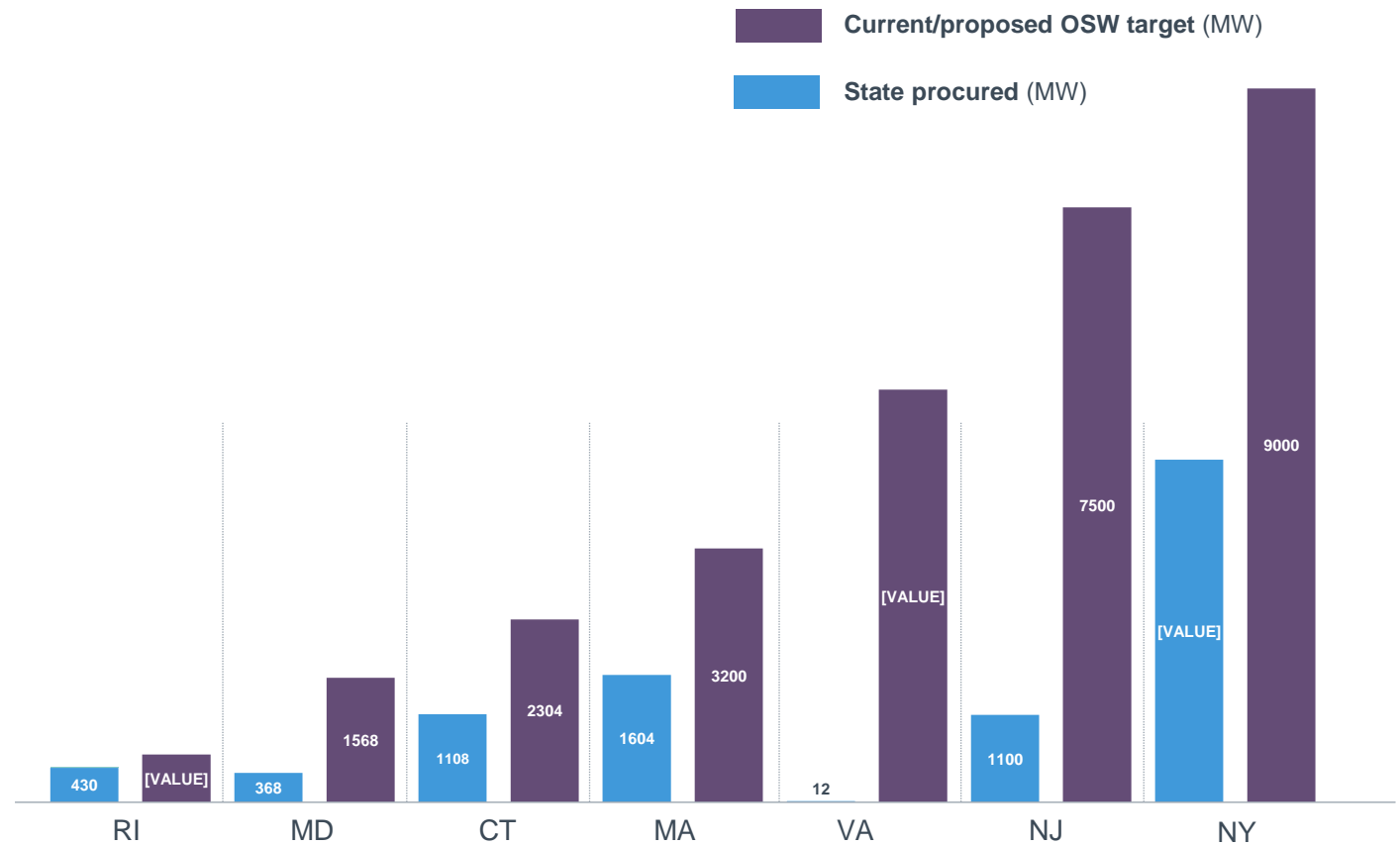
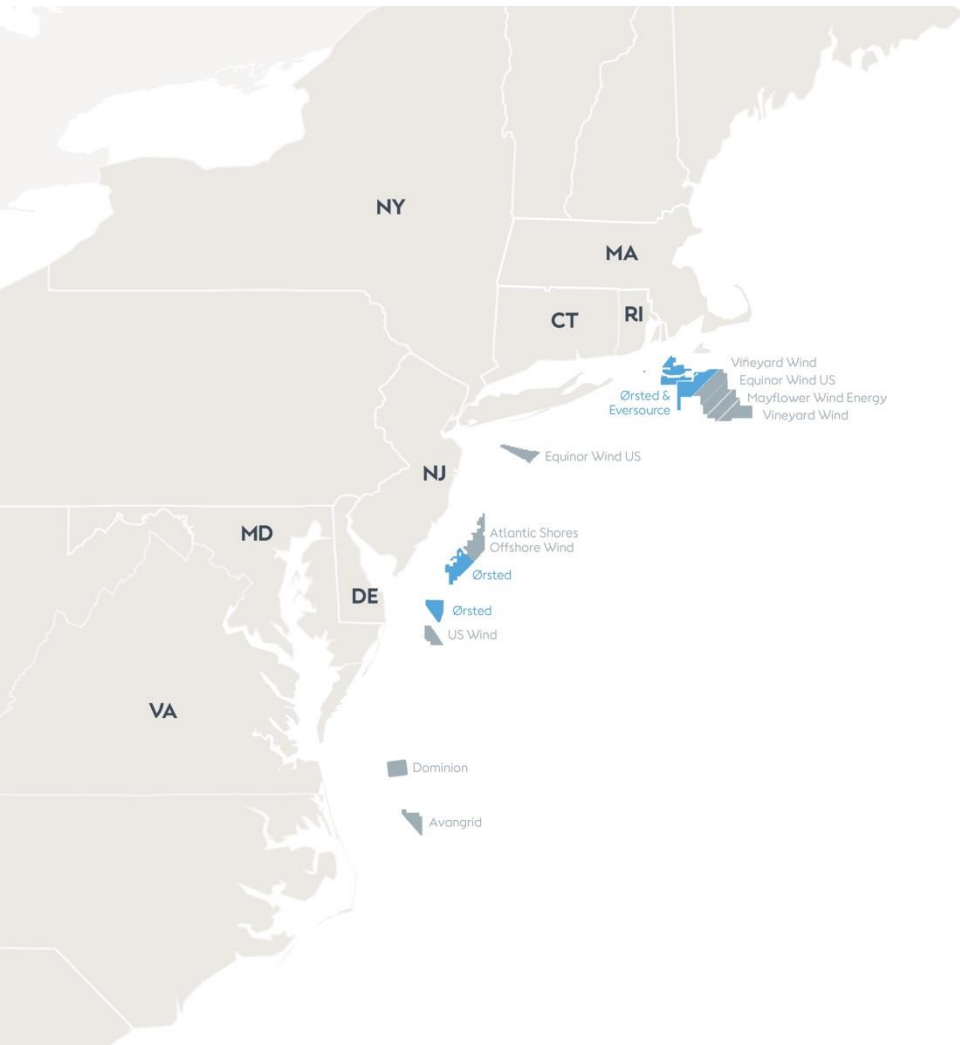


