

## **Carnegie Investor Webinar Recording & Presentation**

Carnegie Clean Energy (ASX: CCE) ("Carnegie" or the "Company") is pleased to advise that a recording of the Investor Webinar hosted by the Company's CEO Jonathan Fiévez and Chairman Terry Stinson, on Wednesday, 2 November, is now available at the link below.

<https://youtu.be/Ead1p6PUbYU>

The webinar was an opportunity for Carnegie to provide an update on the Company's progress, followed by a question and answer session.

The accompanying Investor Presentation was used for the webinar.

This announcement has been authorised by the Chairman and CEO.

### **For more information**

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### **ABOUT CARNEGIE**

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.

<https://www.carnegiece.com/>



*Harnessing the power of  
ocean energy to make the  
world more sustainable*

# Investor Webinar Presentation

November 2022

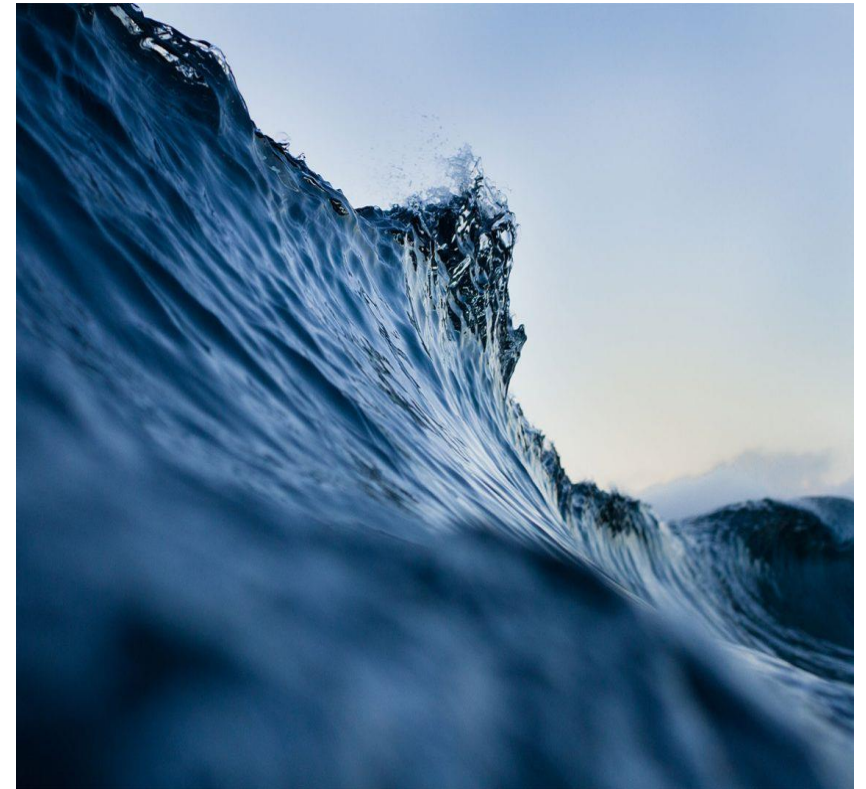
Carnegie Clean Energy Limited  
ASX: CCE

# Carnegie Clean Energy opportunity



Global clean energy generation and CO<sub>2</sub> reduction targets are unlikely to be met without the scale, consistency and predictability of wave energy

- Carnegie is an emerging global leader in wave energy technology
- Carnegie's CETO technology is projected to generate electricity at costs comparable to other clean energy technologies when deployed at scale
- Carnegie has a documented and independently verified body of work demonstrating CETO energy production and efficiency outperforming established ocean energy industry LCOE (levelised cost of energy) targets
- Leading participant in the EuropeWave PCP, a €22.5m EU-funded R&D programme to advance wave energy technologies for deployment in real sea conditions



# Experienced Board & Management



With proven track record



**Terry Stinson**  
**Non-Executive Chairman**

Mr Stinson brings over 35 years of leadership and commercial experience with global innovative companies.

Formerly the CEO and Managing Director of Orbital Corporation Ltd and Vice President and General Manager at Siemens AG responsible for over 1,200 staff and delivering sales in excess of US \$300m p.a.

Mr Stinson is Chairman of Talga Group Ltd and a Non-Executive Director of Aurora Labs Ltd.



**Jonathan Fiévez**  
**Chief Executive Officer**

Mr Fiévez brings considerable expertise in innovation and technical leadership.

