

Business Strategy and Plans

Carnegie Clean Energy Limited (Carnegie or the Company) proposed business strategy is detailed below. Refer to the prospectus dated 31 July 2019 for further details.

(a) Overview

Following completion of the Recapitalisation Proposal, Carnegie will pursue a revised business strategy focusing on:

- (i) undertaking concentrated research and development activities to optimise the CETO Unit design, by applying machine learning (artificial intelligence), new low-cost electrical generators, optimised system configuration and modern hydrodynamic approaches;
- (ii) within the next 18 months, constructing a complete digital prototype CETO Unit incorporating the design improvements detailed in (a)(i);
- (iii) over the next two years, pursuing a partnership with an OEM equipment manufacturer or other commercial partners to contribute funding and expertise to decrease the costs of producing CETO Units to a competitive level and increase market opportunities in the long term;
- (iv) in the next two to three years, identify and engage with utility scale partners to construct and/or utilise CETO Units on a commercial scale; and
- (v) ultimately generating shareholder value through royalty or license agreements in respect to the CETO Technology.
- (vi) The Company will also seek to generate revenue from the GIMG asset via the potential production and sale of electricity generated at the GIMG to the DoD.

Further details of the business strategy for CETO and GIMG are detailed below.

(b) CETO

Building upon the significant intellectual property accrued to date, Carnegie will continue to pursue the development of the CETO Technology along the following streams:

- (i) improvement in yield and reduction of costs using artificial intelligence and, more specifically, machine learning techniques;
- (ii) electrification of the PTO generation system and enhancement of the associated rotary translation system, which converts the linear motion of the buoy into rotary motion suitable for an electrical generator;
- (iii) enhancement of the computational models and linking them into a complete digital prototype whereby the full system can be near-realistically simulated under most, if not all scenarios;
- (iv) electric PTO subsystem testing and wave tank testing of the technology;

- (v) seek partnerships with industry participants, capable of improving efficiencies in key components such as the foundation and mooring systems; and
- (vi) collaboration with a development partner or technology licensee to prepare the next deployment site, probably either in Australia or in Europe, to demonstrate the new generation of the CETO Unit.

For the remainder of 2019 Carnegie will seek to further develop some innovations that recently became more tangible. These include the use of machine learning (a subset of artificial intelligence), advanced electrical generators derived from the electric vehicle sector and adaptive hydrodynamic techniques. The Company will seek to integrate these innovations into the CETO Technology with an aim to reducing project and technology costs and increasing power production - to seek to achieve the benefit of reducing the capital demands of a demonstration project and create a more competitive product. The latter part is critical to ensure the CETO Unit has the potential to follow the deployment rates of the successful offshore wind industry that has more than 22,000 MW of deployed capacity and deployed approximately 5,000 MW in 2018. Within the next 18 months, Carnegie seeks to deliver an improved CETO 6 Unit prototype, integrating these innovations and demonstrating performance improvement.

Within the next two years, Carnegie intends to pursue a partnership with a large OEM to contribute funding and expertise to decrease the costs of producing CETO Units to a competitive level and increase market opportunities in the long term. Carnegie aims to mitigate the capital demands on Carnegie with respect to the development and commercialisation of the CETO Technology through such partnerships.

In the medium to long term and subject to the delivery of the digital CETO prototype, Carnegie will seek to derive value from CETO Technology by entering into license fee or royalty arrangements in respect of the CETO Technology. Carnegie will also seek out partners to construct and/or utilise CETO Units on a commercial scale.

Carnegie will also continue to seek relationships with key industry participants who have assisted in the CETO Technology development. The Company will seek to utilise collaboration alliances with CSIRO / Pawsey, University of Western Australia, Enel Green Power and the University of Edinburgh to assist in the development of the CETO Technology. Additionally, Carnegie has been consulting to various marine energy proponents and will continue to seek to develop this potential income stream.

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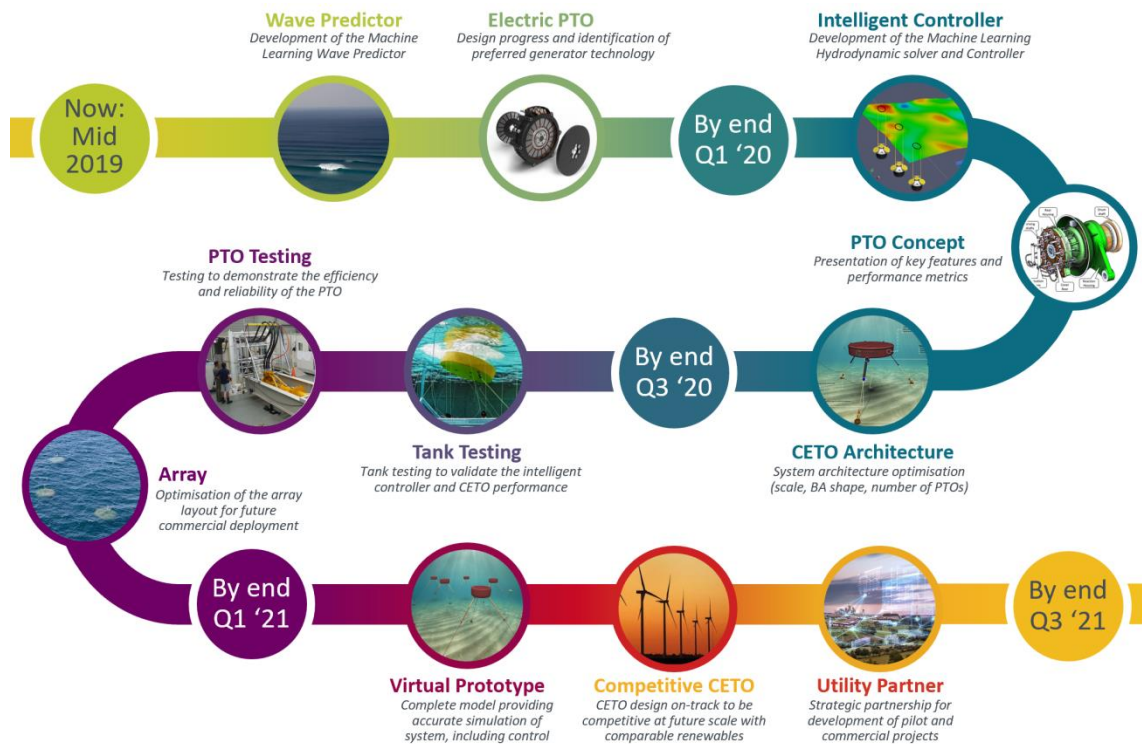