Project overview

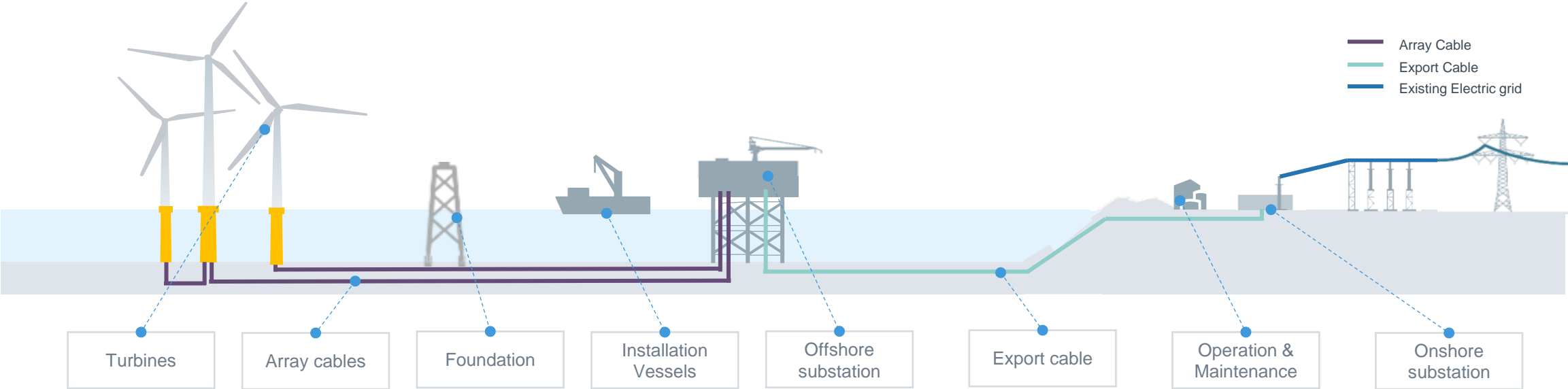
- Ocean Wind is a 75/25 JV with PSEG (pending NJBPU approval)
- 1,100 MW – one of the largest offshore wind farms in the U.S. to date
- 15 miles off the coast of Southern New Jersey to minimize visual impacts
- Will power over half a million NJ homes
- Commercial operations expected by the end of 2024

