

ASX Announcement

Tuesday March 22, 2016

Carnegie & EMC Investment and Alliance Agreement

- **Carnegie invests \$4.5 million to take a 35 per cent stake in profitable solar & microgrid business Energy Made Clean (EMC).**
- **Deal composed of \$1.5 million in Carnegie shares and \$3 million in cash.**
- **Provides Carnegie additional exposure to global microgrid market currently undergoing transformative growth.**
- **Fast tracks both companies' ability to deliver microgrid combinations of wave, solar, wind and energy storage globally.**

Leading wave energy developer, ASX-listed Carnegie Wave Energy Limited (Carnegie), has signed an investment and alliance agreement with Western Australian-based Energy Made Clean (EMC) – proven specialists in the delivery, construction and operation of microgrids, commercial scale solar projects and energy storage systems.

The agreement will see Carnegie invest \$3 million in cash and \$1.5 million in shares to take a 35 per cent stake in EMC with the two companies forming an alliance to share resources, skills and expertise to bring a wider range of renewable energy offerings to the Australian and international markets.

The companies' will also have a joint focus on the delivery of a combination of renewable technologies such as solar, wave, wind and energy storage in the form of microgrids to islands, off-grid and grid-connected communities.

Carnegie Chief Executive, Dr Michael Ottaviano, said in addition to the joint microgrid focus, Carnegie's investment in EMC also accelerates the commercialisation of CETO in island markets and gives the organisation a stake in a growing, profitable business in a rapidly growing market.

"The global microgrid market is estimated to be worth US \$40 billion by 2020, up ten-fold from 2013," he said.

"EMC itself is experiencing rapid growth and is likely to exceed \$15 million in turnover this financial year, up from \$5 million in 2014/15.

"Combined with Carnegie's own CETO technology, technical capability, ASX structure, governance and international reach we will now have the capability to finance, construct, own and operate commercial scale wave-integrated renewable microgrid solutions globally.

“We are already actively working together on this now.”

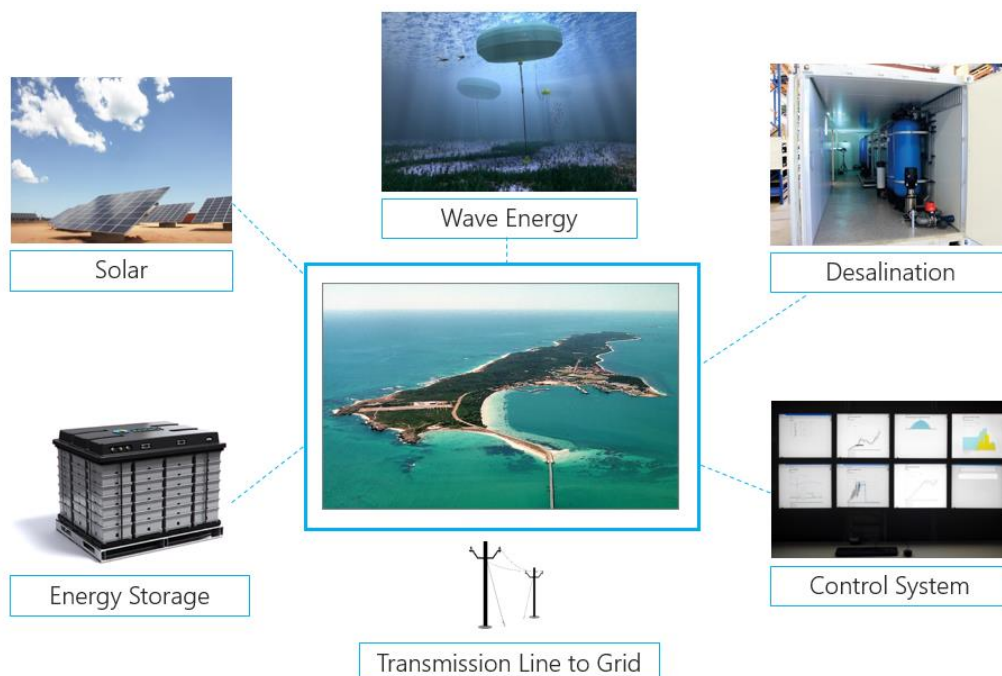
Dr Ottaviano said EMC has a demonstrated history of delivering advanced commercial-scale solar and microgrid projects in Western Australia.