Formerly Carnegie's CTO, he has been part of the company for 14+ years and is a named inventor on several CETO patents.

Mr Fiévez was previously involved in developing aircraft crack detection systems which were successfully applied to the Eurofighter and Airbus A380 Air designs.



**Michael Fitzpatrick AO**  
**Non-Executive Director**

Committed to sustainability, Mr Fitzpatrick is a precursor in renewable investments, including investing in the first commercial windfarm in Australia in the 1990s.

He founded Hastings Funds Management Ltd, managing investments of \$3.8+ billion.

A Non-Executive Director of Infrastructure Capital Group, Mr Fitzpatrick led a billion-dollar renewables fund owning wind, solar and hydro assets.

He was a former Director of Rio Tinto Ltd.



**Anthony Shields**  
**Non-Executive Director**

Mr Shields has vast financial expertise and is the Managing Director of Asymmetric Investment Management Pty Ltd, specialised in private debt, venture capital and risk management.

He sits on a number of company Boards in a non-executive capacity, including of Source Certain International, NWQ Capital and Old Perth Port.



**Grant Mooney**  
**Non-Executive Director and Company Secretary**

Mr Mooney brings broad knowledge in the areas of corporate governance and project management, since establishing corporate advisory firm Mooney & Partners in 1999.

Currently, he serves as a Director on ASX listed companies Aurora Labs Ltd, Accelerate Resources Ltd and Talga Group Ltd.



# Our partners



Fostering our partner ecosystem to accelerate commercialisation

## Partners involved in commercialisation projects



**JULIA F. CHOZAS**  
CONSULTING ENGINEER

**YAVIN FOUR**  
CONSULTANTS

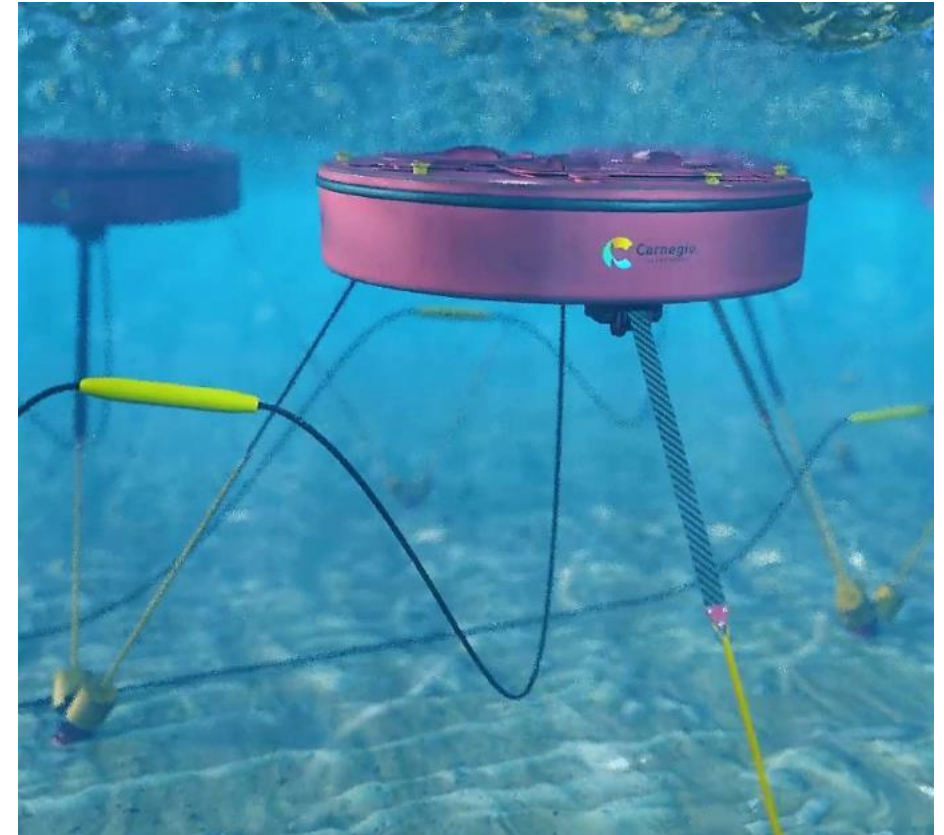
## Partners involved in tech advancements



