

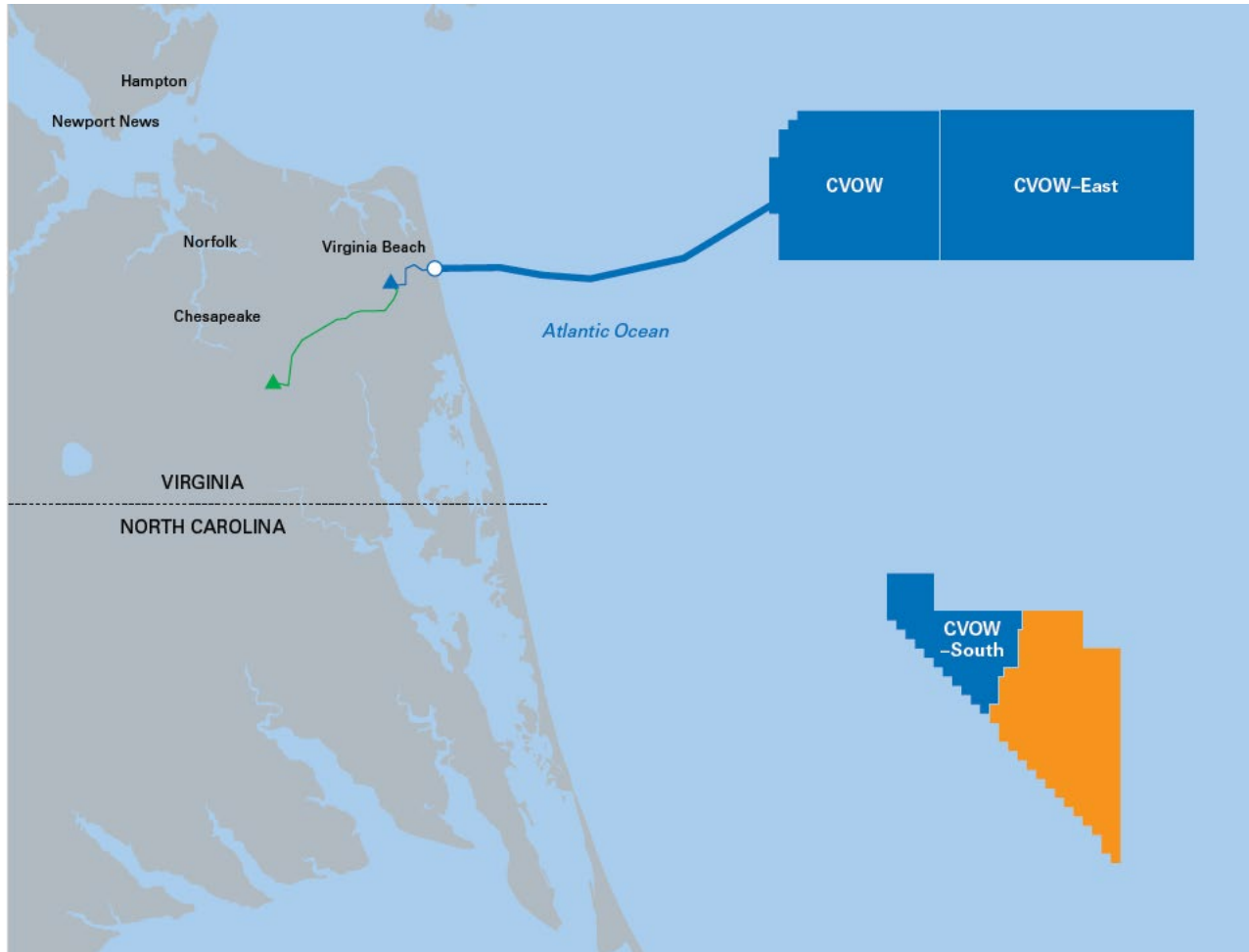


Coastal Virginia  
**Offshore Wind**

# **Coastal Virginia Offshore Wind Overview**

**October 2024**

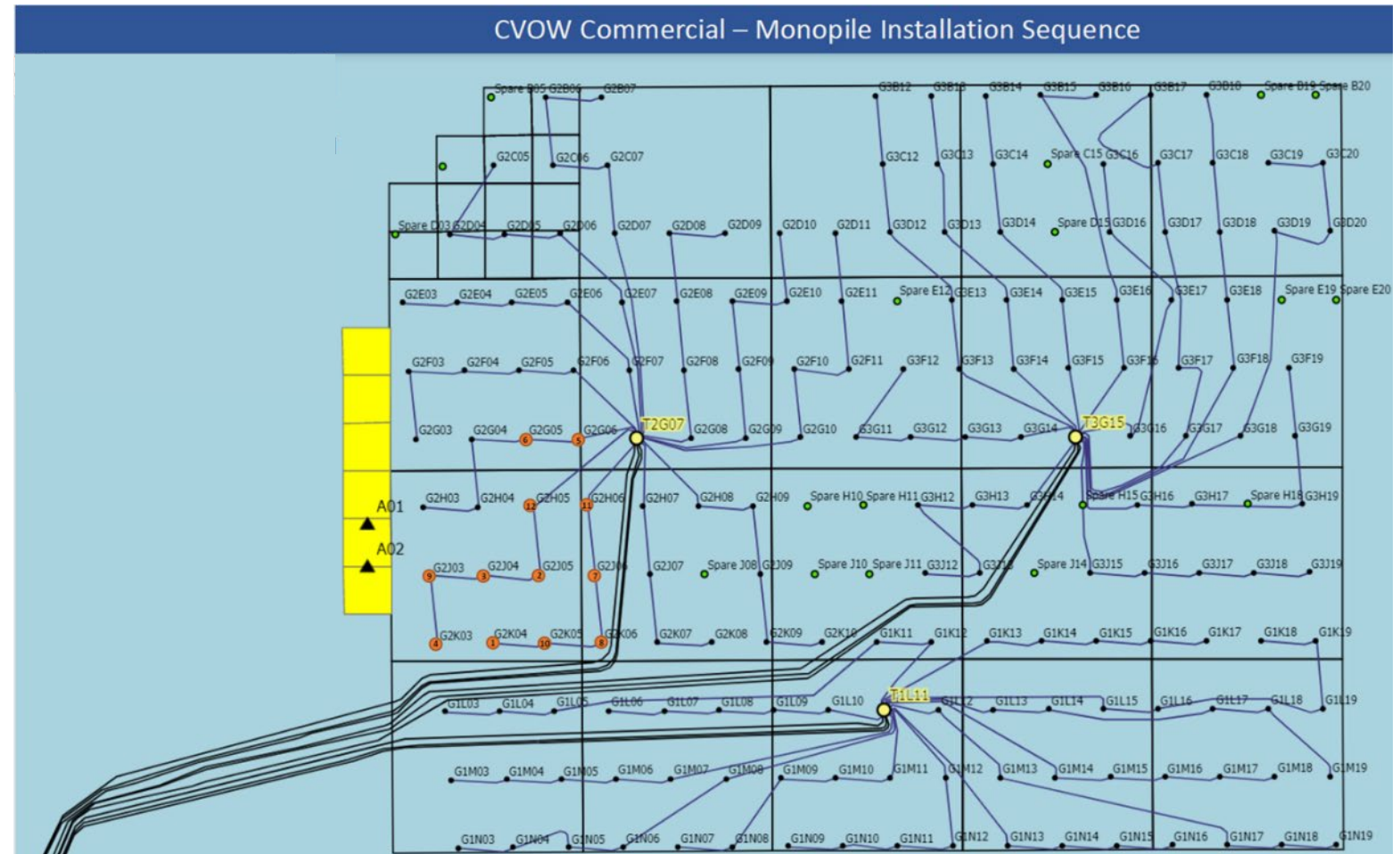
# Growing Virginia's Clean Energy Options



- Leveraging Dominion Energy's proven regulated offshore wind development expertise
- CVOW South
  - Up to 800 MW of capacity
  - Could serve up to 200,000 homes
  - Located off Kitty Hawk, NC
- CVOW East
  - Estimated up to 4,000 MW of capacity
  - Could serve up to 1,000,000 homes
  - Located directly east of CVOW

