

ASX Announcement

5 November 2013

Award of Manufacture and Construction for Desalination Pilot Plant

- **Desalination Plant to be manufactured by Perth-based MAK Industrial Water Solutions**
- **Will be the first direct wave powered electricity and desalination plant globally**
- **Capacity equivalent to 1/3rd of HMAS Stirling Naval Base water demand**

Wave energy developer, Carnegie Wave Energy Limited (ASX: CWE), is pleased to announce the award of the manufacturing and construction contract for its wave powered Desalination Pilot Plant to Perth-based Mak Water Industrial.

The desalination pilot plant will be integrated into Carnegie's Perth Wave Energy Project on Garden Island, Western Australia. The desalination pilot will demonstrate, for the first time globally, the production of both power and freshwater from the ocean's waves. The plant will have the capacity to supply up to 1/3rd of the water needs of Australia's largest naval base, HMAS Stirling, located on Garden Island.

The manufacturing and construction contract has been awarded to MAK Industrial Water Solutions. MAK Industrial Water Solutions is an experienced provider of reverse osmosis desalination solutions throughout Western Australia and nationally. It has a particular focus on containerised sea water reverse osmosis desalination plants. The contract of construction for the Onshore Plant building and civil works will be awarded separately.

Carnegie's Desalination Project Manager, Edoardo Sommacal, said:

"We are very pleased to have reached this important milestone of design completion and to now move into desalination project manufacture and construction which is scheduled to be complete in the first half of 2014."

Onshore site works for both the power and desalination plants have now commenced.



Underground storage tanks delivered to site, Garden Island

Carnegie recently announced the completion of the detailed design of the desalination plant. The plant leverages the CETO wave energy hydraulic system infrastructure being installed at the Garden Island site. The detailed design phase also involved environmental investigation which has been completed to provide baseline data to monitor on-going Carnegie site activity, as well as assisting and informing design and construction phases of the combined project.

The Desalination Pilot Project is supported by \$1.27m in Federal Government grant funding from AusIndustry's Clean Technology Innovation Program of which \$320,000 of this grant funding has now been received.

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 CETO



The CETO system is different from other wave energy devices because it operates under water and is anchored to the ocean floor. Several fully submerged buoys are tethered to seabed pump units. The buoys move with the motion of the passing waves and drive pumps. The pumps pressurise water which is delivered onshore via an underwater pipe.

On the shore, 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 the reliance on greenhouse gas-emitting, electrically-driven pumps usually required for such plants.

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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 Australia's first commercial-scale CETO grid-connected wave energy project.
- The project is supported by \$13.1m in Australian Government funding through the Australian Renewable Energy Agency's Emerging Renewables Program.
- 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.
- Utilising Carnegie's fully submerged and commercial proven CETO wave energy device.
- Providing clean, renewable energy to Australia's largest naval base, HMAS Stirling, on Garden Island in Western Australia.
- Providing potable desalinated water.

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