OWEC TOWER AS
Setting The Standard For Deep Water Foundations
**OWEC Quattropod®** is a complete wind turbine substructure (transition piece and jacket foundation) particularly suitable for larger turbines, deeper water and demanding soil conditions.

**OWEC Quattropod® is:**
- the only wind turbine jacket foundation designed, certified and installed in 4 offshore wind farm projects.
- the only proven substructure using pre-installed piles.
- fabrication friendly and proven for serial production.
- designed for efficient installation and has remarkable adaptability to alternate foundation including suction buckets.
- focused on interfaces, including wind turbine, manufacturing and installation requirements.

**Technical and Operational Advantages:**
- No seabed preparation normally required.
- OWEC Quattropod® is designed such that no scour protection is needed.
- Adaptable for a wide range of water depths from onshore/shoreline to deeper waters.
- OWEC Quattropod® provides wide range of installation tolerances to reduce the complexity of operations.
- Variation in sea bed level can be addressed by adjusting pile stick-up length and/or OWEC Quattropod®’s height, minimizing the number of clusters required for a given offshore wind farm’s water depth range; which reduces complexity and design costs of the project.
- Helping clients to meet the environmental regulations, by providing small diameter piles for OWEC Quattropod®; which produces less noise during installation as compared to monopile concepts.
- Adaptable to small and large capacity turbines (3-8 MW).
- OWEC Quattropod® can be designed easily to meet the frequency requirements of the WTG manufacturer.
- The Midsection (transition piece) is designed to transfer forces in an efficient way. This allows for a simplified OWEC Quattropod® concept; which reduces total cost.
- Design to comply with Construction Design & Management regulations for specified site requirement.
OWEC Tower Service offerings

- Design Basis.
- Feasibility Assessments and Selection studies.
  - Monopiles vs. GBS vs. tripods vs. 3-legged jackets vs. 4-legged jackets.
  - Pre-piled vs. post-piled vs. suction bucket vs. gravity caisson vs. drilled pile foundations.
  - Welded joints vs. cast joints.
  - Midsection (transition piece) layout.
- Conceptual Foundation Design Studies (including preliminary pile design):
  - using the OWEC QuattroPod® concept (also adaptable for 3-legged jackets).
  - using other wind turbine foundation concepts (monopiles, tripod, gravity based), in cooperation with leading specialist.
- Detail Design of offshore substructures and pile design for commercial wind farms (primary and secondary structures), including the following items:
  - J/I-tubes and supports
  - External and internal platforms
  - Boat landings & Catwalks
  - Ladders and resting platforms
  - Lifting points
  - Corrosion protection systems
- Substructures for WTG Prototypes
- Other offshore foundations (utility modules, met masts, OTS- Offshore Transformer Stations)
- Interface Management with:
  - Manufacturing yard
  - Wind Turbine Manufacturers
  - Electrical designers
  - Transportation and Installation Planners
  - On-site Engineering
  - Certification processes
  - HSEQ Coordinators

Projects Performed for:
A2Sea, Alstom, Bifab, DEME, Deepwater Wind, GE, Hochtief, Iberdrola, Innovoent, MT Højgaard, Norsk Hydro, NorWind, Norther, ODE, Poweo, REpower, RWE, Smulders, Statkraft, STX, Talisman, Tecnova, Vattenfall, Vestas, Havsul, WPD, Samsung.
THE COMPANY

OWEC Tower AS is a pioneering and leading technology company exclusively dedicated to design solutions for offshore substructures in the renewable energy sector.

OWEC Tower AS:

- has rendered independent design and engineering services to public and private clients throughout the world.
- has worked on many high profile wind farm projects and studies, such as Beatrice (Scotland), alpha ventus (Germany), Ormonde (England), Thornton Bank II (Belgium) and Le Carnet (France).
- is the only company with installed and operational jacket type foundations in commercial offshore wind farms.
- has developed a pre-installed pile concept, which has been already designed, certified, installed and proven for large offshore wind farms.
- has conducted substructure designs for prototypes of new generation turbines (5-8 MW).
- maintains a wide and experienced network including yards, contractors and installation companies resulting from its world leading technology and hands-on experience.
- brings highly qualified technical personnel with a continuous and innovated commitment to the eco-friendly industry.
- is supported by strong financial industry owners. This strength allows for further development of our company, access to a wide network of engineering capacity and a broader capability to handle any size project.

Learn more about us at www.owectower.no