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Programme Area: Marine

Project: Technology Scoping and New Demonstrators

Title: One Page Summary

Abstract:

In order to inform the future development of the ETI's Marine Energy Programme, the ETI commissioned a detailed benchmarking study of the marine energy technology landscape, as a 6 month Flexible Research Project

Context:

The key purpose of the study was to analyse and map key marine energy component and system technologies in order to identify the major industry technology challenges and high-additionality technology opportunities that could be of interest to ETI.

ETI Programme: Marine

Project Name: Technology Scoping & New Demonstrators

Deliverable Reference: MA2001

Contractor/Consortium: Black & Veatch (with Entec and DNV)

Context

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Project

The key purpose of the study was to analyse and map key marine energy component and system technologies in order to identify the major industry technology challenges and high-additionality technology opportunities that could be of interest to ETI. The project was arranged in four phases:

Phase 1 - Categorisation of Marine Energy Technologies (Wave and Tidal stream)
Phase 2 - Review of Component Technologies
Phase 3 - Component Analysis & Prioritisation
Phase 4 - Additionality, Project Recommendations & Optimal Technology Configuration

Key Project Findings

The project has delivered the following headline outputs:

- A wave and tidal stream device technology classification methodology
- Detailed technology landscape maps, populated with all known wave and tidal stream devices, showing where each sits within the technology classifications developed above and what sub-components they comprise.
- Detailed analysis of component contribution to the overall cost of energy (COE), commonality, their innovation and performance/cost improvement potential, their reliability, likely development times and development intervention costs. These components have also been ranked in terms of their attractiveness for ETI intervention.
- Fourteen components were identified as having high cost reduction potential
- Recommendations for possible ETI projects in a second ETI call (both component and system level).

Further Information

The key deliverables for the project were Tidal and Wave Technology Landscape Maps and a Tidal & Wave Energy Technology Benchmarking Report. These are available to ETI members via the ETI Member Portal.