

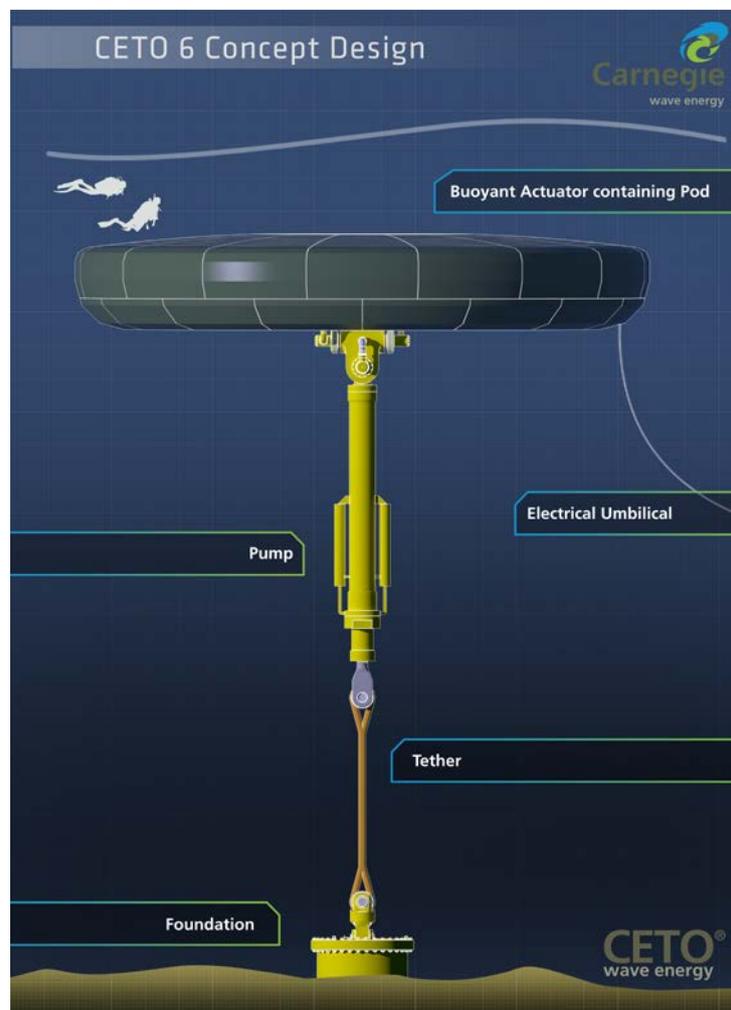
## ASX Announcement

Friday, 16<sup>th</sup> October, 2015

### CETO 6 Concept Design Complete

Wave energy developer Carnegie Wave Energy Limited (ASX: CWE) is pleased to announce that the conceptual design phase of its CETO 6 Project at Garden Island has now been completed.

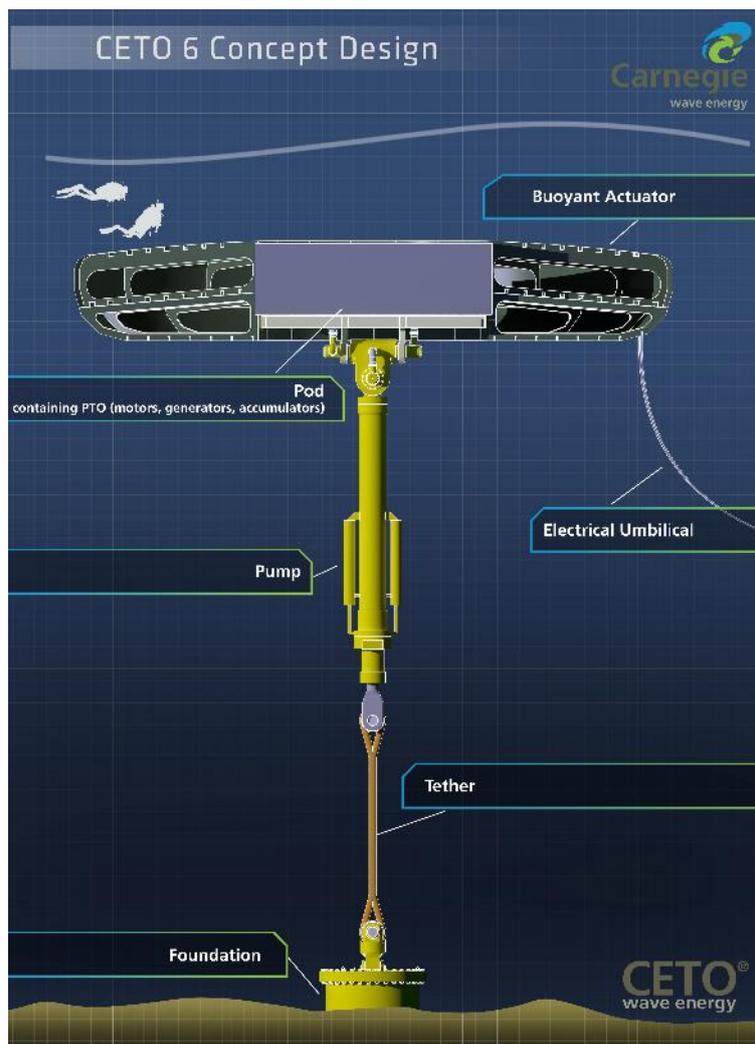
The CETO 6 concept design is the culmination of work commenced in 2012 and incorporates lessons learnt from the Perth Wave Energy Project, recent wave tank testing in Scotland, internal design and modelling studies and design work undertaken with Carnegie's supply chain.