# Carnegie's point of difference

Carnegie now ready to lead the industry into commercial deployment

- Carnegie's CETO technology is unique:
  - Operates below the surface at various depths – improves survivability and minimises visual and environmental impact
  - Integrates machine learning, wave prediction and smart control systems – enhancing efficiency and generation capacity
  - Only wave energy company to successfully deploy, operate (12 months) and recover a multi-device wave energy project
  - Integrates well with other technologies (solar, wind, battery storage, water desalination, etc)
- Spin-offs are complementary and address specific market needs



# Our complementary technology suite



Unique competitive products to capture commercial opportunities



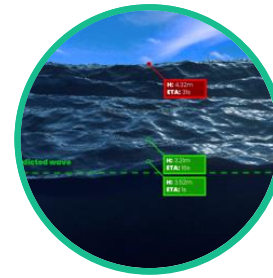
**CETO**

- Wave energy converter, converting ocean waves into zero-emission electricity
- Submerged buoy that sits a few metres below the ocean and moves with the waves
- Addresses global utility scale electricity, remote grids and island markets
- Validated via EuropeWave PCP project



**MoorPower**

- CETO-derived technology to power moored offshore vessels (i.e. barges in the aquaculture sector) through wave power
- Can reduce or eliminate offshore diesel usage
- Validated via \$3.4m MoorPower Scaled Demonstrator Project



**Wave Predictor**

- Product able to predict upcoming waves using AI up to minutes into the future, before they impact the shore, a structure or a wave energy converter
- Increases the safety and performance of activities including critical offshore operations and rock fishing



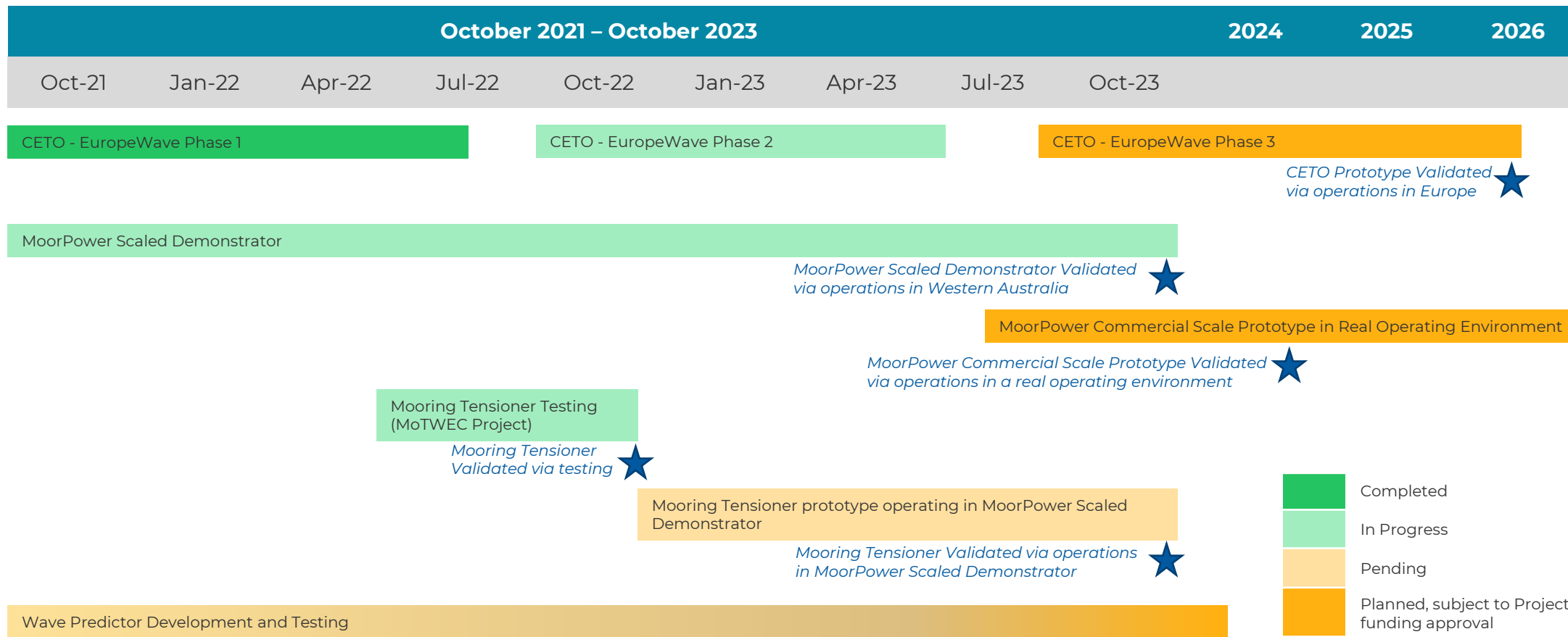
**Mooring Tensioner**

- Provides passive tension for CETO and MoorPower products
- Can be a standalone offering that improves station-keeping for vessels
- Validated via physical material property and fatigue testing

