FACT SHEET

Floating Wind Power

In June 2023, Equinor acquired the Bureau of Ocean Energy Management (BOEM) Renewable Energy Lease Area OCS-P 0563 (the Project) in the Central Coast region off the coast of Morro Bay, California, 60 miles from the Morro Bay Harbor Entrance and 26 miles off the coast of California. The Project will generate electricity through offshore wind power. The water depths of the lease area, ranging from about 2,000 to 4,000 feet (600 meters to 1,200 meters), require floating wind turbines which are designed for deeper waters.

California has among the best offshore wind resources in the nation, offering great potential for developing clean energy which will significantly contribute to the federal goal of producing 30 GW of offshore wind energy by 2030 and the California goal of generating 25 GW of offshore wind by 2045. The deep waters along the California Coast, which range from about 2,000 to 4,000 feet (600 meters to 1,200 meters) for the Project, necessitate the use of floating wind foundations.

Equinor is a Leader in Floating Offshore Wind

Equinor, a global energy company headquartered in Norway, is both a pioneer and a leader in floating offshore wind. The Hywind Scotland project located off Scotland's coast and Hywind Tampen project in the North Sea, both developed and operated by Equinor, represent half of the world's floating wind capacity. The 88 MW Hywind Tampen project was completed in 2023, and the 30 MW Hywind Scotland project was completed in 2017. Equinor has also achieved first power at its Dogger Bank facility in the United Kingdom, which will be the largest offshore wind facility in the world, with the capacity to generate a total of 3.6 gigawatts (GW) from its three phases.

Floating Wind Foundations Expand the Opportunities for Offshore Wind

In shallower waters, offshore wind projects utilize turbines with fixed foundations which are attached to the seabed using piles or gravity bases. Floating wind foundations rely instead on mooring lines that are anchored to the ocean floor, opening opportunities for offshore wind development in deeper parts of the water. Additionally, unlike fixed foundations, floating wind does not require assembly and installation of turbines at sea. The turbines for both floating wind and fixed bottom and onshore infrastructure are otherwise the same.

Floating offshore wind provides many benefits:

- Increased opportunities for developing offshore wind by opening deeper waters farther offshore, typically not available with fixed foundations
- Greater energy yields potential due to stronger and more consistent winds further out at sea
- Smaller footprint than that of traditional fixed bottom wind turbines
- Greater stability standing up against ocean storms, winds, and waves

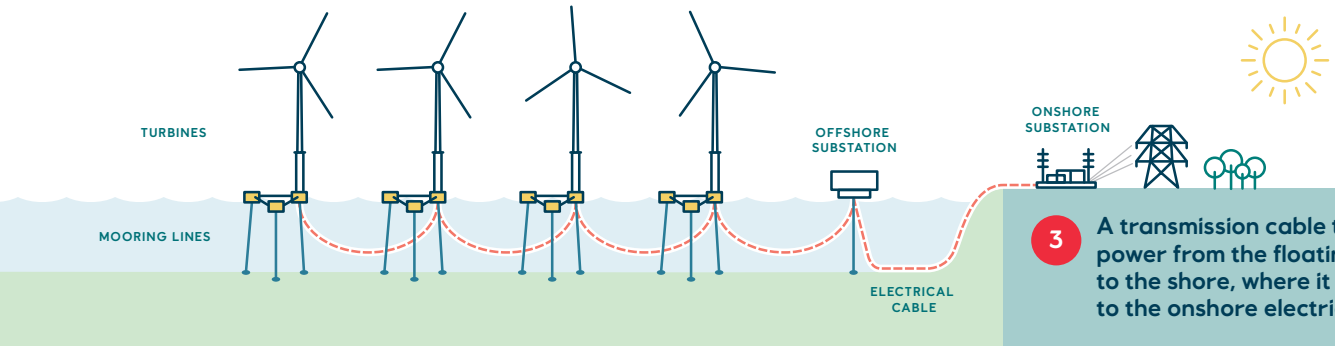
Hywind Scotland

Floating Wind Elements

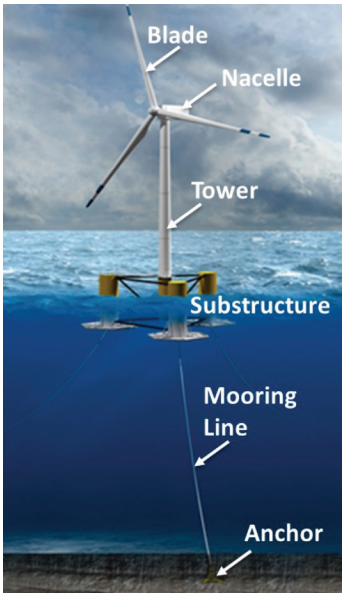
A floating offshore wind project includes several components. The floating turbines are anchored to the seafloor by a mooring system. Inter-array cables deliver the energy generated by the turbines to an offshore substation. An offshore export cable transmits the power to the onshore substation, where it is converted to standard voltage for distribution to customers connected to the electric grid.

1 **Floating wind turbines are configured in an array to optimize the capture of wind energy.**

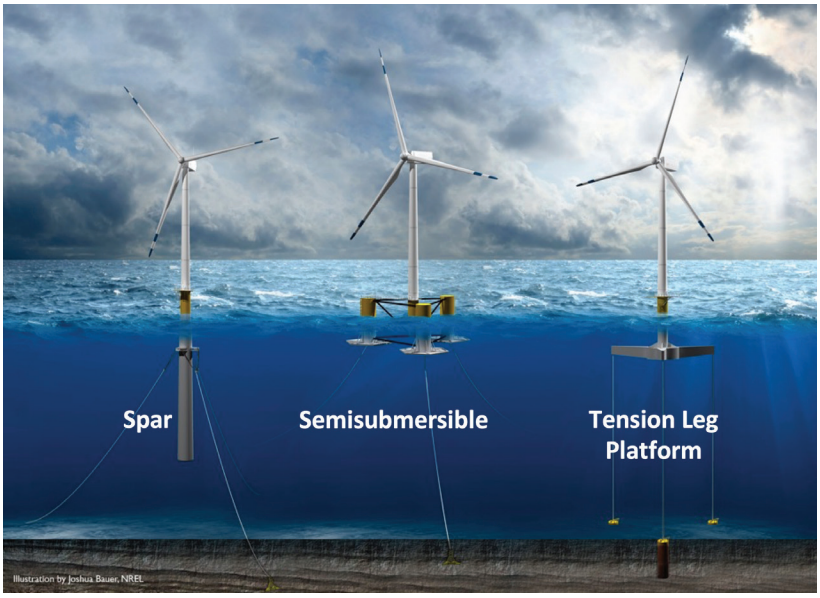
2 **Energy captured by the turbines is conveyed through a transmission line to a floating substation.**



3 **A transmission cable transmits the power from the floating substation to the shore, where it is connected to the onshore electric system.**



FLOATING WIND TURBINE COMPONENTS



FLOATING WIND BASE TYPES

The three primary types of floating wind technology include:

- **Spar** – attains stability through ballast that is installed below its main buoyancy tank
- **Semisubmersible** – reaches static stability by distributing buoyancy at the water plane
- **Tension Leg Platform** – realizes static stability through mooring lines tension with a submerged buoyancy tank

Equinor's offshore wind expertise and experience developing floating wind turbine projects provides an exciting opportunity for California and the U.S. to meet their renewable energy goals.

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