

## Carnegie signs European Wave Energy Contract

- CETO Wave Energy Ireland Limited selected as 1 of 7 contractors for Phase 1 of the €20m EuropeWave PCP
- Contract signed for €291k (A\$463k) for Phase 1 to deliver design and tank testing of the new CETO design in Spain
- Significant progress made since project kick-off in January
- Strong third-party validation of CETO's technical and commercial potential as a source of renewable energy and strong alignment with the Company's strategic objectives

Carnegie Clean Energy (ASX: CCE) ("Carnegie" or the "Company") is pleased to announce that its wholly owned subsidiary, CETO Wave Energy Ireland Limited, has now formally entered a contract under the EuropeWave Pre-Commercial Procurement (PCP) programme, previously announced to the ASX on 8 December 2021 [Carnegie wins European Wave Energy Contract](#).

EuropeWave PCP is an innovative and competitive stage-gate programme designed to advance promising wave energy converter systems to a point from which they can be developed for commercial exploitation through other national/regional programmes and/or private investment.

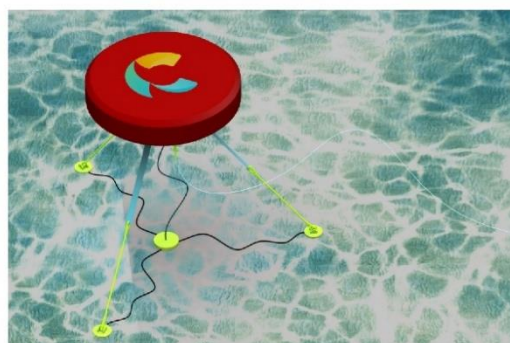
CETO Wave Energy Ireland Limited was selected alongside six other companies to deliver Phase 1 of the programme after meeting rigorous selection criteria including the performance, survivability, availability and affordability characteristics of the proposed systems. The Company will be paid €291k (A\$463k) to deliver required Phase 1 activities including undertaking tank testing and delivering a CETO concept design for deployment at the open-water facilities of the Biscay Marine Energy Platform (BiMEP) in the Basque Country and the European Marine Energy Centre (EMEC) in Scotland in Phase 3. Phase 1 commenced on 3<sup>rd</sup> January 2022 and will run for 7 months.

With almost €20 million in funding for the 3 phases of the programme, which runs from 2022 to 2026, the EuropeWave PCP is a collaboration between Wave Energy Scotland (WES), a subsidiary of the Scottish Government's Highlands and Islands Enterprise, and the Basque Energy Agency (EVE).

### Carnegie's CEO, Mr Jonathan Fiévez, commented:

*"This is an exciting and leading global project to accelerate the adoption of wave energy technology as a major source of renewable energy.*

*We were extremely pleased to commence the EuropeWave PCP Programme in January 2022 and have been making excellent progress. Already, wave and geological site data from BiMEP and EMEC has been reviewed, Drive Train and Controller hardware for the tank test has been procured and the techno-economic assessments to optimise device scale have been completed.*



*The CETO design to be delivered in Phase 1 builds on our Digital Development Pathway and aligns with our plans to progress and validate recent technical achievements. We look forward to working with our partners in 2022 to demonstrate the technical and commercial potential of our CETO technology.”*

### **Key terms of the Contract**

- Phase 1 is expected to complete the following mandatory development tasks:
  - Conceptual design development of the complete system to be tested during Phase 3.
  - Physical testing of a small-scale model in the mandatory test conditions.
  - Independent review of tank testing activities.
  - Preliminary Design Review of the conceptual design for the Phase 3 prototype.
- The duration of Phase 1 is from 3 January 2022 to 29 July 2022.
- CETO Wave Energy Ireland Limited will monitor the management of the Results and its Intellectual Property Rights and bears the costs associated with this.
- CETO Wave Energy Ireland Limited will retain ownership of the intellectual property, the results and any physical models, prototypes or other test pieces produced during the PCP.

CETO Wave Energy Ireland Limited will deliver Phase 1 of the PCP with the support of an impressive team including its consortium partner SAITEC Offshore Technologies and subcontractors Yavin Four Consultants, DNV UK Ltd, IHCantabria and Julia F. Chozas Consulting Engineer.

Following the conclusion of Phase 1, another rigorous selection process will be conducted, with five companies out of the seven selected for Phase 2, and subsequently, three companies selected for the third and final phase.

Carnegie will keep shareholders informed of its progress throughout 2022.

This announcement has been authorised by the Chairman and CEO.