CETO 6 Concept Design – external view

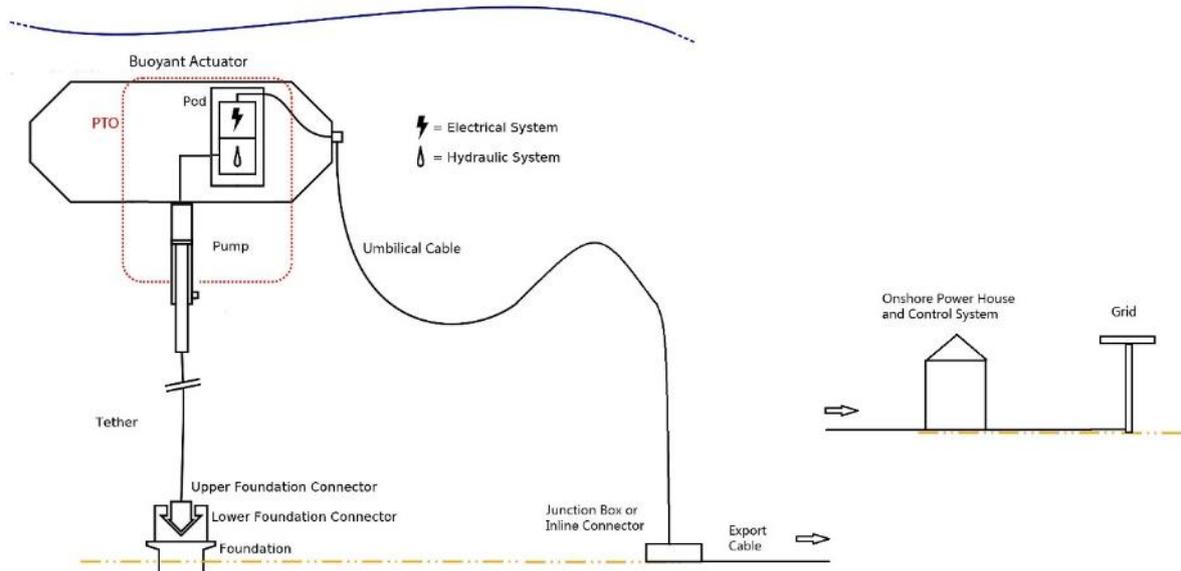
This CETO 6 design delivers a number of advantages over previous CETO generations including an approximate four times increase in rated capacity to 1MW, the removal of heavy offshore lifts (and associated costly heavy lift vessels), simplified installation and maintenance

and more advanced control systems. The system locates the power generation (power take off or PTO) inside a contained vessel (Pod) inside the Buoyant Actuator (BA). Locating the PTO inside the Buoyant Actuator allows more advanced control increasing system efficiency. The use of an electrical export cable (or umbilical) to deliver the power onshore also reduces transmission losses when compared to the use of a pipeline with high pressure fluid as used in the Perth Wave Energy Project's CETO 5 technology generation. The incorporation of the power generation equipment offshore also increases the market for CETO as it can take advantage of deeper, more distant to shore wave resources and sites.



**CETO 6 Concept Design – showing Pod location**

The concept design phase covered a wide range of disciplines and project work package areas including hydrodynamic modelling, wave tank testing, electrical topology, offshore site studies, grid connection, instrumentation and controls, power take off architecture, installation and maintenance philosophies and tether and mooring options.