Figure 1 - Targeted development pathways

In formulating the new business strategy for the continued development of CETO, the Board has identified the following key milestone targets:

(i) Quarter 1, 2020

In early 2020, Carnegie will seek to conclude the first step of its work towards developing an "intelligent wave energy converter" and deliver the wave predictor tool (Wave Predictor), a piece of machine learning (ML) software that aims to predict the precise shape and strength of each wave up to 30 seconds before it reaches a CETO Unit. This is a crucial step towards the development of an ML controller (ML Controller) that aims to unlock improved economics through improving performance and reducing costs. In addition to its key role in the CETO Technology development, the Wave Predictor could also potentially be a product with applications outside wave energy in industries such as shipping, aquaculture and offshore construction. During this initial period, Carnegie will also seek to improve its PTO design, with the aim of reducing the cost and complexity of the technology. This will involve engagement with the electric vehicle (EV) supply chain that is making rapid gains in mass produced, low cost, high efficiency electric motor/generator units.

(ii) Quarter 3, 2020

Carnegie will seek to finalise the balance of its ML tools, delivering an ML hydrodynamic solver (ML Solver) and an ML Controller. The purpose of the ML Solver is to solve Computational Fluid Dynamics (CFD) problems in real time which traditional software would take days to solve. The ML Controller, utilising the output of the Wave Predictor and ML Solver optimises the forces exerted by the PTOs to

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aim to maximise wave energy absorption. Comparable studies show that optimised force control can potentially increase energy absorption.

During this period, Carnegie intends to have updated the design of the PTO elements that work together with the selected electric generator such as the rotary translation system and spring. At the end of this period, Carnegie is aiming to demonstrate progress to shareholders by presenting PTO key features and performance metrics.

In addition, Carnegie aims to be in a position to present the key characteristics and the system architecture of the optimised CETO Technology which would be deployed in future commercial projects. This will include the optimised unit dimensions, buoyant actuator shape and number of PTO's. Carnegie will also seek to have optimised the CETO Technology to incorporate additional innovations allowing the CETO Unit to shed high loads during extreme storms thus reducing capital costs by avoiding expensive overdesign which would otherwise require larger components, such as larger mooring systems and foundations. This work will be undertaken by leveraging existing CETO Technology intellectual property as well as developing new concepts.

Finally, Carnegie is aiming to be in a position to enter an agreement with a strategic supplier for the completion of the detailed design, testing and manufacture of the PTO.

(iii) Quarter 1, 2021

The work conducted to develop the ML Controller will be tested by performing a scaled tank testing campaign, with the aim of demonstrating and validating the improved performance of the CETO Unit when the ML Controller is implemented.

During this period, the Carnegie team will also seek to optimise the array layout for future commercial deployments, including for instance, looking at opportunities to share deployed infrastructure in order to reduce full array and over-all project deployment cost.

A comprehensive testing campaign is targeted for this period, to be conducted on the new PTO concept with the aim of demonstrating its benefits and reliability. This expected to be in the form of small-scale onshore and in-water testing, potentially utilising the company's Rous Head facility.

The Company intends to merge the combined inputs from the prior work to form a digital prototype that can operate in all sea-states, accurately simulate the physics of the system and incorporate the same ML controller logic that would be present on a physical device. Akin to an aeroplane flight simulator, the digital prototype is intended to provide a level of reality that promotes sufficient confidence in Carnegie's partners to fund the first commercial wave farm and any prior requisite demonstration projects.

(iv) Quarter 3, 2021

Upon completion of the proposed two-year development program, Carnegie is aiming to complete the preliminary design of the optimised commercial version of its CETO Unit. Carnegie intends for this CETO Unit to be capable of being competitive with offshore wind energy when deployed at large scale following increasing cumulative deployments during an industry build out. The Company will seek to verify the reliability of the software, controller, subsystems and key components

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thorough physical testing undertaken during the development program. The Company will seek to understand and document the full-system performance, based on evidence from digital prototyping and physical tests.

During this period, Carnegie also intends to provide updated pilot project parameters for the first commercial deployment of the CETO Unit and commercial pathway. This would include specifying the preferred location, the scale and number of CETO Units, project delivery mechanism as well as identifying key potential investors, with the ultimate aim to unlock funding for both a CETO Unit pilot project and the subsequent first commercial wave farm.

(c) **Garden Island Microgrid**

Garden Island Microgrid has commenced operations following approval from the Department of Defence. With approvals in place from the Department of Defence and Western Power (received in late June), Carnegie has officially powered up the system and has commenced producing clean renewable energy for HMAS Stirling, Australia's largest naval base (refer to the ASX announcement dated 23 August 2019 for further details).

The energy being produced on Garden Island partially supports the power demand of HMAS Stirling under an electricity supply agreement between Carnegie and the Department of Defence. Carnegie will continue to work towards optimising the system including ramping up capacity and system functionality.

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