# Group Product Validation Roadmap



## Carnegie Products Product Validation Roadmap Summary





# Global demand for renewable energy



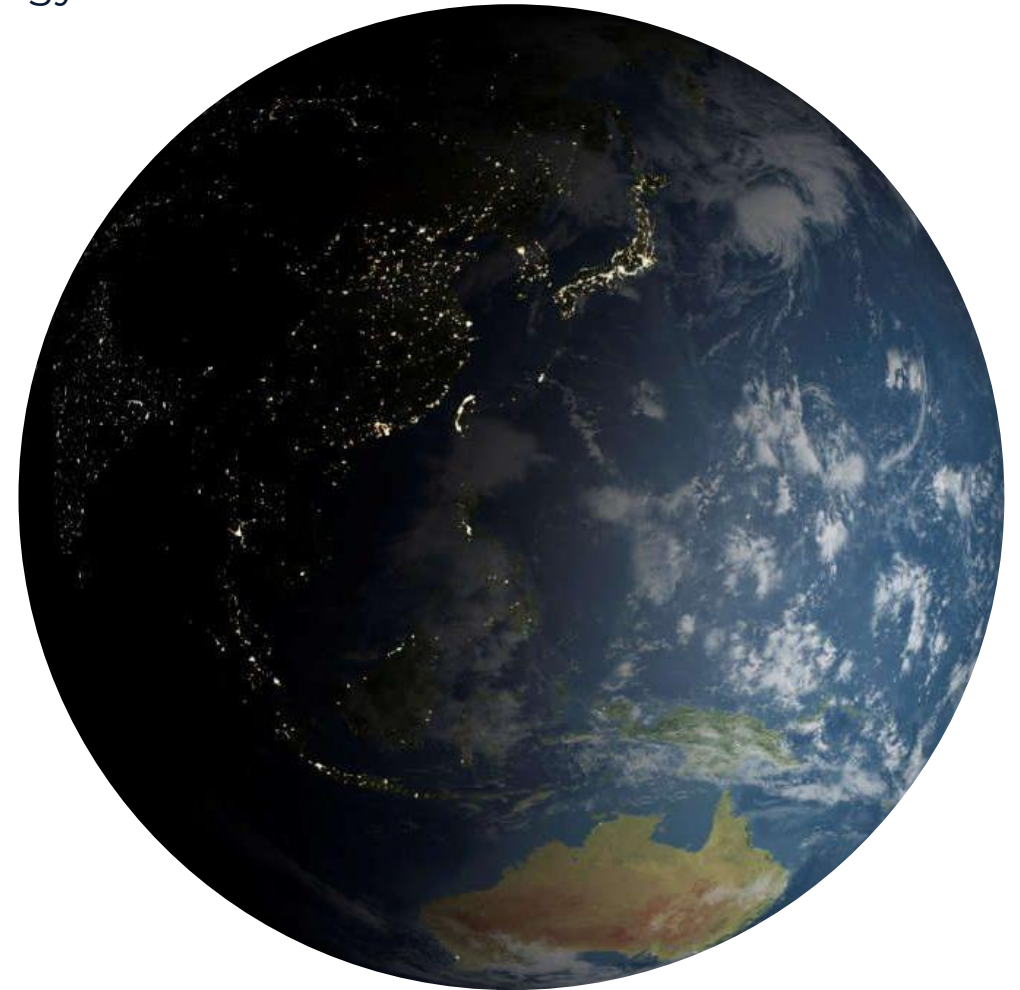
Renewables are set to become the dominant source of energy

