

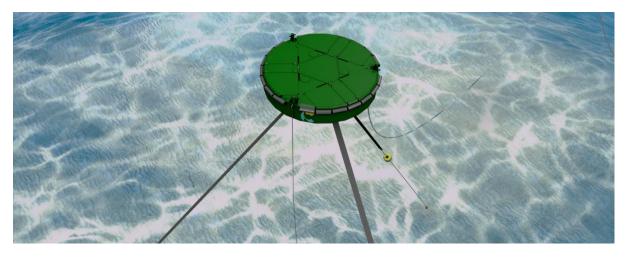
# €3.75 million contract for CETO deployment in Europe

- CETO wave energy technology in the water and grid connected in Europe by 2025
- Carnegie subsidiary CETO Wave Energy Ireland (CWEI) awarded a contract to build and operate a CETO wave energy converter
- Independent expert evaluators ranked CWEI's bid in first place overall across categories including levelised cost of energy (LCOE), generation performance, reliability, survivability
- CWEI to receive €3.75m (\$6.3m AUD) under the EuropeWave Phase 3 contract
- CETO will be deployed at the Biscay Marine Energy Platform in the Basque Country, Spain and will deliver power to the grid
- The EU funded EuropeWave Programme's ambition aligns with CETO commercial scale deployment objectives
- The EU is targeting 1GW of ocean energy deployment by 2030 and 40GW by 2050 via the EU Offshore Renewable Energy Strategy<sup>1</sup>

Carnegie Clean Energy Ltd (ASX: CCE) ("Carnegie") is pleased to announce that its wholly owned subsidiary CETO Wave Energy Ireland (CWEI) has been selected to receive a €3,746,531 contract as part of the competitive EuropeWave Pre-Commercial Procurement (PCP) programme.

The Phase 3 EuropeWave contract, subject to final execution, engages CWEI to build and operate a CETO wave energy converter at a European wave energy test site. The EuropeWave PCP Programme is a competitive programme designed to advance promising wave energy converter systems and prove technical and commercial viability for large scale deployment.

Projects were judged against the main challenges of LCOE, performance, reliability, availability and survivability. Starting from a pool of over 30 competing wave energy technologies, CETO Wave Energy Ireland has concluded the competitive phases ranked number one, judged against these key criteria. Having been ranked first, CWEI received first choice of deployment site. The team has selected a berth best suited to the CETO project at the open-water facilities of the Biscay Marine Energy Platform (BiMEP) in the Basque Country, Spain. The project, known as ACHIEVE, will run from September 2023 to May 2026 with CETO deployed from 2025.



CETO wave energy converter contracted for deployment at the Biscay Marine Energy Platform

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The Project includes several already selected partners as shown below. Additional partner engagement and procurement will now commence for local specialist contractors, manufacturers, and additional equipment providers.

- Lloyds Register (Certification Pathway and Independent Reviews)
- Hewlett Packard Enterprise (Reinforcement Learning Controller)
- Hutchinson (Belt manufacturer for Power Take-Off)
- Quoceant (Mooring Connector)
- Advanced Composite Structures Australia (Mooring Tensioner)
- Julia Chozas Consulting Engineer (Techno-economic analysis)
- VGA (Belt Testing for Power Take-Off)

EuropeWave is an innovative R&D programme for developing and commercialising wave energy technologies. It combines almost €20 million of national, regional and EU funding to drive a competitive Pre-Commercial Procurement (PCP) programme for wave energy. CWEI has already successfully delivered Phases 1 and 2 and this Phase 3 contract is the final phase of the programme.

Match-funded by the EU's Horizon 2020 programme, EuropeWave is a collaboration between Wave Energy Scotland (WES), the Basque Energy Agency (EVE) and Ocean Energy Europe (OEE). This collaboration is closely aligned with decarbonisation goals, and will help meet the European Commission's targets of 100MW of ocean energy by 2025 and 1GW by 2030.

The EuropeWave contract provides the majority of funding required to deliver the project, with Carnegie Clean Energy and CWEI electing to contribute additional funds to support the project. The funds enable the team to deliver a scaled version of the commercial design and undertake additional research, testing and de-risking activities that deliver value to the long-term commercialisation pathway of the CETO technology.



CETO Wave Energy Ireland's EuropeWave Project Manager, Miguel Santos Herran (left) and CEO Jonathan Fiévez (right)

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Carnegie's CEO, Mr Jonathan Fiévez, said: "We are extremely proud! Our team delivered an exceptional Phase 2 package of work and a winning Phase 3 bid that was judged the best solution against strict criteria and competing technologies.

*"Our ACHIEVE project is a significant step forward in CETO's commercialisation journey as it places CETO in clear sight of Europe's most progressive utilities and investors.* 

"The EuropeWave process has also delivered several major improvements to our technology. It's going to be incredibly exciting to see them take shape and perform in the energetic seas of the Basque Country.

"The EuropeWave programme recognises the vast potential of wave technology and the ambition of Europe to diversify energy sources for stability and security. We share these goals on the path to ensuring wave energy is recognised as an essential part of a just and clean energy future."

### What follows EuropeWave?

Carnegie's vision is that this EuropeWave deployment unlocks larger projects in partnership with utilities and project developers. Support for these projects is emerging and will serve to bridge the Phase 3 deployment into commercial scale projects through stimulation of key energy sector participants and public funding opportunities. Many European investors and utilities are motivated to be at the forefront of this new sector and are looking for leading technology companies to support.

Carnegie Chairman and Director of CETO Wave Energy Ireland, Terry Stinson said *"EuropeWave is providing confidence and independent validation to future wave energy project investors, and we applaud the EuropeWave Buyers Group for their foresight and support."* 

This announcement has been authorised by the Chairman and CEO.

# For more information

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#### ABOUT EUROPEWAVE PRE-COMMERCIAL PROCUREMENT PROGRAMME



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<sup>1</sup>. 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.



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

https://www.europewave.eu/

[1] https://energy.ec.europa.eu/topics/renewable-energy/offshore-renewable-energy\_en

# **ABOUT CARNEGIE & CETO WAVE ENERGY IRELAND**

Carnegie Clean Energy (ASX: CCE) is a leading wave energy technology developer 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 optimally controls our technologies and generates electricity in the most efficient way possible. The company has a long history in ocean energy with a track record of world leading developments.