Offshore Wind Vessel Needs

Offshore wind project development and operations will rely on at least 26 vessels per project across all project stages, including seafloor survey work, component transfer, cable burial, crew transfer, and turbine installation. The number and category of vessels used depends largely on environmental conditions, distance of lease from shore, project size, and other factors.

Countries around the world are increasing their offshore wind deployment targets. By 2030, the UK plans to increase its capacity to 40 GW, while the European Union plans to reach 60 GW. South Korea's deployment goal is 12 GW by 2030, and Japan's goal is 9 GW by 2030. Some of the vessels needed to achieve these ambitions are in high demand with short supply, giving the United States the opportunity to invest in new vessels in American shipyards to fulfill demand. Several offshore wind companies are already investing in these vessels. Dominion Energy is leading a consortium to invest $500 million in the first U.S.-flagged offshore wind heavy installation vessel in Brownsville, Texas that will be operational by late 2023. Orsted and Eversource have contracted with Edison Chouest in Louisiana to build the first U.S.-flagged Service Operations Vessel. Great Lakes Dredge & Dock is developing the first U.S.-flagged offshore wind fall pipe vessel for subsea rock installation as early as the first quarter of 2024. These three vessels are an important start for the industry to meet current deployment goals, but further investment is needed from federal and private entities to realize the full potential of offshore wind.

Offshore Wind Vessel Stages

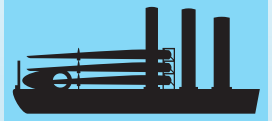
Surveying

at least 2 vessels per project*

Seabed Preparation

at least 2 vessels per project*

Component Transfer: Manufacturing to Marshalling Port

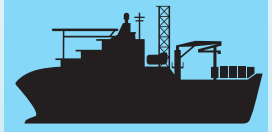


at least 3 vessels per project*

Cable Laying

at least 6 vessels per project*

Development, Construction, & Commissioning



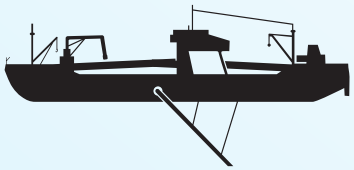
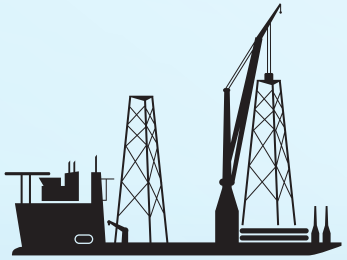
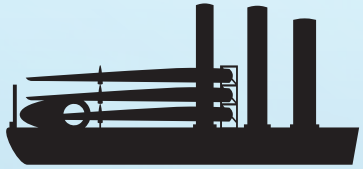
at least 10 vessels per project*

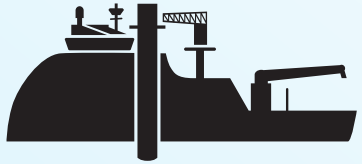
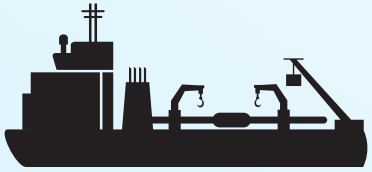
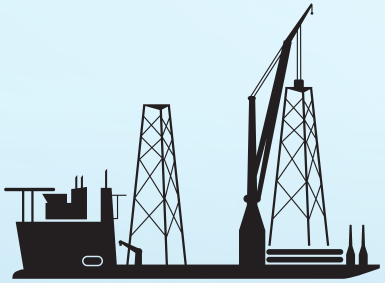
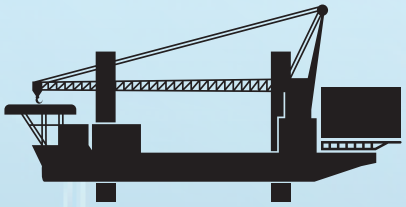
Operations & Maintenance

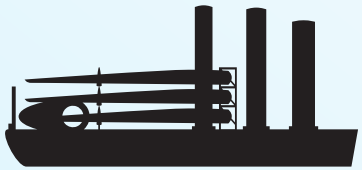
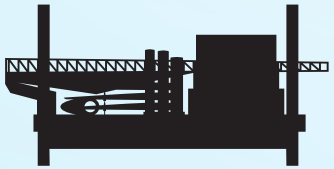
at least 4 vessels per project*