# Largest East Coast Utility Project In Construction

- Builds on success of the two-test turbine pilot project
- Located just east of the pilot project
- 27 to 42 miles offshore in a lease area equal to 85,000 football fields
- 176 X 14.7 MW turbines
- 2.6 GW total capacity
- Power up to 660,000 homes



# Many Accomplishments, More Objectives Ahead



✓ Nov. 2013	113,000-acre leasehold acquired via auction for \$1.7 M
✓ Sep. 2019	2.6GW full-scale deployment announced
✓ Dec. 2020	Construction & Operation Plan submitted to BOEM for 2.6GW
✓ May 2021	Foreign currency hedge strategy executed
✓ July 2021	Notice of Intent issued (BOEM)
✓ Nov 2021	Virginia OSW rider application submitted
✓ Dec 2021	Major contracts executed with SGRE, DEME, Bladt, Semco, EEW
✓ Aug./Dec. 2022	Regulated cost-of-service rider approved by VA SCC
✓ Oct. 2023	Record of Decision issued (BOEM)
✓ Jan. 2024	Construction and Operations Plan/Army Corp Permit/NMFS LOA
➔ 2023/2024	Commence onshore/offshore construction
End of 2026	Construction completion

# Constructing CVOW With Experienced Partners

Wind Turbine  
Generators

Monopiles

Transition Pieces

Offshore Substations

Transport & install

**SIEMENS Gamesa**  
RENEWABLE ENERGY



**CS WIND**  
OFFSHORE

**CS WIND**  
OFFSHORE



**DEME**  
OFFSHORE US

**Prysmian**  
Group

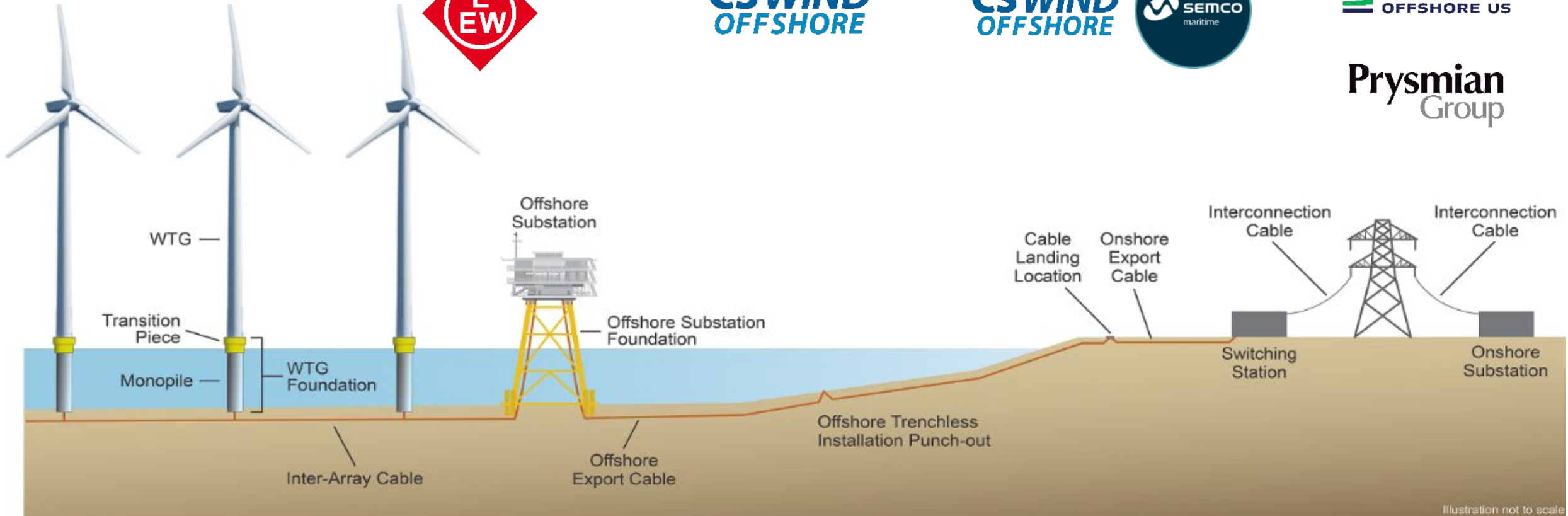
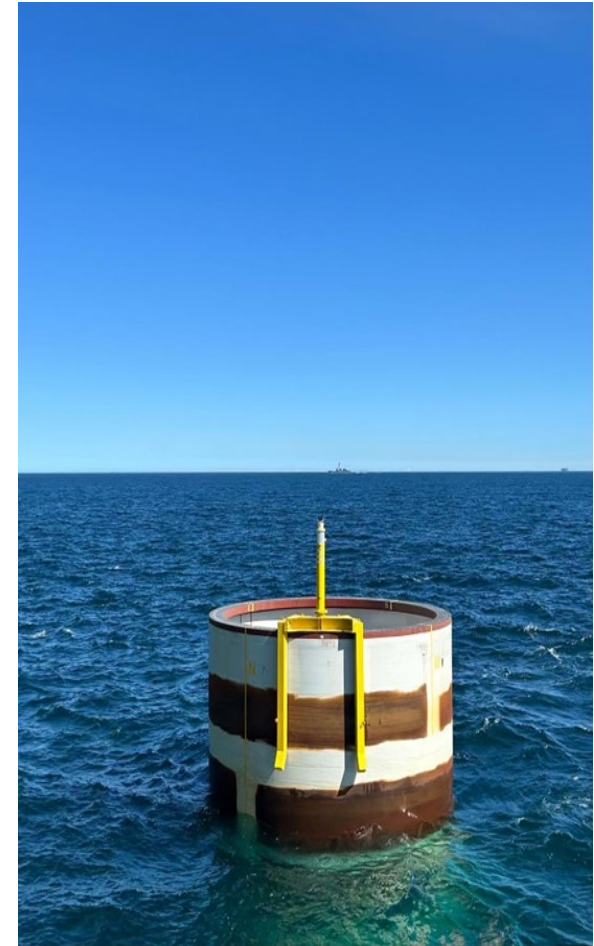


