



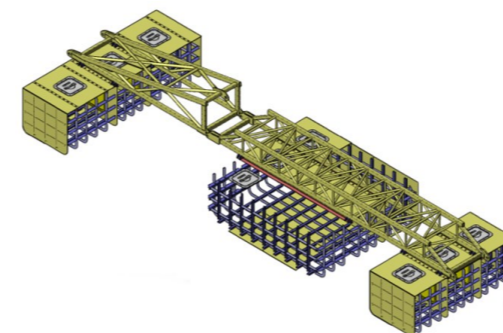
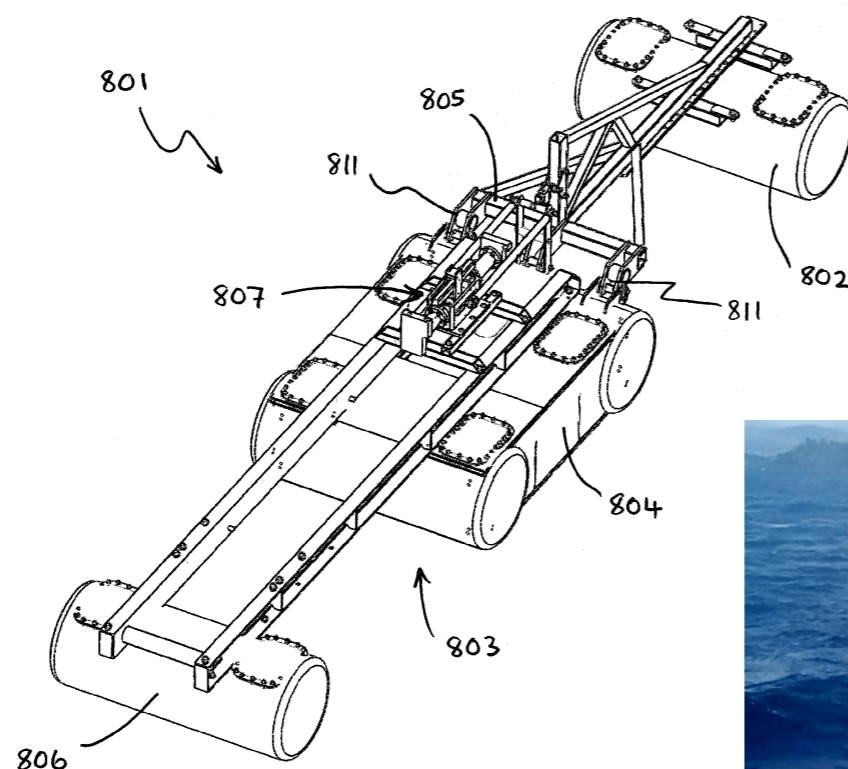
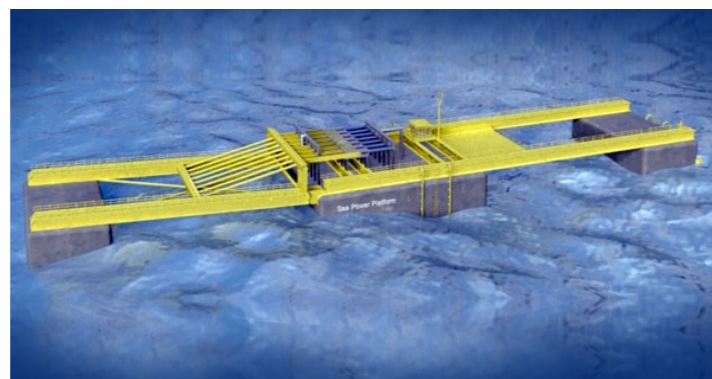
4c Engineering & Sea Power Ltd

Attenuator Cost of Energy Reduction (ACER)

Technology

The Sea Power Platform is a floating, self-reacting wave energy convertor that captures power from the relative heave and pitch motions of two pontoon structures. These pontoons are coupled together via a hinged connection whose motion is damped by a power take-off system. Two PTO solutions are being developed in parallel:

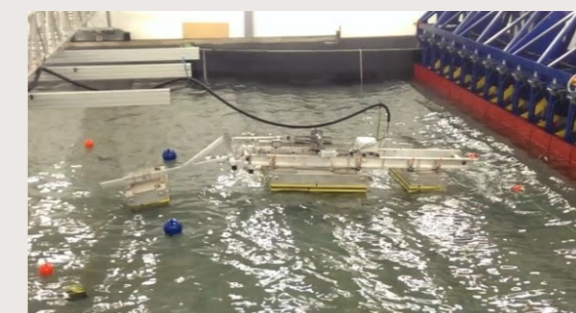
- A mechanical direct drive PTO module, using technology currently deployed in low-RPM wind turbines (the subject of a WES PTO project headed up by Romax Technologies);
- A double-acting reciprocating pump system to supply high pressure seawater for use in pumped storage systems or to produce fresh water.



About the project

Sea Power Ltd have carried out an extensive programme of development over the last few years, including:

- Several rounds of tank testing at various scales;



- Open water survival trials at 1:36 scale;
- On-shore PTO test rigs;
- Numerical modelling of device motions;
- Detailed LCOE modelling.

This project will focus on the following activities:

- 1:25 scale tank testing focussing on:
 - Investigation of the effect of different hull geometries on power capture;
 - Investigation of the effectiveness of different PTO damping strategies;
 - Performance testing of chosen hull form;
- Updated/improved numerical modelling (DNV GL);
- Concept engineering of full-scale WEC platform;
- Study into feasibility and cost of fabrication of full-scale concrete pontoon structures (ARUP).

Project Team