Examples of recent and current EMC projects include:

- Solar, battery and diesel microgrid project with remote monitoring on Mackerel Island off the coast of Onslow in Western Australia.
- Engineering, procurement and construction of a 1.6MW solar plus 2.4MWh battery array for the CSIRO’s Australian Square Kilometre Array Pathfinder.
- Construction of a 600KW solar farm on Rottnest Island, Western Australia.
- Delivery of a 1.1MWh battery for Western Australian power retailer Synergy in Alkimos Beach.
- Development and delivery of a 300kW solar farm in Carnarvon, Western Australia.

“Our strategy for island markets is to deliver CETO as part of an integrated microgrid solution,” Dr Ottaviano said.

“Having already won and kicked off a package of work in Mauritius, including the delivery of a wave-integrated microgrid, I’m delighted to have EMC on board to assist in the delivery of this project.



Carnegie and EMC will deliver microgrids that are combinations of renewable power sources with energy storage, control systems and the option of desalination.

“The significant minority investment structure and alliance agreement delivers both parties the benefits of close cooperation with alignment of interests whilst allowing each to focus on their core business - for Carnegie that remains the commercialisation of CETO.”

The Carnegie-EMC alliance comes at a time of record investment in clean energy more generally with \$329 billion spent in 2015 – up some 14 per cent from the previous year.

EMC Managing Director John Davidson said the timing of the strategic alignment coincides well with EMC’s growth trajectory.

“It will provide EMC with the capital we need to fast track our growth, as well as an international reach, giving further confidence to our customers who are increasingly public utility and government organisations,” he said.

“There are clear synergies between what both organisations are trying to achieve and I look forward to working alongside Carnegie to deliver innovative clean energy solutions globally.”

TRANSACTION TERMS

The deal terms will see Carnegie Wave Energy Limited invest \$1.5 million in Carnegie shares and \$3 million in cash to acquire a 35 per cent stake in Energy Made Clean Limited (via EMC Solar Construction Pty Ltd).

Carnegie will become a party to the EMC shareholders agreement and have a seat on the board of directors. The \$1.5 million of Carnegie shares will be escrowed such that 80 per cent of them cannot be sold within the first 12 months.

As part of the deal a strategic alliance was also signed to develop renewable energy projects through sharing resources, skills and expertise to bring a wider range of offerings to the Australian and international markets with Carnegie now being able to offer a full suite of renewable energy technologies to the markets it deals with.

The companies’ will also have a joint focus on the delivery of a combination of renewable technologies such as solar, wave, wind and energy storage in the form of microgrids to islands, off-grid and grid-connected communities.

The transaction is subject to some conditions precedent including the approval of the EMC Limited shareholders which will be voted on at an Extraordinary General Meeting within 30 days. The transaction is expected to be completed within 15 days of that meeting.

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

FACT FILE

Carnegie

[Carnegie Wave Energy Limited](#) is an Australian, ASX-listed (ASX: CWE) wave energy technology developer. Carnegie is the 100 per cent 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.

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.

Energy Made Clean

EMC Solar Construction and EMC Engineering are a part of the Energy Made Clean Limited group of companies. EMC delivers practical commercial solutions to energy and carbon issues and works with corporate and government organisations of all sizes with the goal of deploying innovative and robust clean energy solutions to improve the energy profile of clients. www.energymadeclean.com

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.

For more information:

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IMAGE FILE



EMC's Mackerel Island project incorporating 320kW of sola, 640kWh of lithium ion battery storage and four back-up generators



Battery storage at EMC's Mackerel Island project.



EMC's 300kW Carnarvon solar farm, Western Australia.

REFERENCES

Navigant Research, Microgrid Report, 2015.