Illustration not to scale

# CVOW Monopile Loadout and 1<sup>st</sup> Installation



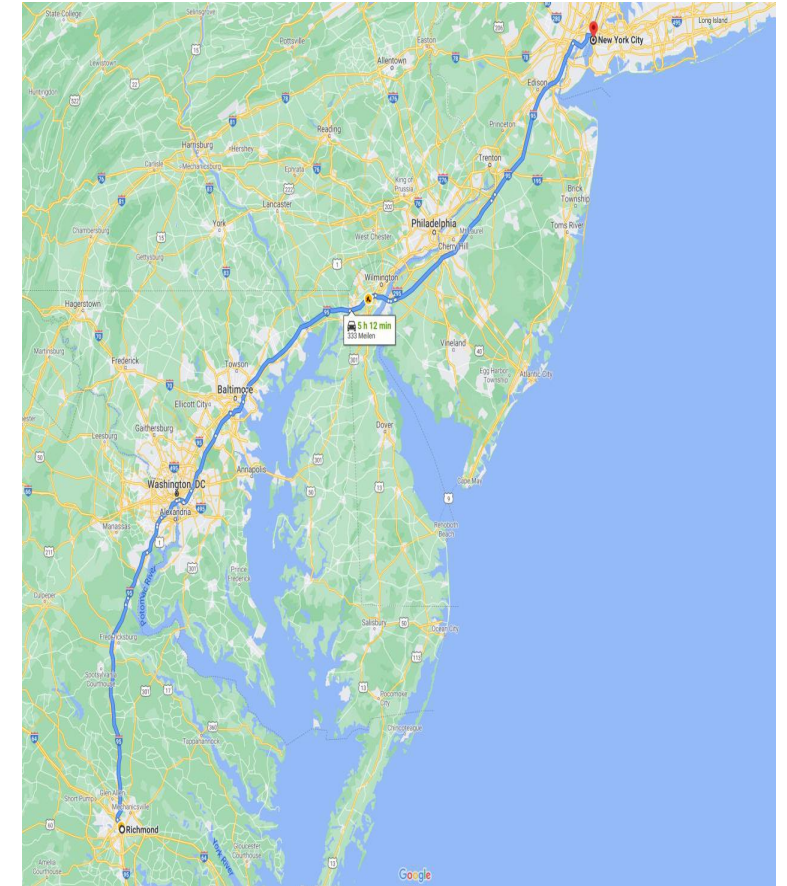
- Up to 272 feet long and 31 feet in diameter
- Average weight nearly 1,500 tons, more than 6 Boeing 747s
- May 22, 2024 - 1st installation
- 78 monopiles and 4 pin piles installed to-date

