

## **ASX Announcement**

**Tuesday, 8<sup>th</sup> September, 2015**

### **Perth Project Update**

- **CETO 5 Unit #1 successfully swapped for Unit #2**
- **Unit 1 redeployed for post-winter, final data collection**
- **13,500 Unit operational hours now achieved**

**Wave energy developer Carnegie Wave Energy Limited (ASX: CWE) is pleased to announce it has successfully demonstrated the ability to swap CETO units during plant operation by retrieving the second CETO 5 unit and deploying CETO unit #1 in its place last week.**

The retrieval of the second CETO 5 unit was informed by lessons learnt during the successful retrieval of the first CETO 5 unit earlier this year. As with the first unit, CETO 5 Unit #2 was retrieved on its first attempt by disconnecting the Unit from the seabed foundation, using the hydraulic “quick connect” technology. CETO 5 Unit #1, which had been inspected and overhauled over the past months, was then installed in the former position of Unit #2.

This operation was deliberately carried out in the higher sea state conditions that tend to prevail off the Western Australian coast between July and September. It demonstrates the ease at which the CETO system can be installed and retrieved and its interchangeability across multiple unit locations. Both of these factors are important for future operation and maintenance activities.

Carnegie Chief Operating Officer, Greg Allen, said,

“The successful retrieval of the CETO units after record breaking operational hours has validated Carnegie’s installation and retrieval methodology. We have shown that our units are able to survive and operate over a sustained period of time in a variety of weather conditions, addressing the key industry challenges of survivability and reliability.”



**Diver inspecting Unit #2 stab connection after Unit release**



**CETO 5 Unit #1 prepared for deployment in floating dock at the AMC, Henderson, WA**

The Perth Project has now been operating for over 13,500 cumulative hours. This is the longest continuous period of operation of any in-ocean wave power plant anywhere in the world. Carnegie has also now successfully retrieved two out of its three installed units, as well as now successfully re-deployed the first unit. The redeployed CETO 5 Unit #1 is now in a final, post-winter data collection campaign.

The learnings from these operation and maintenance activities are being fed into the design phase for the CETO 6 Project at Garden Island.



Retrieved CETO 5 Unit #2 quayside at the AMC (L); refurbished CETO 5 Unit #1 being towed from Henderson (R),

### **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.

### **Perth Wave Energy Project ('PWEF') Fact File**

- PWEF is the world's only operating commercial-scale CETO grid and desalinated water connected wave energy project.
- The Perth Wave Energy Project is supported by \$13.1m funding from the Australian Renewable Energy Agency.
- PWEF is supported by \$7.3 million from the Government of Western Australia's Low Emissions Energy Development (LEED) Fund. This is part of a larger \$10 million LEED grant, awarded to Carnegie by the Western Australian Government, to support the development of the CETO technology from concept through to completion of PWEF.
- The Desalination Pilot is supported by a \$1.27m AusIndustry grant from the Clean Technology Innovation Program.

Providing clean, renewable energy and potable desalinated water to 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.

### **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 in Australian Government grant funding through 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.

### **For more information:**

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