

ENERGY & WATER

OFFSHORE WIND SERVICES

Securing compliance, reducing cost and managing risk





Providing technical solutions to complex environmental, regulatory and engineering challenges

Climate change and security of supply coupled with political and social demand for green energy means that offshore wind is growing in importance as a source of renewable energy.

Rapidly maturing fixed and floating offshore wind technology will play a critical role in our low carbon future. As the sector grows, environmental and regulatory challenges are constantly evolving.

Navigating these complex changes requires a reliable partner who can provide the expertise to allow your renewable energy business to succeed and compete in this thriving market.

We give you the quality assurance you need to power ahead safely.

Our Offshore Experience

Specialist Marine Team

Our specialist marine team has spent over 30 years working as advisors and project managers for our clients through all stages of offshore development from planning, concept, feasibility and design, through construction, operation and maintenance, to decommissioning.

We partner with operators, developers, utilities, asset owners, lenders and regulators/government.

We offer expert advice throughout your entire project lifecycle – site selection, survey, consents, design, construction & installation and operation & maintenance, helping you optimise costs and avoid potential risks.

Offshore Wind

In offshore wind we have worked on over 15GW of offshore wind projects over more than 20 years in the UK and Europe and developed several industry guidelines.

Offshore Cables

In offshore cables we are market leaders in the consenting, survey design and oversight of sub-sea cables projects from interconnectors, offshore wind export cables and telecommunication cables to engineering, installation supervision and O&M.

Ireland

In Ireland (as Metoc) we co-authored the Strategic Environmental Assessment of the Offshore Renewable Energy Development Plan (ORED P) for Ireland.

More recently we have supported fixed and floating offshore wind developers on the East, West and South Coast of Ireland with site selection, constraint studies, Foreshore Licence Applications for site investigation works, early project feasibility studies, and environmental surveys (marine mammals & ornithology).



Offshore wind experience

Our Services

- Site selection and feasibility studies
- Environmental assessment & permitting
- Regulator & stakeholder consultation
- Site investigation and marine survey management & quality assurance
- Survey procurement and contract development
- Survey field client representation and installation supervision
- Mathematical modelling (environmental & engineering optimisation)
- Metoccean design basis & operability planning
- Cable routing, burial assessment & protection strategy
- Geographical Information System (GIS) based data & asset management
- Technical due diligence & risk assessment

Project Lifecycle

Site Selection

- Site, route and landfall feasibility
- Constraint Studies
- Site Investigation Permits
- Regulatory advice & stakeholder engagement
- Subsea route engineering
- Burial assessment & protection strategy
- Metoccean design & operability

Survey

- Survey design & management
- Geophysical/ geotechnical assessment
- Baseline environmental survey oversight
- Subsea & land cable route engineering
- Health & safety management
- Vessel inspection/audits

Consents

- Environmental Impact Assessment
- Stakeholder engagement
- Physical process assessment (including modelling)
- Third-party crossing agreements

Design, Construction & Installation

- Cable supply & installation contract and procurement
- Metoccean design basis and operability ("downtime")
- Consenting compliance & monitoring
- Owner's Engineer / Technical Advisor
- Installation supervision and QA/QC services

Operation & Maintenance

- Post-installation inspection
- Depth of burial monitoring
- Environmental monitoring
- Remedial works assessment
- Repair supervision/ client representation
- Decommissioning strategy
- GIS-based asset management

Offshore Wind Case Studies

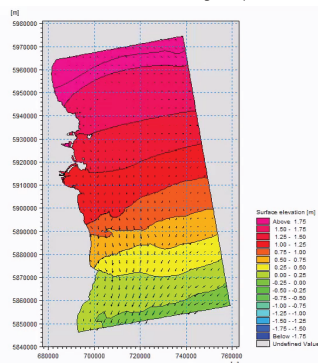
Dublin Array Offshore Wind Farm Physical Processes Assessment – RWE

The Dublin Array Offshore Wind Farm site is located on the Kish and Bray banks, approximately 10 km off the east coast of Ireland.

The area surrounding the site is highly designated, which necessitated a detailed Environmental Impact Assessment (EIA).

To support the EIA, we built and calibrated hydrodynamic and spectral wave models to characterise the hydrodynamics, wave climate and sediment regime in the project area.

The performance of the models was assessed against industry metrics, Offshore Wind Farm modelling guidance and with Intertek's extensive industry experience.



This allowed the baseline environmental conditions to be determined, against which the effects of the development on the physical environment could be assessed and quantified.

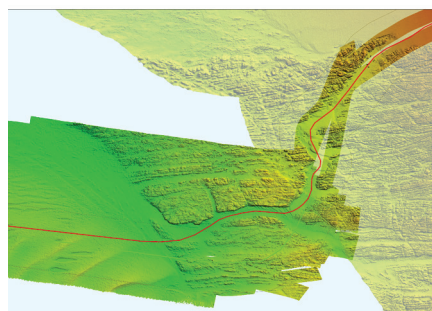
Intertek's assessment provides the developers and other stakeholders with regional and site-specific characterisation of physical processes, comprising the metocean and sedimentological environments.

Greenlink Interconnector, Marine Consultancy Support since 2013 – Greenlink Interconnector Ltd

Greenlink is a proposed interconnector linking the power markets in Ireland and Great Britain.

The project comprises a 190 km subsea and underground cable and associated converter stations to connect EirGrid's Great Island transmission substation in County Wexford (Ireland) and National Grid's Pembroke transmission substation in Pembrokeshire (Wales). It has a nominal capacity of 500MW.

Intertek's subject-matter experts have worked on marine environmental quality assurance solutions with Greenlink Interconnector Ltd since 2013, providing marine route development, landfall identification, survey management, environmental studies and assessment and, ultimately, submitting the Marine Licence (Wales) and Foreshore Licence (Ireland).



Robust environmental impact assessment and environmental risk management have been core themes for Greenlink, as the proposed route crosses several European Protected Sites.

A Marine Licence has recently been granted by Natural Resources Wales and construction is scheduled for the fourth quarter of 2021 and commissioning planned for end 2023.

Western Star Floating Offshore Wind Farm and Wave Energy Converter, Feasibility Studies and Marine Surveys – SBE

Western Star is a proposed co-developed project off the west coast of Co. Clare, Ireland, consisting of up to 1.1GW of floating offshore wind (FOW) and a two-step phased installation wave energy converter (WEC) site with initial capacity of 5MW and future potential capacity of up to 30MW.

Intertek is supporting Simply Blue Energy with feasibility assessments and environmental surveys for this innovative and cutting-edge project.

At the Project Feasibility Stage, Intertek, in collaboration with local Irish Companies, delivered a number of specialist studies for Western Star FOW and WEC Projects including Ports and Logistics Assessment, Grid Connection Assessment, Marine Survey Planning, and Energy Yield Analysis.

As the project moves into the design stage, collection of robust environmental baseline information is a vital first step in understanding the potential environmental impacts of the project and ensuring that appropriate measures are adopted during project design to minimise impacts on the environment and, ultimately, secure consent.

Intertek led the procurement of the bird and mammal surveys and is responsible for ensuring smooth delivery of the surveys over a 24-month period.

Processing and quality assurance of the bird and mammal data including habitat modelling analysis and species mapping will be undertaken by Intertek.

Benefits to Our Approach

- Expertise that integrates environmental, survey and engineering considerations into successful offshore project development
- Full project life-cycle understanding that ensures learnings are built in from concept stage
- Early and open statutory and public consultation continuing throughout the development and construction phase
- Established relationship with local statutory bodies and regulators
- Unwavering focus on quality and meeting our clients' expectations



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