

Our engineering team has decades of experience in the research, design & development of marine energy technology that includes:

- Experience from the development of first generation wave devices;
- Deployment & sea trials of prototypes;
- Experience working with test facilities in UK, Ireland & Germany;
- Delivery of strategic research & analysis studies for government departments on marine renewables markets and test facilities required for offshore wind, wave and tidal energy sectors.
- Consultancy to start-up businesses, SME's and established companies in the energy sector to advise on technical and commercial development plans for the offshore renewable sector
- Identifying and securing sources of funding for R&D projects and overall management of the successful completion of the work.

Since its formation in 2007, Pure Marine has invested in R&D to develop new, advanced tools for the design, development and optimization of marine energy technology.

In addition to the experience of its management team and engineers, specific skills and assets that Pure Marine offers include:

Site development:

- Feasibility studies and site selection for sea trials, prototype testing and performance analysis of marine energy systems
- Engineering and management services for all aspects of site development for commercial and demonstration projects - including monitoring, data collection & analysis

Wave energy systems:

- Numerical modeling tools - advanced mechanical-hydrodynamic modeling capabilities for detailed performance analysis of wave energy devices and floating tidal turbine systems.
- Design development and device optimization for model testing and sea trials.
- Cost of energy analysis
- Design optimization tools for wave energy systems
- Array design & modeling tools, including design and analysis of mooring and cabling systems for arrays of offshore wave energy machines;
- Analysis of performance and productivity for wave energy devices to identify and quantify major risks in order to assist technology developers and project developers;

Tidal energy systems:

- CFD modelling of the wake effects and analysis of array effects for tidal turbines.
- Engineering analysis & design of dynamic marine structures, including the development of mooring solutions for tidal turbine nacelles.

Offshore wind:

- Coupled mechanical-hydrodynamic modeling software & capabilities for detailed design and analysis of floating offshore wind turbine systems.

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