Offshore wind market on the East Coast

Potential for 25+ GW

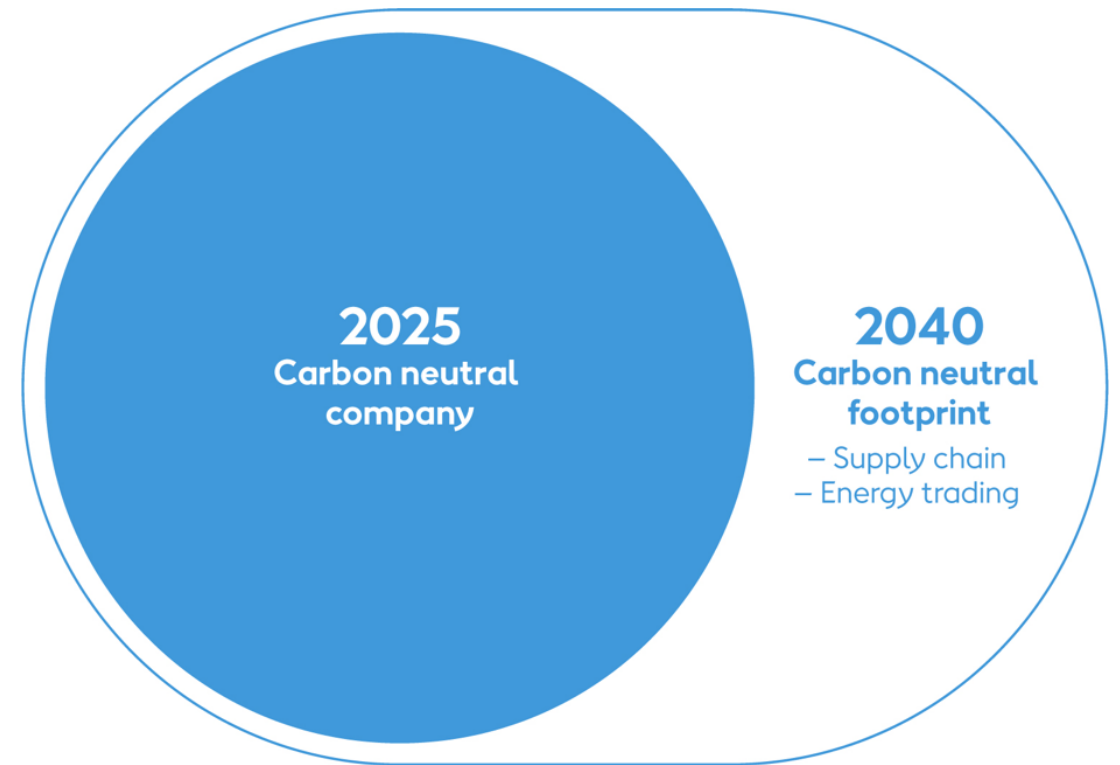


Building an offshore wind farm



The first major energy company to reach net-zero emissions in its energy generation

- We will become carbon neutral by 2025.
- This will make Ørsted the first major energy company to reach net-zero emissions in its energy generation – far ahead of science-based decarbonization targets for limiting global warming to 1.5°C.
- Additionally, we've set a target of achieving a carbon neutral footprint by 2040.



Register in the new Ørsted Procurement Portal

- Please register your company and contact details at www.ørstedprocurement.com
- Registration does NOT mean suppliers are approved/qualified to participate in tenders
- Upon registration, suppliers will become visible for sourcing managers via the database

- New Jersey EDA's supply chain registry: https://www.njeda.com/Office-of-Economic-Transformation/Offshore_Wind

Supplier support found at the bottom of the front page →

Ørsted

Ørsted Procurement Portal

Register in the Procurement Portal

As a supplier, you can register your organization to become a part of Ørsted's database and get access to your own profile.

Ørsted use the Procurement Portal to manage e-sourcing, supplier management and contract management and execution activities.

[Supplier Registration](#) →

Log in

Existing Procurement Portal users

Username* Password*

[Log In](#) [New Supplier? Register here](#)

[Forgot password](#)

Log in

Contract Management & Execution

[Log In](#) Please note: The Contract Management & Execution Portal will be activated during fall 2020.

