



Moray Base

REVOLUTIONARY DESIGN

- A most cost effective offshore wind floater (both Capex and Opex)
- Low levelized cost of energy
- Excellent motion characteristics
- Capable of supporting 15 MW turbines and above in harsh environments
- Active (with ballast system) and passive (without ballast system) configurations possible
- Focuses on an industrialized fabrication process: basic investment 50 to 75% lower than with other concepts)
- Minimum maintenance requirements
- TRL 4-5

MORAY BASE AT A GLANCE

- Suitable for highly automated production in large series
- No nodes: reducing fatigue hotspots hence avoids costly offshore repairs
- A thick walled steel structure without close-spaced framing
- Single curved plating only (segmented elbows)
- No need for expensive drydocks, assembly and turbine erection at only 7.5m draught
- Allowing turbine erection and commissioning inshore
- Easy inspectable
- Well accessible with installation vessels.

STATUS

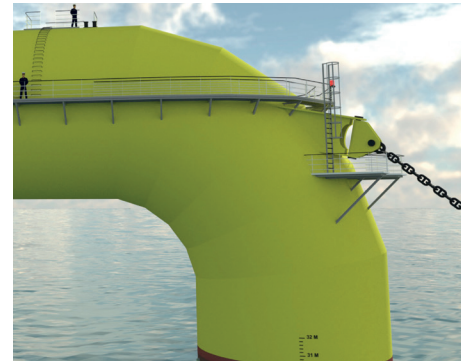
- ✓ **DESIGN & PRE-ENGINEERING** - completed
- ⊖ **CLASS APPROVAL** - in principal expected to be concluded March 2022
- ✓ **SCALE MODEL TESTING** - completed
- ⊖ **PRODUCTION, ASSEMBLY & INSTALLATION PROCESS** - under discussion with offshore wind contractors

CONTACT DETAILS

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Economic potential

The demand for global wind is expected to rise from about 200 MW in development today to 250 GW installed in 2050 (DNV wind outlook). To enable this huge growth, the foundation production will need to be similarly industrialized as the fabrication of turbines and monopiles. The Moray base enables all these developments, in particular the demand for industrialized production.

Efficient, flexible and industrialized fabrication

Fully designed according to DNV standards, the tubes allow for efficient and high quality serial production with a high degree of automation, much like monopiles. The elbows, consisting of straight segments, contribute to the effective production process. The four main sections are built in a dedicated factory, while assembly can be all over the world, close to the wind farm. The size and weight of the sections allow for transportation in common general cargo vessels. The Moray Base allows for assembly, turbine installation and commissioning afloat at shallow draught inshore. The latter reduces costs and installation times offshore significantly.



Robustness and simplicity by design

The large diameter and thick-walled tubes deal easily with the turbine loads during severe storms and maximum turbine thrust. The long radius segmented elbows have superior strength and fatigue behaviour compared to the joints of traditional submersibles or jackets. This makes the structure less prone to fatigue and hence requires limited inspections and avoids offshore repairs. The corner location of the turbine allows for access with crane vessels for turbine repair and maintenance.

Typical designs

Maridea designed the Moray Base in two configurations. The “Active” configuration is compact and has a ballast system. The “Passive” configuration, without ballast system, is even more maintenance friendly.