# Fabrication of a CVOW Transition Piece





Export Cables - 365 miles  
Distance from Richmond to NYC on I-95



Each of one of the 9 Export Cables will have one splice

Cables are 11.5 inches in diameter

Buried 3-16 feet deep

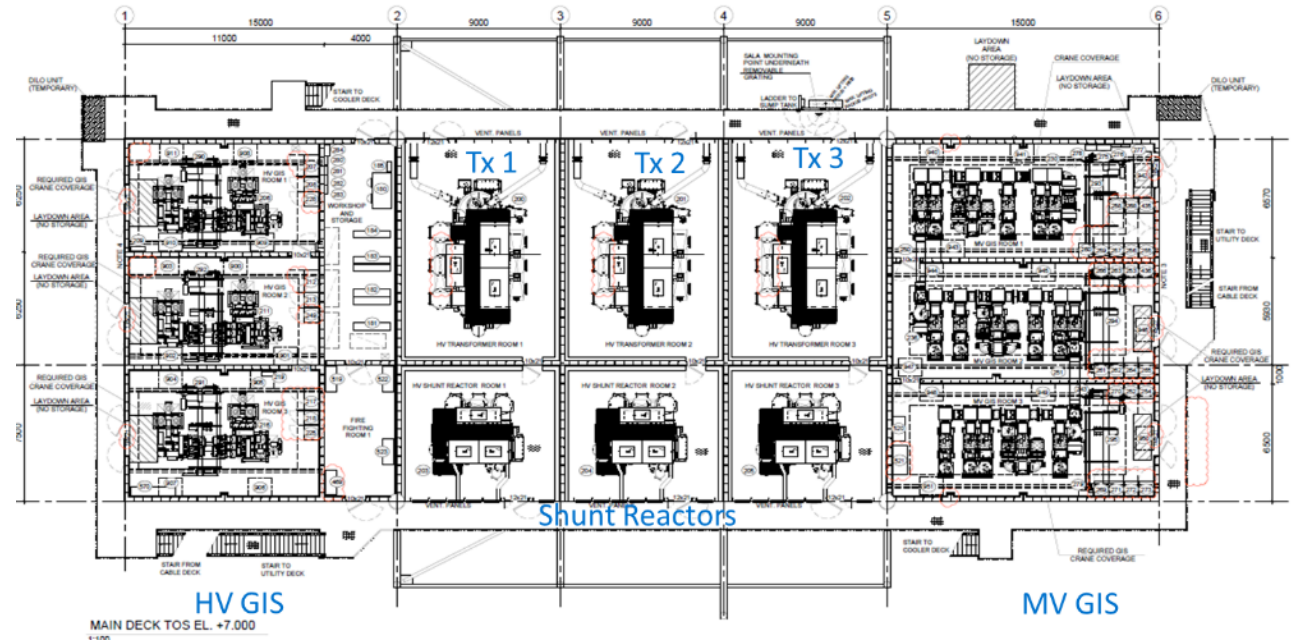


# 4,000 Ton Offshore Substations Are the Heaviest Project Lift

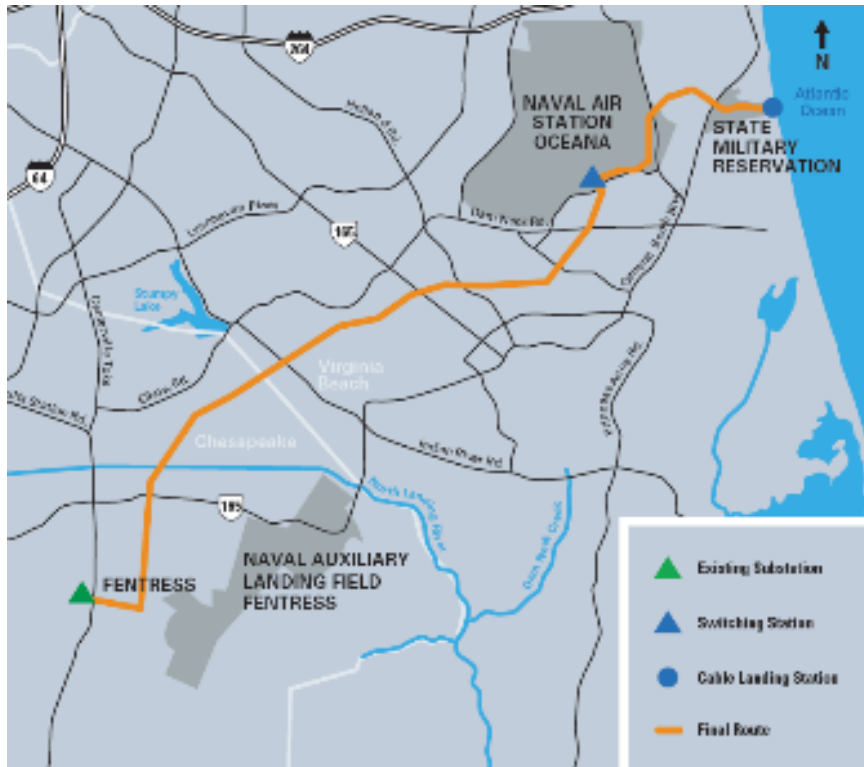


- Approximately 60 turbines/880 MVA OSS
- 66 kV and 235 kV GIS bus
- 3 X 235/66 kV transformers (300 MVA)
- 3 shunt reactors

- Top Sides
  - Length 178 ft
  - Width 98 ft
  - Height 80 ft
  - Weight 4000 metric tons
- Jackets
  - Footprint 98 ft X 98 ft
  - Height 174 ft
  - Weight 3300 metric tons



### Onshore Transmission Route



# The Vision: An Offshore Wind Industry Cluster

Transition Pieces at PMT



Dominion Energy's MCC



LS GreenLink  
Subsea Cable Manufacturing  
Chesapeake, Virginia



## Oceantic Case Study: CVOW Virginia Economic Impact

- **\$1.8 billion** of direct investments
- **220** supply chain contracts
- \$250 million investment in Portsmouth Marine Terminal upgrades
- LS GreenLink to invest \$680 million to build a subsea HVDC cable manufacturing facility that will employ more than 300 people
- Forecasted to employ 1,500 workers across a broad range of fields



## Delivering Economic Growth For Virginia

Economic Activity	\$	Staffing Levels*
Total Spend	5.2 Billion	10,000
US	1.0 Billion	1,978
VA	1.0 Billion	970
Local **	1.0 Billion	802

## Opportunity for Small and Diverse Businesses

Spending Profile	\$	Staffing Levels*
Virginia (VA)	1.0 Billion	970
VA Small Business	209 Million	191
VA Diverse Business	256 Million	234
Local Diverse Business **	195 Million	136