Support for suppliers

- Open Tenders
- Written Guide
- Video Guide
- Support
- Tech Support

Thank you

Grant van Wyngaarden

Senior Supply Chain Development Manager

Designing & Building New Jersey's Monopile Factory



Lee Laurendeau
CEO

EEW American Offshore Structures



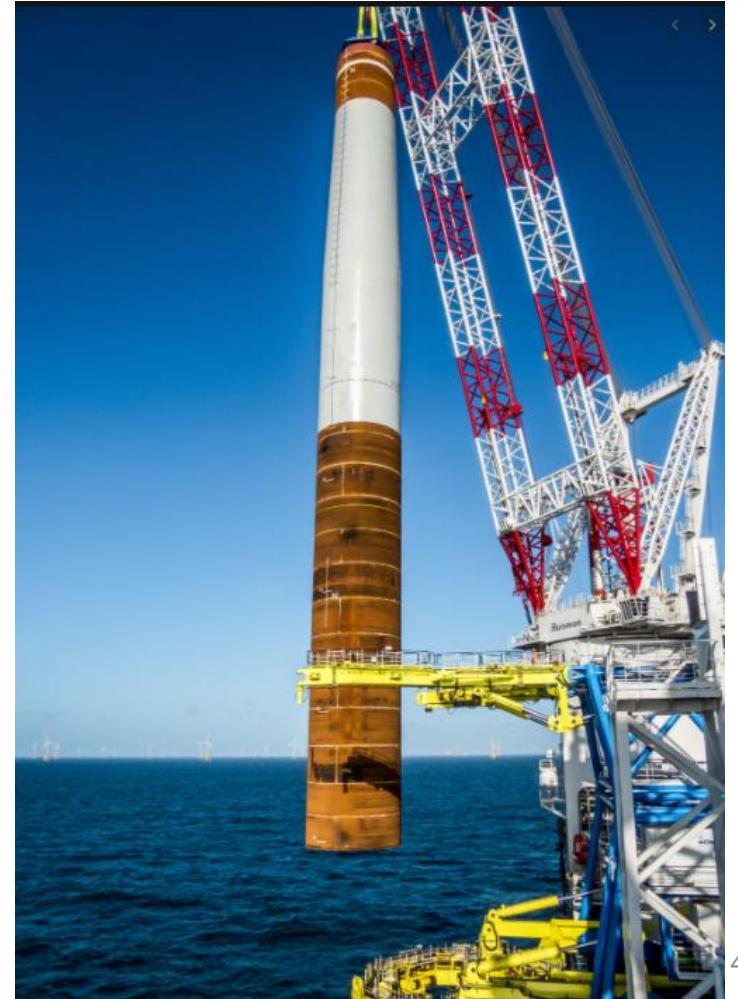
EEW- American Offshore Structures



EEW – American Offshore Structures – New Jersey



- Manufacturing Monopiles for Orsted Ocean Wind Project
- Bringing a Clone of our German Factory to New Jersey
- Creation of Hundreds of Construction and Manufacturing Jobs
- Will Supply Entire US Offshore Wind Market from New Jersey



EEW Monopile Factory in Germany



- Located in Rostock Germany
- Has Supplied over 1000 Monopiles to Orsted in Europe
- Capacity of 100 Monopiles per Year
- Employs over 500 Factory Workers



EEW Paulsboro Monopile Factory

- Approx. 500,000 sq. ft. of Manufacturing Space over Six Buildings
- 80 Acres of Land for Manufacturing and Storage
- Heavy Quayside at Paulsboro



Monopile Manufacturing

New Jersey Factory to Produce the Largest Foundations

- 40 Feet in Diameter
- 400 Feet Long
- 2500 Tons (5 Million Pounds)



