

ASX Announcement

Thursday 12th March 2015

Final CETO 5 Unit Installed and Operating

- Full array of three CETO 5 units now operating at Perth Project site
- CETO 5 units combined total of 4,000 operating hours
- Power now being supplied to Department of Defence

Wave energy developer Carnegie Wave Energy Limited (ASX: CWE) is pleased to announce that the third and final CETO 5 wave energy unit has been successfully installed and is operating at its Perth Wave Energy Project site off Garden Island, Western Australia.

The third CETO 5 unit was installed successfully at the project site last Saturday and has since been operating alongside the two other CETO 5 units. The first CETO 5 unit has now been operating for over 2,700 hours, with the second CETO 5 unit completing 1,200 operational hours. During the 4,000 operational hours the units have experienced a range of sea states, including waves up to 4m in height.



The three unit CETO 5 array operating off Garden Island, Western Australia



CETO 5 Unit #3 being lowered into the water on the floating dock at the Australian Marine Complex, Henderson, WA



Vision from Remote Operated Vehicle (ROV) camera subsea on deployment vessel

The planned retrieval and onshore inspection of one of the two existing CETO 5 units at the same time as the deployment of the third was deferred to allow an initial period of time where all 3 units could operate together. This deferral decision was made due to the continued positive operations of the first two CETO 5 units. The retrieval of one of the first two CETO 5 units is still a planned activity to be completed in the next 30-60 days.

Carnegie's Managing Director, Dr Michael Ottaviano, said:

"The successful installation of our final CETO 5 unit is the final step in the delivery of the Perth Wave Energy Project. Having the only operating wave farm in the world is an enormous achievement for Carnegie and its stakeholders. The integration of multiple wave energy converters is critical to demonstrating the principles of future CETO wave farms. Now all three units are integrated and operating we can begin to operate the power plant as intended and understand how the system operates across a range of sea states and settings."

Next Steps

The Perth Wave Energy Project will now operate through the 2015 calendar year. During the year, Carnegie's engineers will carry out various operational tests and calibrations to test and understand the system operation under various settings and conditions. The important data collected will inform the design and delivery of the CETO 6 project. The recently announced grid commissioned desalination plant will now also undergo integration into the wave farm to allow zero-emission freshwater to be produced.

Background

The Perth Wave Energy Project has been under construction for approximately 12 months beginning with the installation of the CETO 5 unit offshore foundations last summer. The construction was preceded by some 2 years of design, approvals, offtake, financing and procurement activity. More than \$30m has been invested in the design, development and construction of the project. The CETO technology takes a unique approach to wave power by generating both power and water from the ocean swell while remaining fully submerged beneath the ocean surface, increasing its ability to survive large storms.

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.

About ARENA

The Australian Renewable Energy Agency (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.

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. The technology is capable of generating power onshore or offshore depending upon the specific characteristics of a project site.

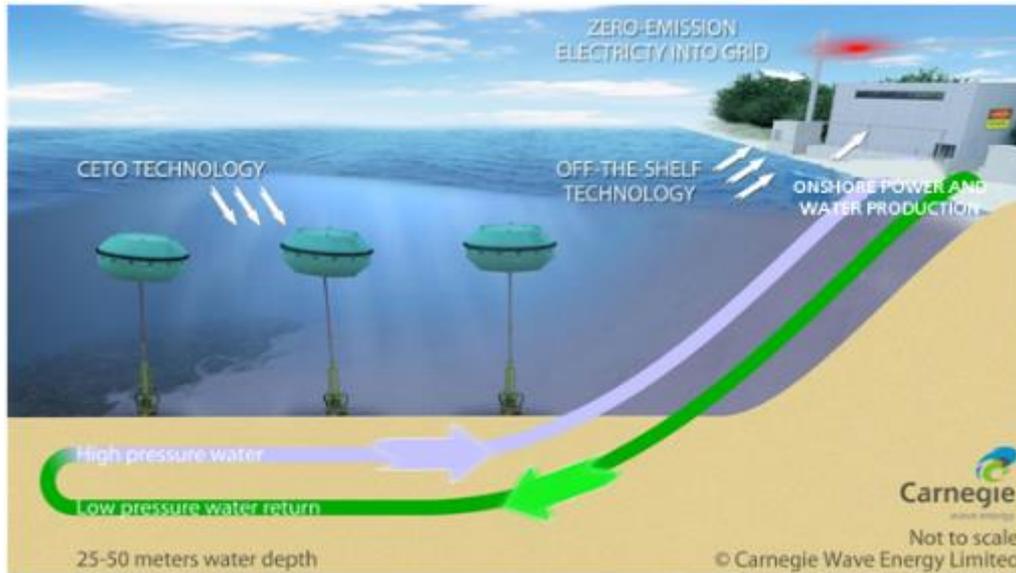
CETO technology characteristics include:

- 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, and unaffected by storms.

Perth Wave Energy Project ('PWEF') Fact File

- Upon completion, PWEF will be the first 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.

The CETO 5 technology being utilised in the Perth Wave Energy Project (PWEF) is configured to utilise the CETO pumps to pressurise water and deliver it onshore via an underwater pipe. Then, onshore, high-pressure water is used to drive hydroelectric turbines, generating zero-emission electricity. The high-pressure water can also be used to supply a reverse osmosis desalination plant, replacing or reducing reliance on greenhouse gas-emitting, electrically-driven pumps usually required for such plants.



CETO 5 (Perth Wave Energy Project) Power & Water Schematic

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