## Driven by global policies

- Climate change is the biggest challenge faced by our planet today
- Governments and businesses are accelerating efforts to secure net zero CO<sub>2</sub> emissions by 2050 and replace fossil fuels, as evidenced by:
  - European Union's Renewable Energy Directive
  - US Inflation Reduction Act 2022
  - Australia Climate Change Bill 2022
- The Russia-Ukraine war also shows the commitment to steer away from gas monopolies
- By 2050, nearly 90%<sup>1</sup> of global energy is predicted to come from renewables, a huge increase from today's 6% contribution
- European Commission sets clear targets of **100 MW of installed ocean energy capacity by 2025 and 40 GW by 2050** to reduce dependence on fossil fuel imports<sup>2</sup>

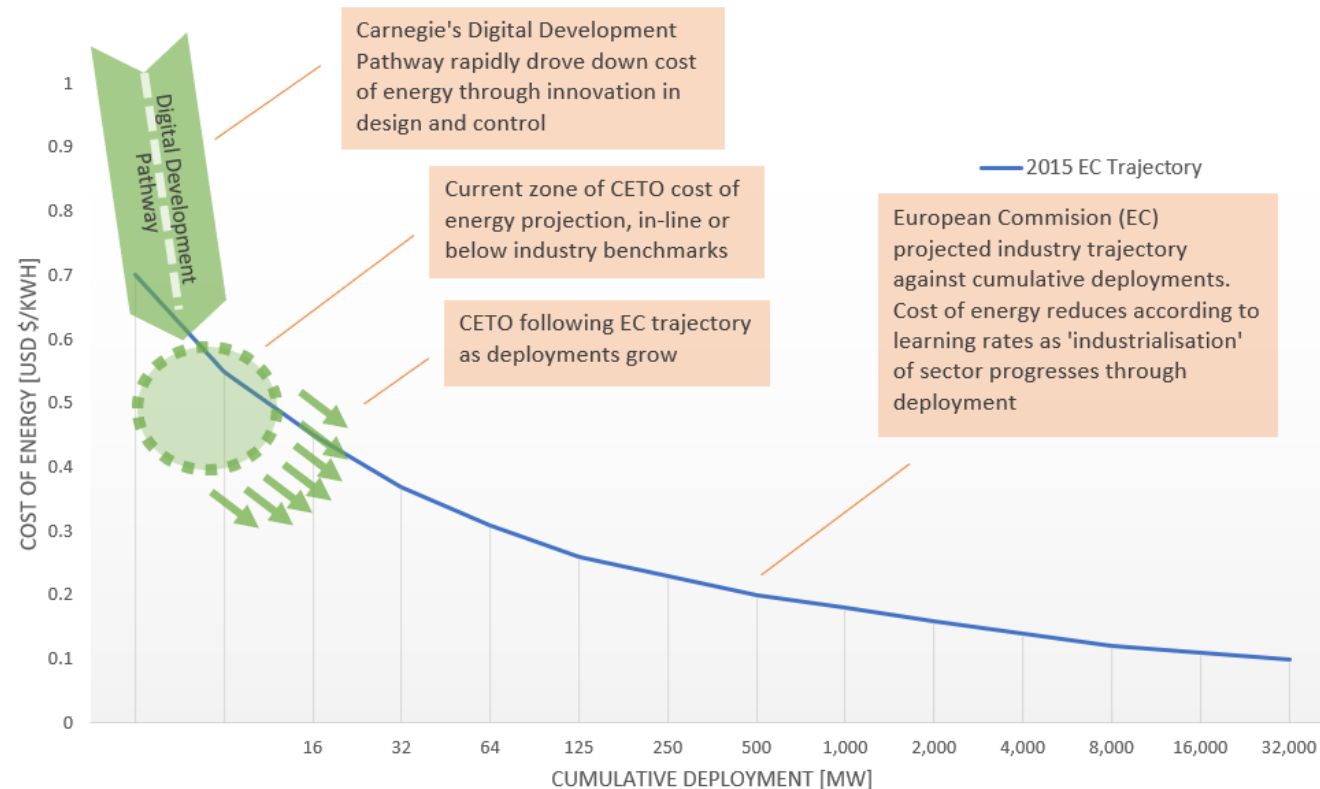
<sup>1</sup> EIA.GOV (2021) International Energy Outlook 2021

<sup>2</sup> European Commission, Offshore renewable energy, 2020



# CETO Commercialisation

CETO's cost and performance enhancements accelerate commercialisation



Cost of energy vs deployment relationship for wave industry (as per EC trajectory) and CETO

