

Marine Energy Site Development

As the marine energy enterprise matures, project developers are already planning arrays of tidal energy devices in UK waters. A robust process is needed to guide the development of these new projects; with no previous experience of wave and tidal arrays, new technical understanding must be developed as it is required.

Through structured coordination of survey, analysis, and design, Frazer-Nash work to ensure that tidal array projects achieve maximum commercial advantage and minimum site impact.

EXPERIENCE

Through the provision of marine engineering support we have carried out a central role in the development and implementation of the site selection and design strategy for the UK's first demonstration tidal arrays. Alongside this we have provided wide ranging engineering support to help realise the marine aspirations of a major UK-based power utility across a number of proposed tidal sites. In this we have lead the development of new technical understanding to support successful project development within what is a new technology domain.

APPROACH

Our Marine Project Development process has been developed to provide a flexible and optimised route to project success, from initial site search through to turbine micro-siting and infrastructure design. It is built on the application of the latest engineering methods, a structured management of risk, and effective coordination of information flow and decision processes. Our process focuses on the following key areas:

- ▶ **Data** - Relevant data, appropriate quality, effective presentation methods
- ▶ **Communication** - Effective communication, information sharing and decision capture
- ▶ **Process** - Strategic information flow, defined decision points, effective risk management
- ▶ **Expertise** - Drawing on the right specialist knowledge and bringing all project aspects together

EXAMPLE PROJECT

We provided a Marine Engineer to work within the Marine team of ScottishPower Renewables for 11 months. This team is responsible for the implementation of ScottishPower Renewables ambitious programme of development within the wave and tidal sector. This includes development of the UK's first tidal arrays and wave farms.

For more information please contact **The Renewables Team** on **0141 3415400** or email renewables@fnc.co.uk

www.fnc.co.uk

Offices at: Bristol, Burton-on-Trent, Dorchester, Dorking, Glasgow, Plymouth and Warrington

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We provided services in the following areas:

- ▶ Coordination of tidal array site selection and design process – considering device deployment and testing, geophysical, metocean and resource, grid connection, sub-sea cabling, turbine siting, array layout, installation, operation and maintenance, support facilities, navigational risk, consents, environmental impact, socio-political and economic constraints
- ▶ Oversight of marine surveys – Geophysical, geotechnical and resource surveys
- ▶ Management of analysis, modelling and presentation
- ▶ Decision capture
- ▶ Technical aspects of EMEC test agreements
- ▶ Crown Estates lease application process
- ▶ Instigating R&D work examining fluid design drivers for tidal arrays, and tidal sub-sea cabling methods
- ▶ Marine renewable technology appraisal
- ▶ Marine deployment methods
- ▶ Vessel procurement and deployment process development
- ▶ Procurement of research activity and niche expertise
- ▶ Consenting processes
- ▶ Support to Crown Estates strategic bid application

BENEFITS

We can provide project engineers who are experienced in driving forward the technical elements of marine energy development projects.

We aim to increase the value of development projects by bringing previous experience, domain knowledge and an established process to bear in order to reduce project uncertainty, timescales and cost.

