CARNEGIE CLEAN ENERGY

ASX ANNOUNCEMENT [ASX:CCE]

Report to Shareholders

Quarter Ended 30 June 2020

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QUARTER HIGHLIGHTS

- Completed wave tank testing in Spain to validate Carnegie's Wave Predictor
- Tank test data analysis underway with preliminary indications data quality is suitable
- Selected as representative to international marine energy standards committee
- Exec team and Board engaged with external business consultant to review and update the company's business plan and strategic pathway
- Commenced involvement in Blue Economy Cooperative Research Centre scoping studies

This past quarter, the Carnegie team continued progressing the Digital Development Pathway whilst working remotely for much of the quarter due to COVID-19. The digital work being undertaken was largely able to proceed remotely, however the timing of certain activities such as wave tank testing and recruitment were impacted.

ISSUED 30 July 2020

CETO DEVELOPMENT

CETO - Core Development

Wave Predictor Tank Testing

In July, Carnegie undertook a wave tank testing campaign at the Cantabria Coastal and Ocean Basin in Spain in order to generate detailed physical wave data that will be used to validate Carnegie's machine learning based Wave Predictor. With the wave predictor originally trained using virtual wave data generated by the supercomputer, the tank testing campaign has delivered physical wave data measured by an array of wave sensors installed in the tank. The extensive physical data gathered through this campaign is now being used to validate the Wave Predictor's accuracy in wave conditions similar to those encountered at potential offshore deployment sites for CETO.

The tank testing was financially supported by the Marinet2 programme. This initiative, funded by the European Commission, provides highly subsidised access to relevant European research infrastructure related to offshore renewable energy research.

Due to current travel restrictions, the Carnegie team was not able to physically attend the testing campaign, but daily calls were held together with sharing of data, videos and photos from each day. This allowed Carnegie to engage in the progression of the test and provide direct feedback to the operational team at Cantabria. Over the course of the testing campaign, over 200 wave tests were run, generating over 15 GB of physical data. The tests covered a range of wave conditions, which reflect potential deployment sites for the CETO technology.

Cantabria Wave Basin during testing (left) and Carnegie engineering analysing data produced during the testing (right).

Now that the tank testing is complete, Carnegie is busy using the wealth of new physical data generated. This campaign is an important milestone in the development of the Wave Predictor, as it will allow Carnegie's analysis team not only to validate the tool, but also to further optimise it. As with any sensor-measured information, the data generated at the

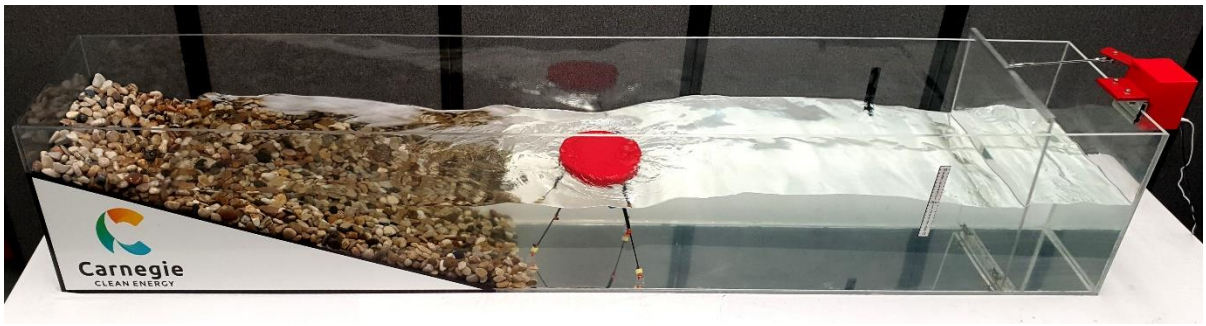
CCOB includes noise and other "real world" imperfections, which the wave predictor needs to cope with to allow its use in the CETO control system and other industrial applications. This will allow Carnegie's engineers to take a step beyond what had been achieved with numerical data, and to make the tool ocean-ready.

Early assessment indicates that the quality of the data is suitable to validate and optimise the Wave Predictor. Over the coming months the analysis team will be working to fully process the data and finalise the validation of the tool.

This is a significant step in Carnegie's Digital Development Pathway as the Wave Predictor is part of the suite of products which enables the development of Carnegie's Intelligent Controller which will optimise the performance of the CETO technology and enable system cost reductions.