- Innovations in smart control systems, hydrodynamics and generator efficiency gains (levering the boom electric vehicles) have combined to deliver a step change reduction in the projected CETO cost of energy and up to 30% more energy being captured
- Wave energy is following a similar trajectory to offshore wind and solar PV before early commercialisation – CETO is outperforming industry target benchmarks
- EuropeWave PCP will validate the improved CETO along defined pathway
- Achievements to unlock opportunities with new and existing strategic partners
- Carnegie continues to work on further cost reductions and energy capture increases

# Wave to follow other renewables



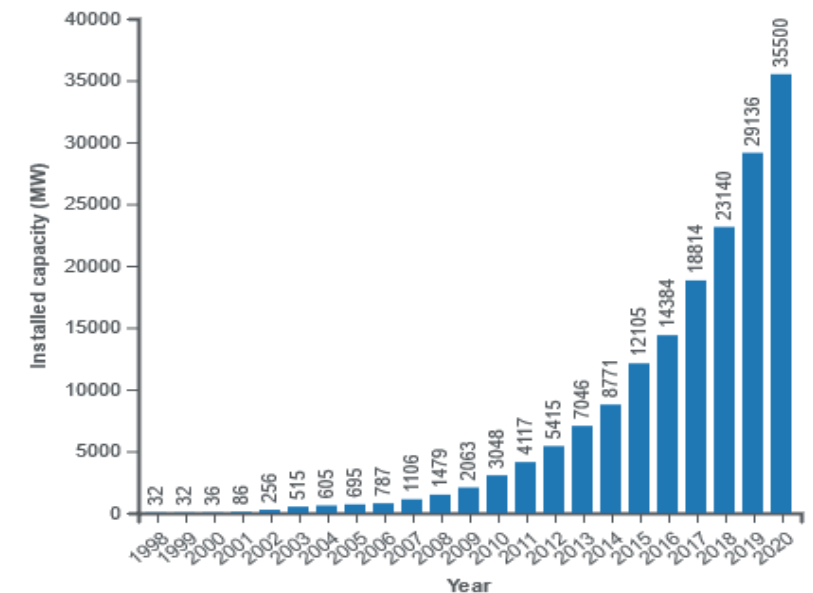
Offshore wind and solar sectors serve as a blueprint

## The next big thing in energy

- Wave energy is expected to achieve growth rates in line with previously developed technologies such as offshore wind and solar PV
- 1991 – 5MW installed in world’s first offshore wind farm, Vindeby
- End of 2020 – 35 GW Installed globally<sup>3</sup>
- Established renewables have demonstrated viable cost reduction pathways which the wave energy sector will follow
- Ocean energy has the potential to provide 10% of Europe’s current electricity needs by 2050 - enough to power 94 million households every year<sup>4</sup>
- A strong combination of renewables is critical to energy security and our planet’s health

## Global cumulative offshore wind capacity ([MW](#))

Sources: [GWEC](#) (2011–2020) and [EWEA](#) (1998–2010)



<sup>3</sup> Global Offshore Wind Report (2021) Global Offshore Wind Report 2021

<sup>4</sup> Ocean Energy Europe, March 2020

# Potential for wave energy

In the net-zero future to decarbonise the energy sector

## Wave Energy is an untapped opportunity

- With the ocean covering more than **70% of Earth**, wave energy is an enormous clean, renewable resource
- It's the most **consistent, predictable and abundant source of clean energy** – available day and night
- Rapid variations in wind speed and solar radiation cause challenges in grid stability and reliability
- Wave energy **complements variable wind and solar** and requires lower associated energy storage due to consistent output
- Can co-exist and even enhance marine life and coastal ecosystems



Carnegie at Blue Economy CRC Conference, Tasmania 2022



# Why now



This is the time to get involved in Carnegie

## Why wave energy

- The most consistent and concentrated source of clean energy – present 24/7
- Power density much higher than wind and solar energy

## Why Carnegie

- Best in class CETO wave energy technology
- Contracts in place and tier one partnerships
- Just the beginning, upward outlook for growth

## Governments & industry committed to renewables

- Acceleration to net zero by 2050 is increasing the support for wave energy investments to reach commercial exploitation
- Locally sourced renewables support growing energy security priorities

## Investors committed to ESG

- Growing focus on business sustainability is shifting investor behaviours to socially conscious investments
- ESG reporting becoming mandatory





# Thank You

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