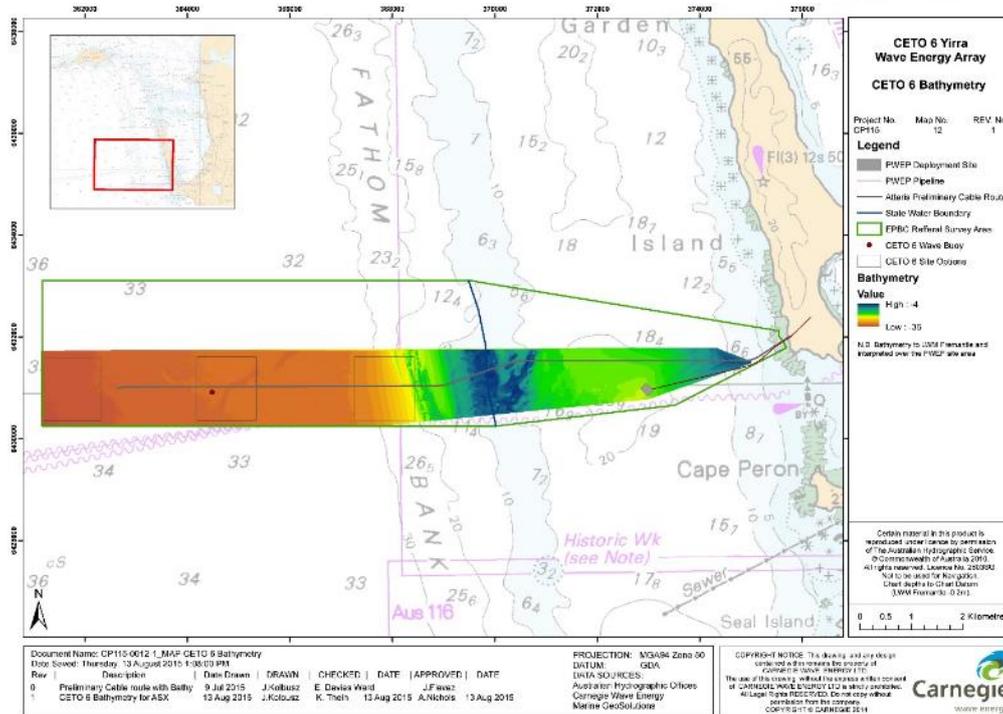
### CETO 6 Project Design Layout

The wave tank testing of scale CETO 6 models at FloWave in Edinburgh, United Kingdom formed an important part of the overall concept design as these tests, along with PWEF results, confirmed that the targeted 1MW nominal unit capacity was achievable.



Scale CETO 6 model undergoing wave tank testing at FloWave, Edinburgh, UK in 2014

The offshore geophysical survey activities for the Project are now complete, with a preferred Project site having been identified some 10km offshore from Garden Island. The geophysical survey results, along with the concept design results, feed directly into the detailed design of the Project. Detailed design is targeted for completion in mid-2016.



### CETO 6 project site geophysical survey

The CETO 6 design is the CETO product platform that will be used subsequently in commercial CETO projects. Initially these commercial projects are likely to be in locations where conditions are most supportive of early commercial project delivery such as in the UK and Europe where there are dedicated sites, infrastructure, supply chain and feed in tariffs already in place for wave energy.

### **About Carnegie**

[Carnegie Wave Energy Limited](#) is an Australian, ASX-listed (ASX:CWE) wave energy technology developer. Carnegie is the 100% owner and developer of the CETO Wave Energy Technology intellectual property. Carnegie is focussed on commercial opportunities in key target markets including UK, Europe and remote islands.

### **About CETO**

The CETO system is different from other wave energy devices as it operates under water where it is safer from large storms and invisible from the shore.

CETO technology characteristics include:

- Converts ocean wave energy into zero-emission electricity and desalinated water.
- Environmentally friendly, has minimal visual impact and attracts marine life.
- Fully-submerged in deep water, away from breaking waves and beachgoers.

### **CETO 6 Project Fact File**

The CETO 6 unit has a targeted 1MW (1000kW) power capacity, some four times of the current CETO 5 generation being used in the Perth Project. It will have a superior efficiency, lower capital and maintenance costs than any CETO product generation developed to date. The CETO 6 Project is supported by \$11m funding from the Australian Renewable Energy Agency's Emerging Renewables Program and a five year \$20 million loan facility from the Australian Clean Energy Finance Corporation. The clean, renewable energy generated by the Project will be sold to the Australian Department of Defence at Australia's largest naval base, HMAS Stirling, on Garden Island in Western Australia.

### **About ARENA**

ARENA was established by the Australian Government to make renewable energy technologies more affordable and increase the amount of renewable energy used in Australia. ARENA invests in renewable energy projects, supports research and development activities, boosts job creation and industry development, and increases knowledge about renewable energy. ARENA is currently supporting more than 200 projects and is actively seeking new projects to support.

### **For more information:**

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