\* Includes full and part time positions

\*\* "Local" is defined as Hampton Roads Region

\*\*\* Excludes spending and staffing for Charybdis and Discovery

# The CVOW Offshore Wind Fleet – Homeported in Virginia



## “Endeavor”, Dominion Energy’s Crew Transfer Vessel

- 2 Crew Transfer Vessel
- Crew (total): 8
- Resource shuttles



## “Discovery” a walk to work Service Operations Vessel

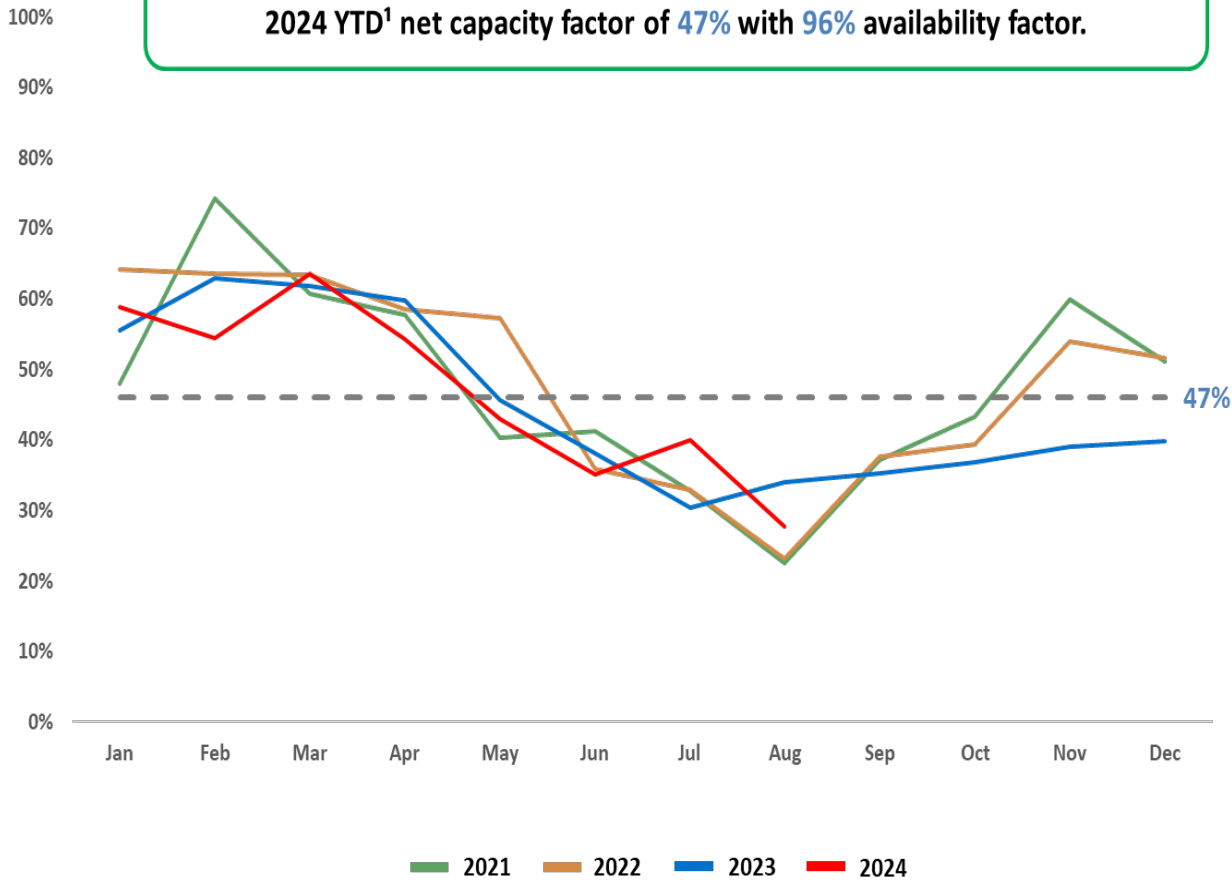
- 1 Service Operations Vessel
- Ship and Operations Crew: 60
- 2-week deployments



## “Charybdis” 1<sup>st</sup> Jones Act compliant offshore wind turbine installation vessel

- Constructed by Dominion Energy Inc.
- Supporting U.S wind industry
- Ship and Operations Crew: 119

Project to date (4 year) net capacity factor of 47% with 96% availability factor.  
2024 YTD<sup>1</sup> net capacity factor of 47% with 96% availability factor.