Circ Weld Building- Under Construction



Circ Weld Building- Interior with Weld Towers



Start of Construction- Circ Weld Building



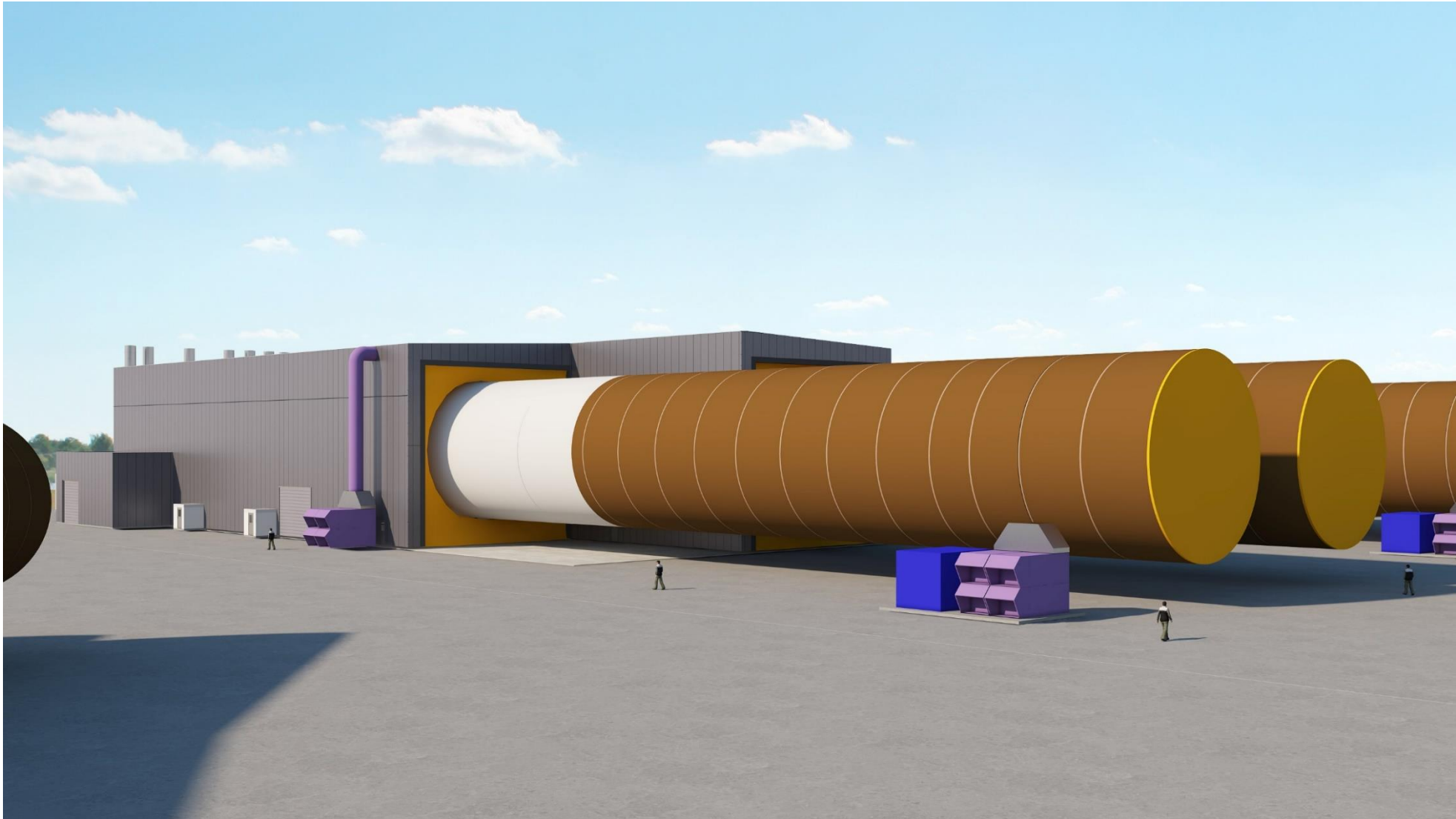
January 2021- Lease Signed

Union Construction- PLA in Process

- Winter- Site Work
- Spring- Foundations
- Summer- Steel Erection
- Fall - Building Roof and Skin
- Winter 2022- Mechanicals



Blast and Paint Building



Loading Out Monopiles

- Completed Monopiles Loaded on Barges
- Delivered to Installation Site



Thank You



New Jersey Business Shares Their Offshore Wind Experience



Dane Pehrman

**SVP – Energy Market Sector Lead
Haley & Aldrich**



Connecting in the Offshore Wind Market

Dane Pehrman
Energy Market Segment Leader

HALEY
ALDRICH



Introduction

1

NJ offshore wind primer

2

How we've learned to connect to this market

3

Where we are now

NJ offshore wind primer

Current status of the offshore wind market

- Mid-Atlantic and New England coastal environment is one of the best locations for reliable wind energy in the US (NJ is at the epicenter)
- Long slow path to date but picking up momentum in the past several years
- Strong and positive social AND economic drivers to move forward
- New Jersey is all in with firm commitments and Power Purchasing Agreements (PPAs)!

Main elements of an offshore wind project

https://files.klgates.com/files/uploads/documents/2019_offshore_wind_handbook.pdf

