

What is Needed - West Coast Ports Studies



State Lands Commission - CA
AB525 Seaport Strategic Plan to
be completed by June 2023

West Coast Ports Strategy
By National Research Energy Lab
reporting to DOE to be completed by June
2023

The table below shows component number projections for Scotland based on **1,000 substructures**.

Component	Per substructure	Total required
Anchors	3-4	3,000-4,000
Mooring chain/rope	*720m - 2,400m	*720km - 2,400km
Clump weights	150t - 180t	150,000t-180,000t

*60-100m water depth

Component	Per substructure	Total required
Dynamic cables	2	2,000
Buoyancy modules	2	2,000
In-line cable connectors	2	2,000
Bend restrictors	4	4,000

Component number projections for Scotland based on 1,000 substructures.





Staging and Integration Port

- 80 Acre Site
- Adequate Air Draft
- 40'+ Water Depth
- 3,000-6,000 Pounds / SF Lift Capacity



Manufacturing Port (Towers, Blades, Moorings, etc.)

- 80 Acre Site
- 30-40' Water Depth
- 2,500-4,000 Pounds / SF Lift Capacity for Larger Components



Operations & Maintenance (O&M) Port

- 5-10 Acre Site
- Lift Capacity Variable and Currently Being Assessed



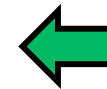
Construction Support (CS) Port

- 5-20 Acre Site
- Layout for Cable, Chain, Weights

Types of Ports to Support Offshore Floating Wind

Opportunities for Smaller Harbors

Construction Support Facility – Home port for fleet of construction support vessels necessary for construction and commissioning of OFW farm. Could include a staging yard for mooring equipment (Chain, Anchors, Mooring Lines) and transmission cable.



Operations & Maintenance Facility – A home port site for O&M vessels and supporting warehouse and offices during operation period of wind farm