### **For more information**

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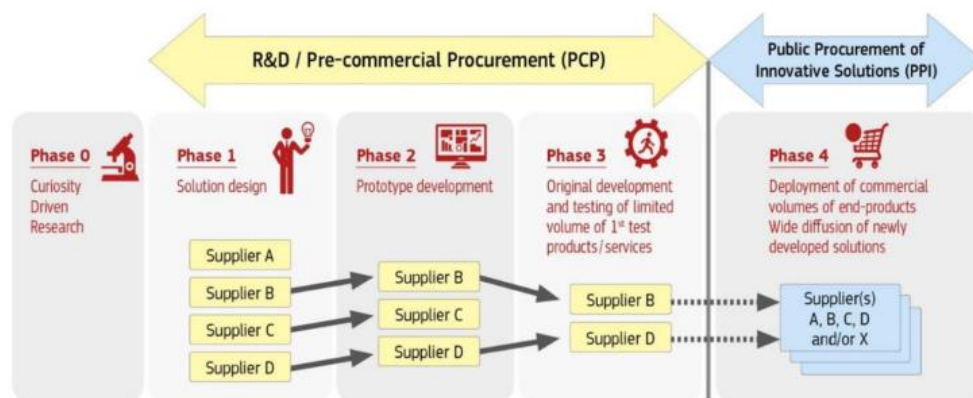
[www.carnegiece.com](http://www.carnegiece.com)

## ABOUT EUROPEWAVE PCP

EuropeWave PCP is an innovative R&D programme for wave energy technology, which runs from 2022 to 2026. It will combine over €22.5m of national, regional and EU funding to drive a competitive Pre-Commercial Procurement (PCP) programme for wave energy.



Originally pioneered by the Wave Energy Scotland programme, the PCP model provides a structured approach, fostering greater openness, collaboration and sharing of risk between the public sector and technology developers. The programme will focus on the design, development, and demonstration of cost-effective wave energy converter (WEC) systems for electrical power production that can survive in the harsh ocean environment.



Match-funded by the EU's Horizon 2020 programme, it is a collaboration between Wave Energy Scotland (WES), the Basque Energy Agency (EVE) and Ocean Energy Europe (OEE). This collaboration is closely aligned with the decarbonisation, industrial and competitiveness objectives of the European Green Deal, and is part of a range of actions being taken to meet the European Commission's targets of 100MW of ocean energy by 2025 and at least 1GW by 2030.

The main technical challenges to be addressed in EuropeWave PCP may be expressed in terms of:

- Performance – obtain quantitative evidence of appropriate power capture and conversion capability and increase confidence in yield predictions from numerical model simulations.
- Survivability – demonstrate effective strategies for survival in survival events.
- Availability – demonstrate levels of availability through reliable prototype operation.
- Affordability – increase confidence in the estimation of the technology costs (capital and operational) and determine a route to cost reduction to achieve a competitive LCOE.

The 3 Phases of the Europe Wave PCP:

	Start date	End Date	Number of Contracts		Contract Maximum Value	
			Minimum	Anticipated	ex. VAT	inc. VAT
Phase 1 [Concept Development]	03 Jan 2022	29 July 2022	5	7	€ 291,667	€ 350,000
Phase 2 [FEED and Modelling]	26 Sept 2022	30 June 2023	4	5	€ 608,333	€ 730,000
Phase 3 [Open- water deployment]	11 Sept 2023	29 May 2026	3	3	€ 3,750,000	€ 4,500,000
Totals					€ 4,650,000	€ 5,580,000



This is part of the EuropeWave project that has received funding from the European Union's Horizon 2020 Research and Innovation Programme under grant agreement No 883751.

<https://www.europewave.eu/>

#### ABOUT CARNEGIE & CETO WAVE ENERGY IRELAND

Carnegie Clean Energy (ASX: CCE) is a technology developer focused on delivering ocean energy technologies to make the world more sustainable. CETO Wave Energy Ireland is a wholly owned subsidiary of Carnegie Clean Energy. Carnegie is the owner and developer of the CETO® and MoorPower™ technologies, which capture energy from ocean waves and convert it into electricity. Using the latest advances in artificial intelligence and electric machines, Carnegie can optimally control our technologies and generate electricity in the most efficient way possible. The Wave Predictor technology developed by Carnegie uses a proprietary machine learning algorithm to improve the performance of our wave technologies and has additional applications beyond the wave energy industry. The company has a long history in ocean energy with a track record of world leading developments.

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