## What have we learned from the pilot turbines?

- Estimated \$3 billion of fuel savings in first decade
- Winter polar vortexes are windy
- Winter storms create costly fuel bills for our customers
- Fuel price spikes can be mitigated in a predicable manner
- CVOW will support meeting growing winter peak demand



- 2.6 GW capacity; regulated utility offshore wind generation resource
- Est. installed cost of **\$9.8B** (including onshore transmission) (no change)
- Est. lifetime capacity factor 43.3% (gross) / 42.0% (net) (no change)
- **Est. LCOE of \$56/MWh with application of PTCs and higher REC price benefits**

<sup>1</sup> Fixed costs as percentage of total project costs, excluding contingency



# Questions, Discussion and Shared Insights

**Contact Us:**

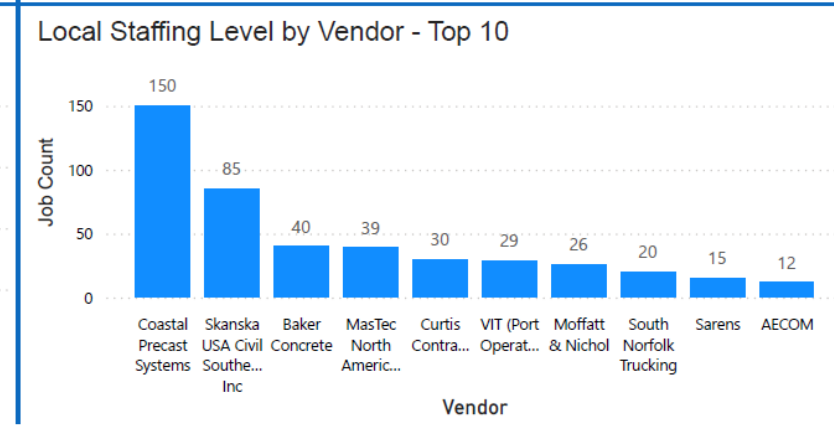
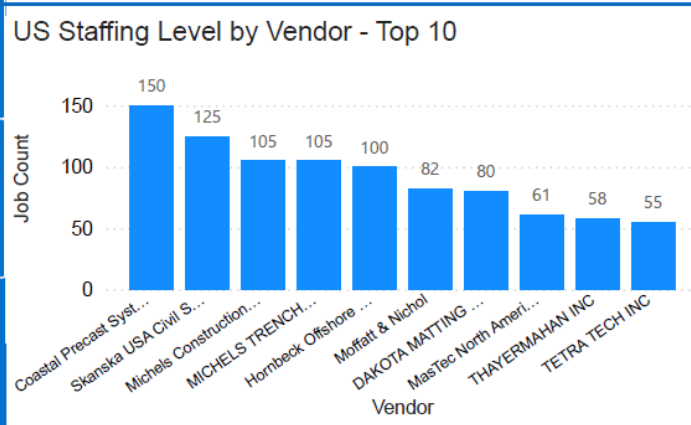
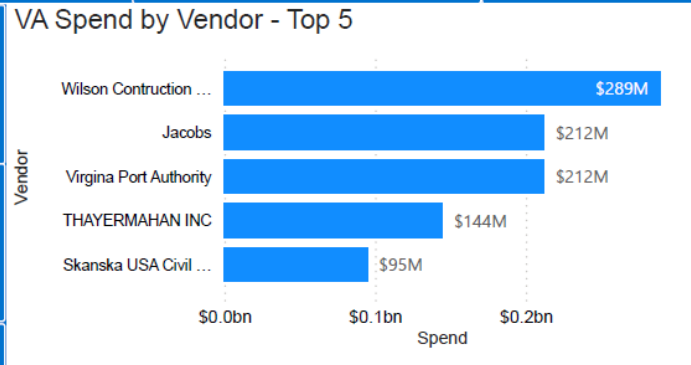
[CoastalVAWind@dominionenergy.com](mailto:CoastalVAWind@dominionenergy.com)



# Growing Virginia's Economy and Workforce

Coastal Virginia Off-shore Wind Project (Sep 2024)	Current Staffing Level*	Current US Staffing Level*	Current VA Staffing Level*	Current Local Staffing Level*
	<b>10K</b>	<b>1,978</b>	<b>970</b>	<b>802</b>

<b>Total Spend</b>	<b>\$5.2bn</b>
<b>US Spend</b>	<b>\$2bn</b>
<b>VA Spend</b>	<b>\$1bn</b>
<b>Local Spend</b>	<b>\$1bn</b>



\* Counts include both full time and part time staffing levels

# Commitment to the Provisions of the VCEA

