

## ASX Announcement

28<sup>th</sup> September 2016

### **ARENA Commits \$2.5m for World First Microgrid Project**

**Wave energy developer Carnegie Wave Energy Limited (ASX: CWE) is pleased to announce that it has been awarded \$2.5 million from the Australian Renewable Energy Agency (ARENA) to support the world's first solar, battery and wave integrated microgrid project.**

The Project will involve the construction and installation of a 2MW solar PV array, a 2MW/0.5MWh battery energy storage system and control system both to be integrated with Carnegie's CETO 6 technology and existing desalination plant. The Project will also include augmentation of the grid connection and is supported by Western Power, the network operator who builds, maintains and operates the main electricity network in WA.

The Project will begin construction before the end of 2016 and be commissioned in the first half of 2017. Designed to operate in "on-grid" mode in parallel with the Western Australian electricity network and in "islanded" mode, isolated from the grid, this Project will act as a template for remote islands and fringe of grid communities globally.

ARENA CEO Ivor Frischknecht said, the landmark project is expected to demonstrate the viability of integrating a renewable energy based microgrid with a utility-scale distribution network.

"ARENA is excited to help local companies, like Carnegie, develop new renewable energy solutions that have the potential to change the way the world generates power."

Carnegie's Managing Director and Chief Executive Officer, Dr Michael Ottaviano said,

"The Garden Island Microgrid Project will be the first time anywhere in the world that wave energy will be combined with solar and batteries in a microgrid configuration. The demonstration of this microgrid project will help drive the commercialisation of CETO and will be a model we will roll out to island nations around the world. We look forward to completing the outstanding elements of the Project including final approvals, construction award and power offtake in order to commence the Project, as soon as possible."

ARENA's innovative funding package for the estimated \$7.5m Project is comprised of a grant of \$0.7 million, followed by \$1.8 million of convertible note funding. The ARENA convertible notes will prima facie be unsecured debt with 0% interest over a 6 year term and can be converted by ARENA to ordinary shares in Carnegie at a conversion price of \$0.053 per share. The balance of funding will be provided by Carnegie equity and a project finance facility from the Commonwealth Bank of Australia.

The award of funding is conditional upon the completion of detailed design, award of the engineering, procurement and construction (EPC) and operations and maintenance (O&M) contracts, approvals and permits, power off-take agreement and Department of Defence approval.

The Company is not aware of any reason why the ASX would not allow trading to recommence immediately.

## **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. Carnegie also owns 35% of leading Australian battery/solar microgrid Engineering Procurement and Construction (EPC) company EMC, with whom Carnegie has a Strategic Alliance agreement, focused on delivering mixed renewable energy microgrid projects to islands and remote and fringe of grid communities.

## **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:

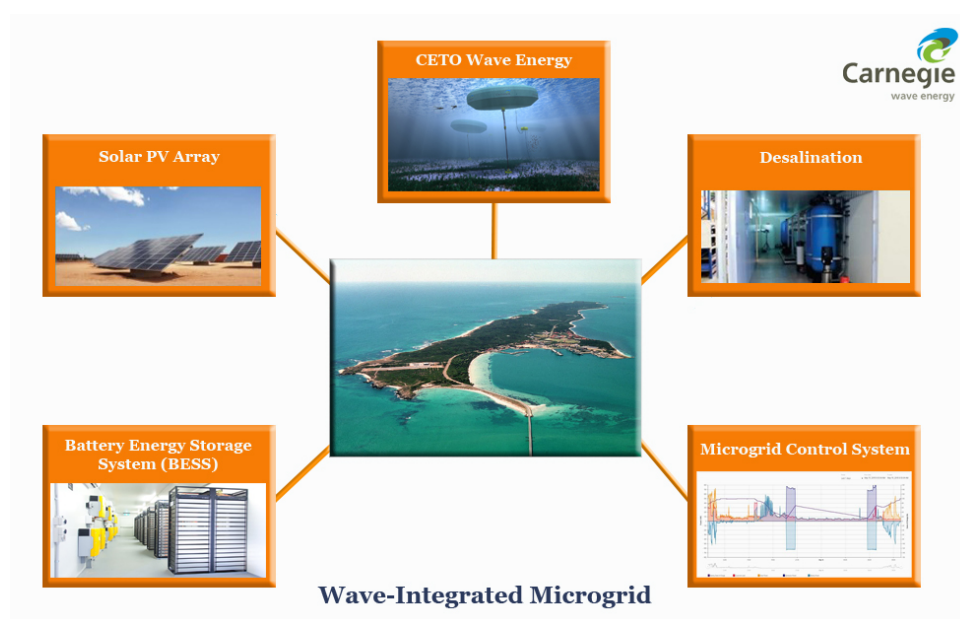
- Converts ocean wave energy into zero-emission electricity and directly desalinated water.
- Environmentally friendly, has minimal visual impact and attracts marine life.
- Fully-submerged in deep water, away from breaking waves and beachgoers.

## **Microgrids**

A microgrid is a discrete energy system made up of distributed energy sources that are capable of operating independently from the main power grid.

Renewable microgrids that combine multiple renewable energy generation sources (e.g. solar, wind and wave) take advantage of different renewable energy profiles at different times of day, and with different seasonal variation, to reduce the amount of energy storage and diesel generation required.

Renewable microgrids can be used to cut costs, cut greenhouse gas emissions, and in the case of high penetration renewable microgrids, allow communities to be more energy independent and more environmentally sustainable. The precise mix of renewable sources, energy storage, fossil fuel and desalination will depend on the mix of renewable resources available locally and the needs of the customer.



### **About ARENA**

ARENA was established by the Australian Government to make renewable energy technologies more affordable and increase the supply of renewable energy in Australia. Through the provision of funding coupled with deep commercial and technical expertise, ARENA provides the support needed to accelerate the development of promising new solutions towards commercialisation. ARENA invests in renewable energy projects across the innovation chain and is committed to sharing knowledge and lessons learned from its portfolio of projects and information about renewable energy. ARENA always looks for at least matched funding from the projects it supports and to date has committed \$1.1 billion in funding to more than 270 projects. For more information, visit [www.arena.gov.au](http://www.arena.gov.au).

### **For more information:**

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