New Carnegie Demonstration Wave Tank

During the quarter, Carnegie's Engineering Intern designed and built a small demonstration wave tank which can be used as a tool to demonstrate wave energy and the CETO technology to new staff, partners and stakeholders, either in-person or through virtual methods. This small scale tank is scaled to approximately 100th the size of full-scale and while primarily an educational tool, it is built to a standard to enable scientific and testing applications in the future.



Carnegie's demonstration wave tank

Power Take Off Development

The Carnegie team also continues progressing the power take off (PTO) innovation stream, a core element of the CETO technology. During the quarter this has included ongoing engagement with electrical generator suppliers in search of the optimum product and collaborative discussions with other wave energy converter developers on the development of the translation system, including exploring possibilities for jointly funded developments in this area. The team has also been progressing the development of the mooring tensioner with key industry partners.

Recruitment

Carnegie is currently recruiting for a Drivetrain Engineer to join the team and support the development of Carnegie's CETO power take-off technology. For further information please see the careers page on the Carnegie website.

CETO Collaborations

In June, Carnegie announced its involvement in four short-term scoping projects recently awarded funding by the Blue Economy Cooperative Research Centre (BECRC). The BECRC is coordinating a $300m+ programme to advance Australia's blue economy in the areas of seafood production, marine renewable energy and offshore engineering. These projects involve collaboration over the next 6 months between industry and academia and will serve to guide the BECRC's future work programme and funding allocations. Carnegie is a partner in the following projects:

- Offshore/High Energy Sustainable Hybrid Power Systems
- Operational modelling for offshore aquaculture & energy
- Blue Economy Biofouling Challenges and Possible Solutions
- Integrating Blue Economy Governance Integrity Research

Over the next 6 months, Carnegie's team will contribute expertise to these projects through a modest amount of staff time which will help guide the direction of future BECRC research. Carnegie expects the research outcomes from these projects to deliver increased knowledge in relation to integration of wave energy in the blue economy.

An offshore aquaculture installation. Courtesy: Blue Economy CRC

During the COVID-19 lockdown, Carnegie and University of Adelaide continued its long-standing virtual collaboration on a number of topics of mutual interest which present opportunities for improvement in the wave energy industry. One of these key areas is around

the development of control strategies for wave energy converters which could feed into the intelligent control work being done by Carnegie. The recent work undertaken during lockdown has led to a co-authored research paper that has been submitted for peer review and publication. In addition, Carnegie and University of Adelaide continue collaborating on other topics such as optimisation of large wave energy arrays which was presented by University of Adelaide at the Genetic and Evolutionary Computation Conference 2020 and was awarded the Best Paper Award in the Real-World Application track.

Carnegie also continues progressing its ongoing collaborations with University of Western Australia including combined efforts on the recent tank testing campaign and on foundation cost optimisation for CETO arrays. Other key industry collaborations include targeted research projects through Wave Energy Scotland and the Australia-China Joint Research Centre of Offshore Wind and Wave Energy Harnessing led by University of Adelaide.

Australian Representative to International Standards group

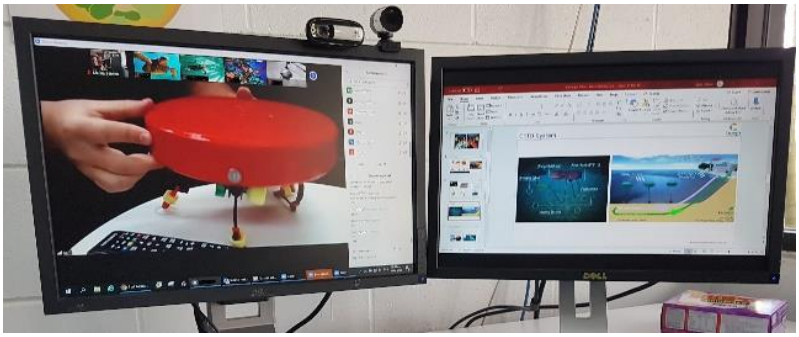
Australia recently became a full member of the IEC TC 114 – the International Electrotechnical Commission's Technical Committee on marine energy. This international committee is developing international standards for marine energy covering wave, tidal and other water current converters.

Carnegie's Chief Technology Officer, Alex Pichard, was selected as one of Australia's industry representatives. Carnegie is excited to represent the growing Australian ocean energy industry in this international forum and provide Australia an opportunity to have a voice in the development of standards for wave energy converters worldwide.