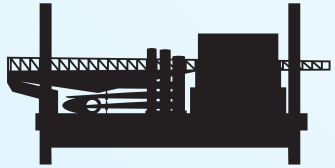
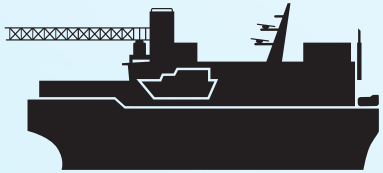
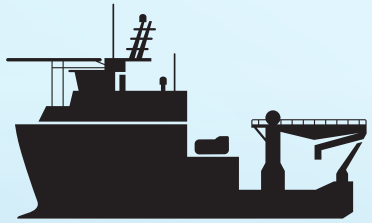
* not all projects will use the same number of vessels per stage

OSW Project Stages	Vessels	Type	What activities will the vessel conduct?
Surveying		Metocean Survey Buoy Deployment	Places LIDAR Bouys.
		Environmental Survey	Conducts benthic & fisheries surveys.
		Geotechnical Survey/Jack Up/ Floating Drill Vessel	Physically samples & tests seabed characteristics to optimally place turbines, cables, etc.
		Geophysical Survey	Acoustically maps seabed features.
		Safety Vessel	Conducts operational safety with ongoing marine traffic. Maintains a visual, radar, and communications watch to notify mariners of offshore wind vessel activity and safety zone boundaries.
		Scout Vessel	Proceeds ahead of, or in the vicinity of, survey vessels to locate fishing or other gear (such as research buoys) in the water, and advise the survey vessls accordingly to avoid gear conflicts.

OSW Project Stages	Vessels	Type	What activities will the vessel conduct?
Seabed Preparation		Trailing Suction Hopper Dredger	Removes boulders and levels seafloor to allow for jack-up vessel to jack up.
		Fall Pipe Vessel	Dumps rock at future monipile sites during seabed preparation.
Component Transfer: Manufacturing to Marshalling Port		Heavy Lift Vessel	Moves equipment from manufacturing facility to marshalling port.
		Feeder Vessel/Barges/Heavy Transport	Transports equipment.
Cable Laying		Export Cable Laying Vessel	Conducts cable lay activities which can be post-lay burial or simultaneous lay & burial. Post-lay burial requires two vessels to lay cable and to bury the cable. Simultaneous lay & burial requires one vessel with specialized equipment.

OSW Project Stages	Vessels	Type	What activities will the vessel conduct?
Cable Laying		Cable Support Vessels	Maneuvers cable barges to help reduce tension in cables, jointing/splicing cables, plugging cables into turbines, and bringing cables to shore.
		Array Cable Laying Vessel (CLV)	Lays cables between turbines and from turbines to offshore substation; not export cable.
		Guard Vessel	Carries out operational safety related to cable laying activities.
Development, Construction, & Commissioning		Floating Heavy Lift Foundation Vessel	Installs substations and foundations.
		Jack-Up Installation Vessel	Installs turbines and foundations. While foundations can be installed with either floating or jack-up, vessels, jack-up is more common. Historically turbines have only been installed with jack-ups.

OSW Project Stages	Vessels	Type	What activities will the vessel conduct?
Development, Construction, & Decommissioning		Feeder Vessels/Barges	Transfers components from U.S. ports to turbines when using foreign-flagged construction vessels.
		Accomodation Vessel/ Commissiong Support Vessel	Conducts wind turbine commissioning and houses crew.
		Jack-Up Vessel	Conducts offshore wind substation commissioning.
		Crew Transfer Vessel	Transfers personnel and light equipment in support of construction and operations.
		Safety Vessel	Carries out operational safety with ongoing traffic. Maintains a visual, radar, and communications watch to notify mariners of offshore wind vessel activity and safety zone boundaries. Marine mammal observers may be onboard.
		Noise Mitigation Vessel	Provides bubble curtain to mitigate noise from pile driving and protect marine mammals.

OSW Project Stages	Vessels	Type	What activities will the vessel conduct?
Operations & Maintenance		Jack-Up Vessel	Carries out main component exchange replacing nacelles, generators, gear boxes.
		Crew Transfer Vessel	Transfers personnel and light equipment in support of construction and operations.
		Service Operation Vessel	Conducts wind turbine service and operation.
		Diving/Remotely Operated Vehicle Support Vessel	Carries out subsea inspection.