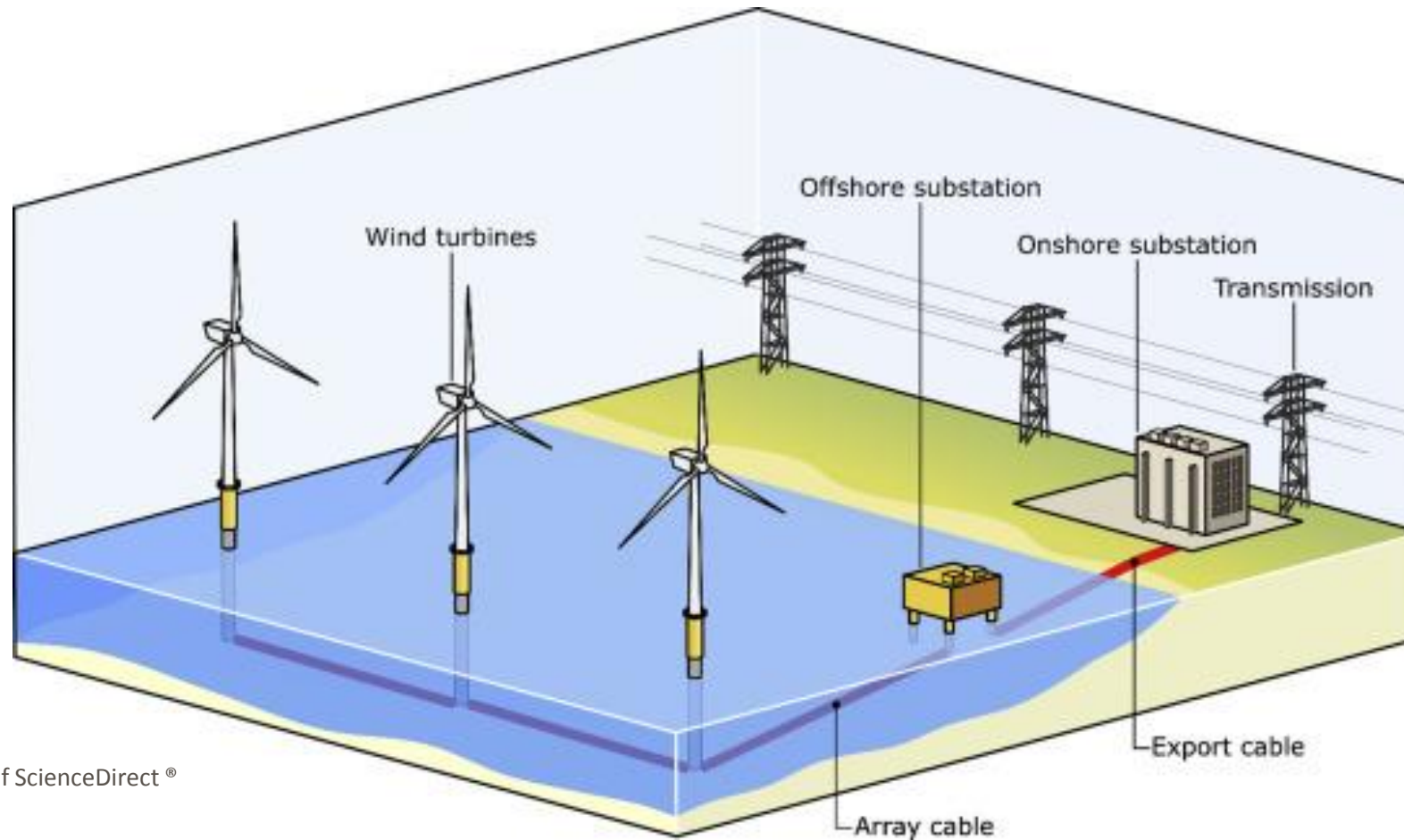


Image courtesy of ScienceDirect®

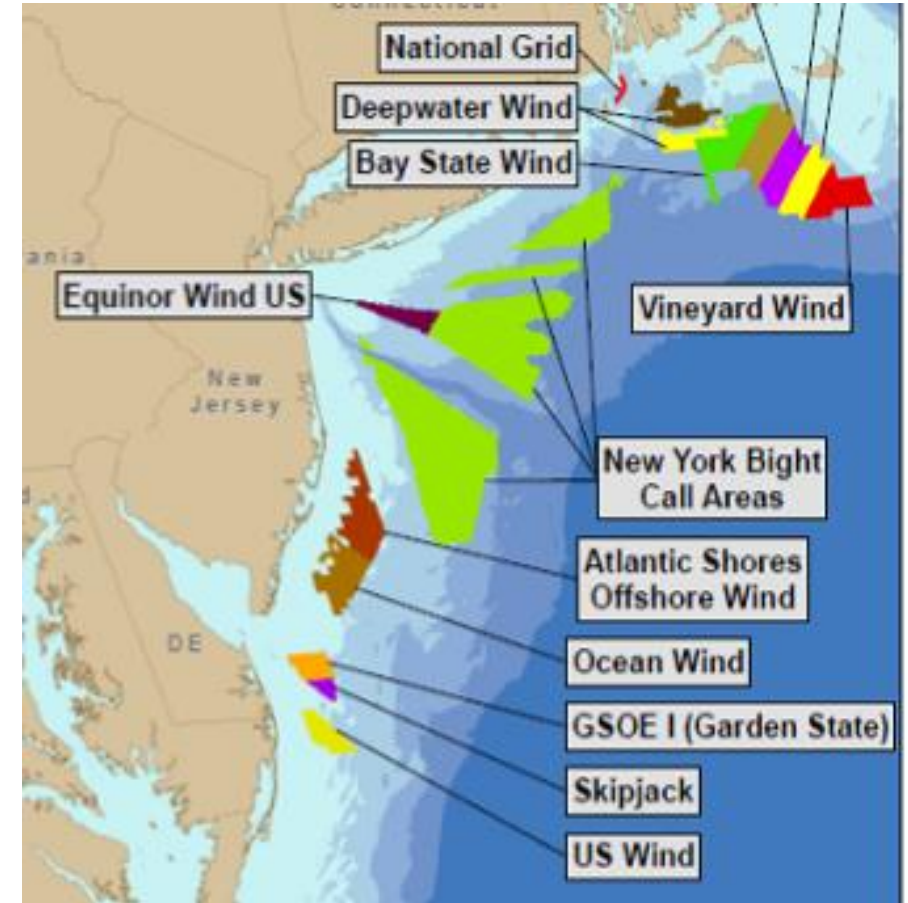
Offshore wind project development



- BOEM Planning and Analysis (~2 years) for offshore leases
- Lease bidding and award to interested developers (1-2 years)
- Site Assessment and Federal Permitting (up to 5 years)
- Project Design and State Permitting (up to 2 years)
- Operation and Maintenance (~25 years)
- Decommissioning (variable)

