OVERDICK

Next Generation Floating Offshore Wind Turbine Foundation

Floating offshore wind offer a huge potential for the green energy production offshore and the energy transition to zero carbon emission in general. With the development of even larger wind turbines in the range beyond 15 MW, the floating concepts become more attractive and competitive from a cost perspective. However, larger turbines and cost optimization also require a re-thinking of established solution and concepts.

New ideas and innovations are required to further optimize the floating offshore wind farms. In this context, Tractebel Overdick GmbH (OV) developed a new floater concept tailor made to the demands of next generation wind turbines and hence enabling the high potential for large scale offshore wind farms all around the globe.

Versatile and Modular

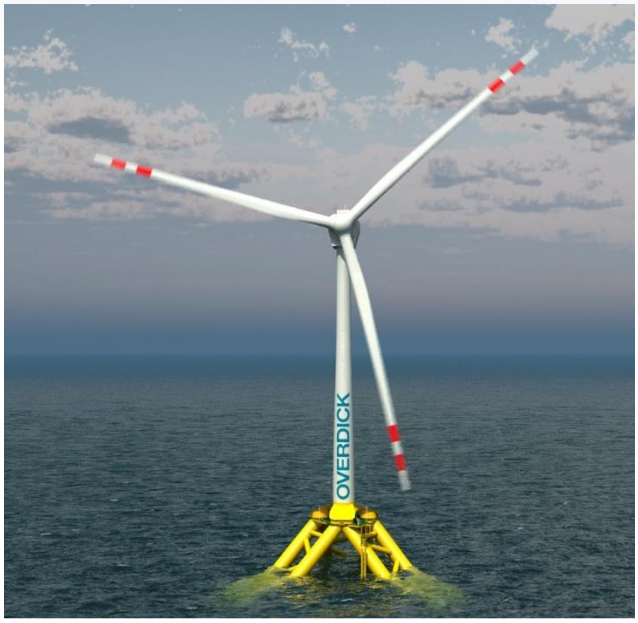
The new designed floater is following strict design requirements and optimization to reduce the overall costs of the floating foundation, keeping an eye on all major fabrication, installation, and operational aspects. The floater design is load path optimized shape based on triangular arrangement of main load carrying members. No moving parts or wires are used for the floater as this reduces risks and eases the transport and installation operation. The floater is further providing hydrostatic stable floating conditions with the full wind turbine installed on a full range, starting with a minimum draft of 10 m. The final draft and operating condition are achieved by only ballasting the floater. This concept eases maintenance aspects during the operation of the floater, but also creates an extreme flexible basis for quick adjustments regarding the floater hydrostatic stiffness and natural period characteristics of the floating foundation.

Global Potential

The global market for the offshore floating wind has further been considered in the construction and fabrication philosophy. The floater itself can be fabricated without usage of large heavy lift cranes or similar demanding infrastructure which might not be available in remote areas of the world.

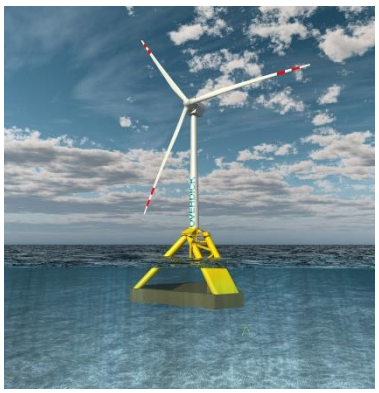
Hydrogen Ready

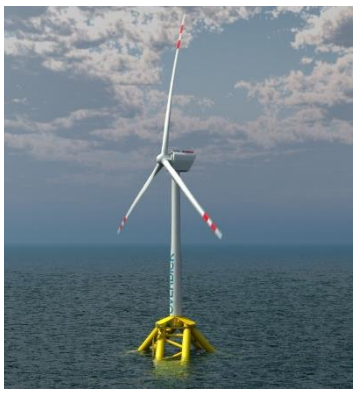
The floater is additionally offering sufficient deck and sheltered areas to install modularized add-on packages. This makes the floater also “hydrogen ready”. Hydrogen production modules and exporting equipment can easily be added and compartments of the floater can be used as buffering tanks. Alternative modules such as hydrogen field supply and bunkering or HV export modules may further be considered to make the future floating offshore wind farm more versatile.



Key Characteristics:

- Next generation WTG floating foundation for >15 MW turbines
- Flexible design for easy adaption to project specific requirements
- Self-ballastable with WTG and hydrostatic stable throughout all conditions from 10m to operation draft
- “Hydrogen Ready” concept
- Modularized approach allows multiple add-ons
- Optimized fabrication and construction concept with reduced infrastructure requirements
- CO_2 footprint optimized





About Tractebel Overdick GmbH:

Founded in 2000, Tractebel Overdick GmbH is one of the leading specialists in modern offshore engineering and design, maintenance, and inspection services. The company offers a wide range of services within the areas of offshore wind, offshore oil and gas, naval architecture, marine operations, platform removals and salvage. OV characteristic is its deep know-how in concept and basic design, construction, transportation, and installation of all kind of offshore assets.

The Tractebel Engineering group itself is one of the world’s largest engineering and consultancy companies and part of ENGIE. In late 2018 Tractebel strengthened its position in offshore engineering with the acquisition of Overdick, through its existing German subsidiary.

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