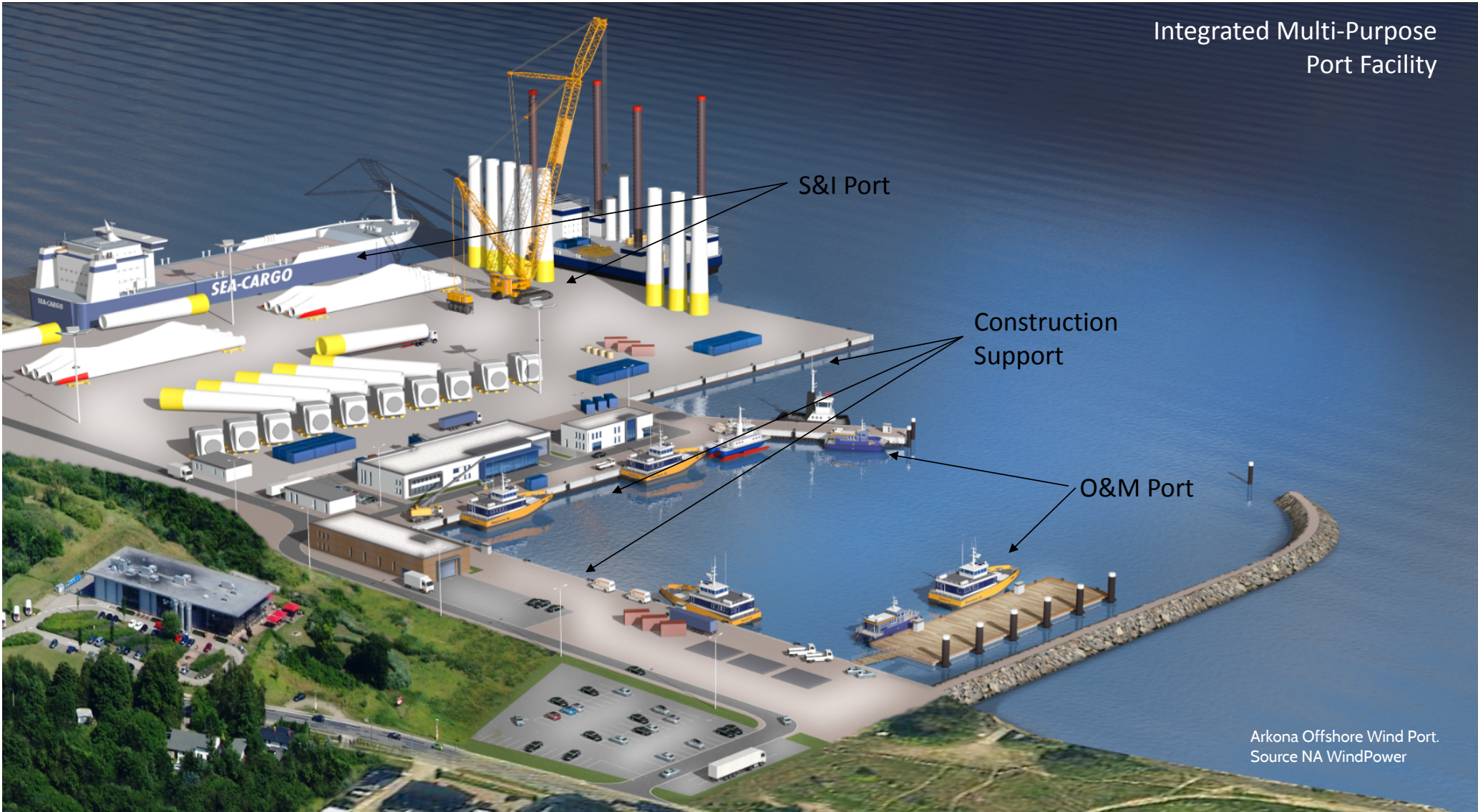
Integrated Multi-Purpose Port Facility

S&I Port

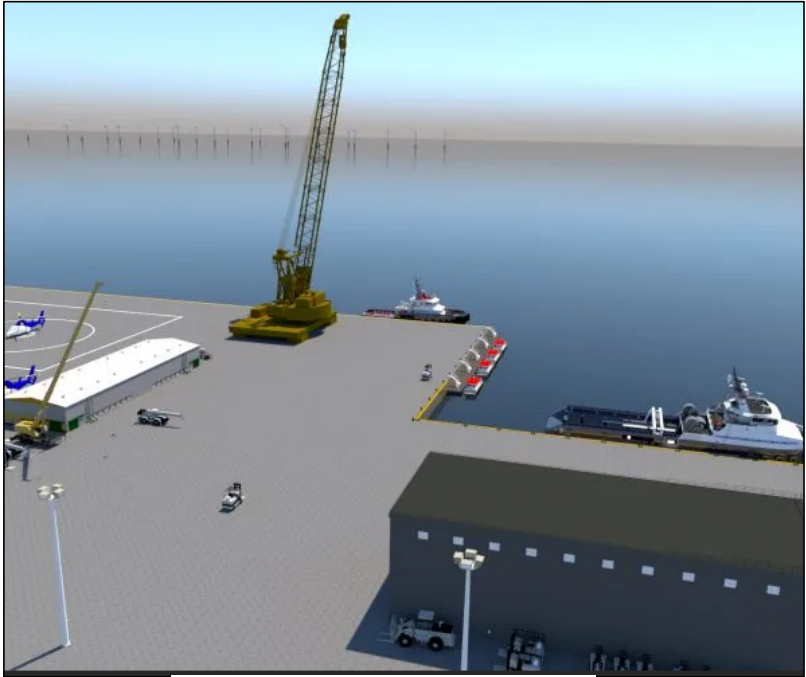
Construction
Support

O&M Port

Arkona Offshore Wind Port.
Source NA WindPower



Example O&M/Construction Support Focused Facilities – East Coast



Types of Vessels for O&M & Construction Support

SERVICE OFFSHORE VESSEL (SOV): Supports multi-day O&M trips to FOW farm.
Length: 200-400ft (61-122m)
Draft: 16-25ft (5-8)
Beam: 50-80ft (15-24m)
Offshore duration: 2+ weeks



SERVICE ACCOMODATION TRANSFER VESSEL (SATV): Intermediate between SOVs and CTVs, with ability to sleep on board for multiday trips.
Length: 100-130ft (30-40m)
Draft: 10-16ft (3-5m)
Beam: 30-50ft (9-15m)
Offshore duration: ~4-5 days



CREW TRANSFER VESSEL (CTV): Supports transfer of crew and light supplies for day trips to the FOW farm.
Length: 65-90ft (20-27m)
Draft: 5-10ft (2-3m)
Beam: 22-30ft (7-9m)
Offshore duration: <1 day



[Waterfront Infrastructure Study Report \(reachcentralcoast.org\)](https://reachcentralcoast.org/)

Central Coast Emerging Industries Waterfront Siting and Infrastructure Study

Volume 1: Floating Offshore Wind

Figure 4. O&M vessel fleet options.

- Crew Transfer Vessels at Port <60 miles from Wind Farm
- Service Operation Vessels at Port 60 to 125 miles from Wind Farm
- Shallow to Medium Draft Vessels

SMALLER AHTV

Length: <200ft (<61m)
Draft: 16-22ft (5-7m)
Bollard Pull: ≤~120T



MEDIUM AHTV

Length: 210-270ft (64-82m)
Draft: 18-25ft (5-8m)
Bollard Pull: ≤~205T



LARGER AHTV

Length: >270ft (>82m)
Draft: 22-28ft (7-9m)
Bollard Pull: ≤~430T



Figure 7. Example AHTV size ranges based on plot in Figure 6. Images courtesy of Bourbon Offshore.

Possible Crew Transport Units

Strategy	Pilot/Small-Commercial (4-12 turbines)		Large Commercial (150 turbines)	
	Onshore	Offshore	Onshore	Offshore
CTV	1-2	-	8-10	2-4
Helicopters	-	-	1-2	1-2
SOV	-	-	-	1-3

[Port Infrastructure Assessment Report Appendices](#)
schatzcenter.org





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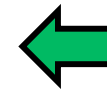
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Questions / Discussion