Virtual Engagement

During the quarter, with many people across the world working and learning from home, Carnegie was pleased to be able to continue its ongoing collaborative activities, industry representation and outreach through a range of virtual methods.

As a recent example of engagement, Carnegie was invited to teach students from Katherine School of the Air in the Northern Territory about wave energy and CETO technology as part of their virtual science week. This was a great opportunity to teach kids about wave energy and how we can capture and use it to help decarbonise our energy system.



Carnegie Engineer virtually teaching students about the CETO technology

COVID 19 Impacts

At the start of the quarter, the Carnegie team was still working remotely due to COVID-19 and had settled into a routine with ongoing virtual team engagement both internally and with Carnegie's Australian and international collaborators. During the quarter, the team transitioned back to the office and adopted safe COVID-19 work practices.

Fortunately, the CETO Digital Development Pathway has largely been able to proceed as planned given the nature of the work being undertaken. However, COVID-19 has had and continues having some negative impacts on the Digital Development schedule. For instance, Carnegie's wave tank testing which was scheduled to occur at the Cantabria Coastal and Ocean Basin in Spain in May had to be delayed and it was unclear when this would be able to proceed. Carnegie was fortunate to have testing rescheduled for July, however, due to travel restrictions, the team was unable oversee the testing on site. With support from the IH Cantabria team in Spain, the testing was able to be undertaken with excellent communication to Carnegie's engineers in Perth.

COVID-19 has also impacted recruitment in cases where the best candidates for specialist engineering positions are not already located in Western Australia. During this period, Carnegie has found ways to remotely engage with some specialists in order to enable key activities to progress. One of the specialist engineers recruited to feed into the CETO architecture milestone was recruited but is currently located overseas and has been unable to join the team in WA. With borders still closed, Carnegie elected to commence this engineer's work remotely which is enabling this work to proceed; but the time lost is impacting the timing of some activities in the upcoming milestones.

By the end of Q3 2020, the Digital Development Pathway is expected to deliver key milestones related to the development of the Intelligent Controller, PTO concept and CETO architecture. Significant progress is being made along each of these milestone workstreams and will be reported upon at the end of Q3 2020.

Each of these milestone workstreams are comprised of a range of activities. Unfortunately, the COVID and recruitment delays are likely to push completion of some of those activities into the following quarter. For instance, the two-month delay to the tank testing campaign will have a knock-on impact to activities feeding into controller development and the recruitment delays are impacting some of the CETO architecture activities. Carnegie is working to mitigate these challenges and will continue to update shareholders.

GARDEN ISLAND MICROGRID

During the quarter, the Garden Island Microgrid was temporarily disconnected as part of Department of Defence's base-wide electrical system upgrade on HMAS Stirling. The previously indicated electrical upgrade is part of the larger 3A base redevelopment, with more than $350m being spent on the island by the Department of Defence. The system will remain disconnected whilst the works are ongoing at Carnegie's connection point into the Defence system. Carnegie continues working with Defence and its contractors to minimise the impact of this temporary disconnection in terms of both time and cost. Carnegie anticipates that the system should be reconnected in the current quarter, however this is subject to progress on Defence's upgrades and is largely outside Carnegie's control. The net of costs and lost revenue associated with the reconnection process is so far consistent with expectations. Once completed, Defence's upgraded electrical system will support more streamlined operations of the Garden Island Microgrid.

Garden Island Microgrid

CORPORATE ACTIVITIES

As previously mentioned, the Carnegie team was working remotely at the start of the quarter due to COVID-19 but was fortunate to be able to largely continue work on the Digital Development Pathway with some inevitable modifications and delays. Following the relaxing of COVID-19 restrictions in Western Australia, the team returned to the office during the quarter in a COVID safe way.

Carnegie has also been working with an external business consultant to update its strategic business plan including refreshing the company's vision, mission and detailed internal strategic focus areas and actions. This also includes a refresh of Carnegie's website which is expected to be launched in the current quarter.

Financial Notes

At the end of the Quarter, the Company had approximately $3.4 million in cash reserves.

Note 6 to Appendix 4C:

Payments to related parties of the entity and their associates were made during the quarter. In total, approximately $65,000 was paid to Directors and associates for salaries, superannuation and contracted services.