New Jersey offshore wind projects / leases

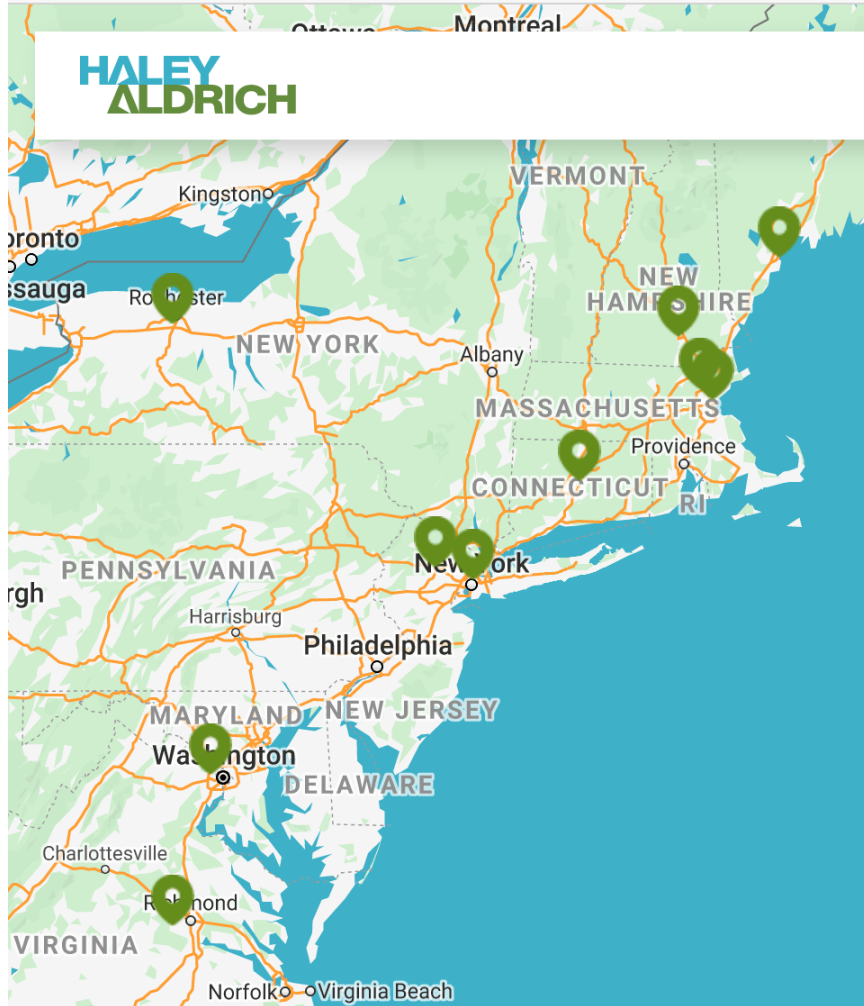
- Ocean Wind – Ørsted / PSEG
- Atlantic Shores – EDF / Shell
- Garden State Offshore Energy (GSOE) - Ørsted / PSEG
- NY Bight Lease Area – Hudson North and South (future TBD)



A decorative graphic in the top-left corner consisting of overlapping teal-colored triangles of varying shades, creating a dynamic, angular shape.

Connecting to the market

Be clear on the value you bring. For us...



- Local knowledge
 - Deep capabilities on Atlantic seaboard
- European experience
 - Geotechnical partnership with the Norwegian Geotechnical Institute (NGI)

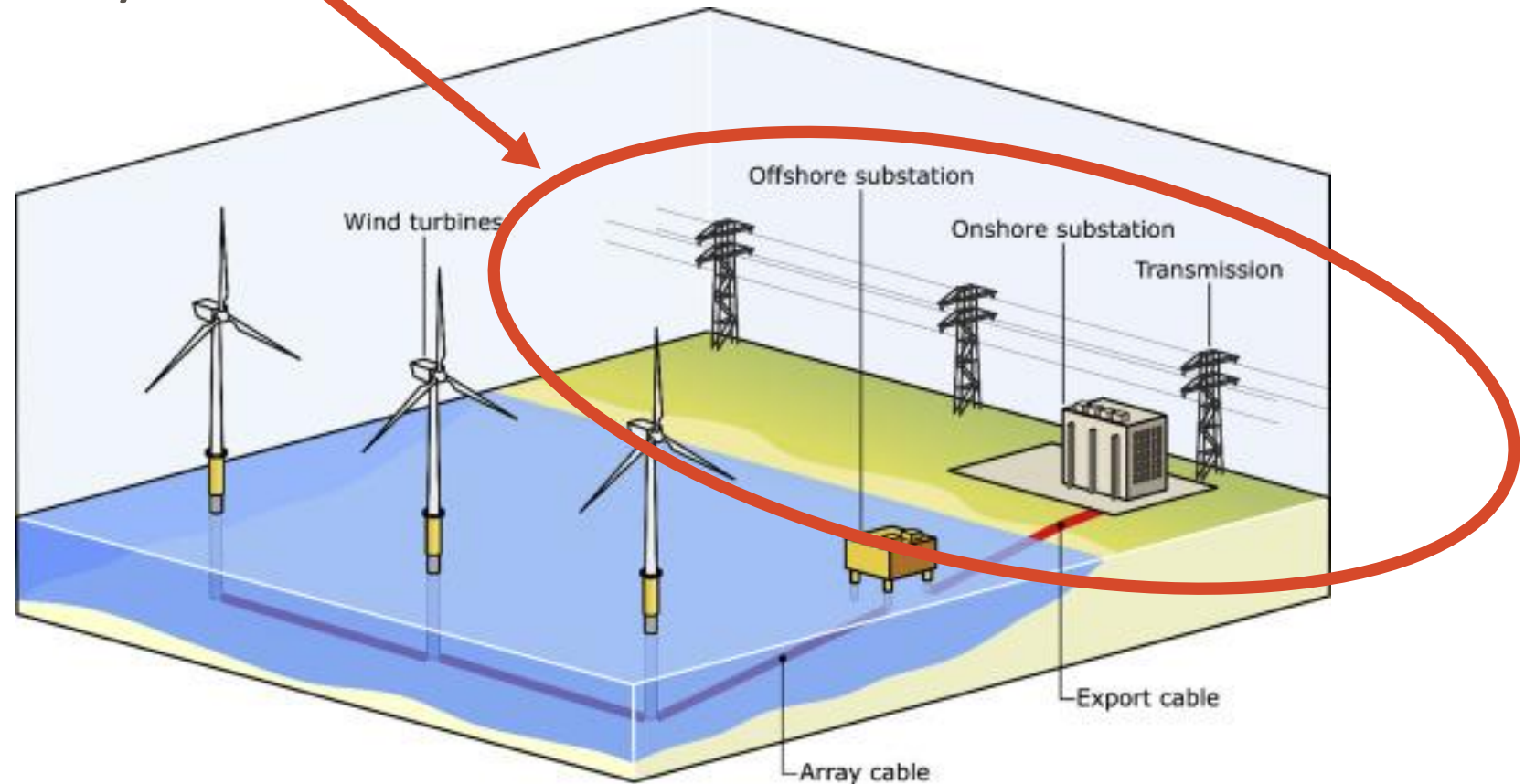
Haley & Aldrich offshore wind services

<https://info.haleyaldrich.com/offshore-wind>

- Interconnection route planning and critical issues analysis
- HDD/trenchless design and connection monitoring for export cable landfall and grid interconnection
- Port, harbor, and substation geotechnical investigation and piling/foundation
- Groundwater and contamination assessment and remediation
- Hazard assessment (earthquake and climatic risk)
- Environmental permitting and supporting studies (wetlands, cultural, protected species, ecological mitigation, etc.)

Understand how projects get developed in the market

We play mostly here



Participation in market organizations and activities

- Networking in key organizations:
 - Business Network for Offshore Wind (BNOW)
 - American Clean Power (formerly AWEA)
 - Offshore Wind Drinks NY
 - Regional Business Organizations (like SNJDC, NJ Alliance for Action)
- Thought leadership and social presence
- Branding

Read our insights



Reducing ground risk for subsea cables on offshore wind farms



How to prepare U.S. port facilities for offshore windfarm construction



Getting U.S. offshore wind power off the ground requires a strong foundation



Five considerations to make your offshore wind energy project a success

Work with developer procurement organizations

- Developers have a vested interest to use local and disadvantaged businesses
 - Participate in contractor forums
 - Learn how projects are procured, where/when your services get procured
- Developer procurement organizations and market organizations are trying to develop strong local supply chains
 - BNOW: <https://www.offshorewindus.org/supplychain/>
 - Orsted: <https://www.orstedprocurement.com/web/login.html>
 - Ocean Wind – Ørsted / PSEG
 - Garden State Offshore Energy (GSOE) - Ørsted / PSEG

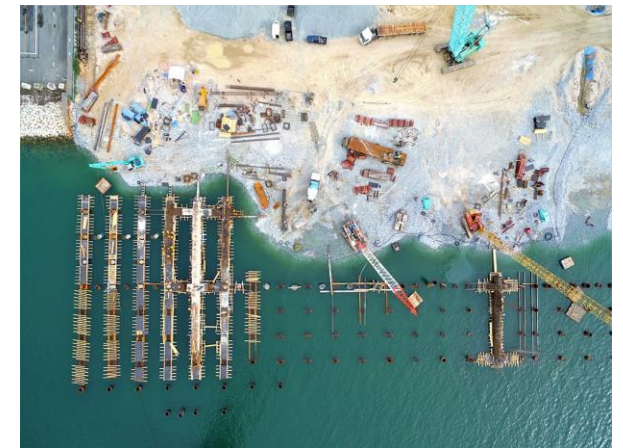
Develop partnerships

- Higher tier contractors
- Complementary / bundled services
- Trade organizations

Where we are now

Currently supporting several offshore wind-related projects along the Atlantic seaboard

- Export cable landfall HDD design for two OSW projects.
- Cable substation/grid interconnection feasibility studies and design for two OSW projects.
- Near-shore geotechnical investigation for export cable alignments for an OSW project
- Regional study of glauconitic soil stability for an offshore wind developer
- Piling stability investigation/designs for two separate offshore wind marine support terminals



For more information



Dane G. Pehrman
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SVP, Market Segment Leader – Energy

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<http://www.linkedin.com/in/danepehrman>

Audience Q&A

Please submit your questions via the Q&A function



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**YOUR
OFFSHORE
CONSTRUCTION
WORKFORCE**

**HALEY
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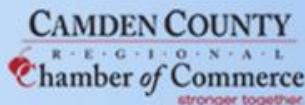
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Presented by  **Jefferson Health.**
HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

Tuesday, March 30th | 10:00 a.m. - 11:00 a.m.

KEYNOTE SPEAKER



U.S. Congressman Andy Kim

SNJDC Members: \$30 | Non-Members: \$55

Sponsorships are available

contact SNJDC (856) 228-7500 | snjdc@snjdc.org



40th Annual Golf Outing RUNNING DEER GOLF CLUB THURSDAY, APRIL 29TH



INDIVIDUAL GOLFER.....\$215
CORPORATE TWOSOME.....\$500
CORPORATE FOURSOME.....\$1,000

Sponsorship Opportunities Are Available

For more information visit snjdc.org

Ben@snjdc.org - (856) 228-7500