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

Annual General Meeting

November 2022

Carnegie Clean Energy Limited
ASX: CCE

Carnegie Clean Energy Opportunity

Global clean energy generation and CO_2 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
- 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.

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.

Anthony Shields
Non-Executive Director

Mr Shields has vast financial expertise and is the Managing Director of Asymmetric Investment Management Pty Ltd.

Grant Mooney
Non-Executive Director and Company Secretary

Mr Mooney brings broad knowledge in the areas of corporate governance and project management.

Jonathan Fiévez
Chief Executive Officer

Mr Fiévez brings considerable expertise in innovation and technical leadership. He's been with the company for 14 years and has a wealth of experience in the broader energy sector.

Brighid Jay
Chief Commercial Officer

Ms Jay has a Masters in Environmental Sustainability and brings expertise in innovation policy. She has been with Carnegie for over 11 years and supports our corporate, commercial, intellectual property, legal and partner ecosystem functions.

Dr Alexandre Pichard
Chief Technology Officer

Dr Pichard has a Doctorate in Physics and has been a core member of Carnegie's engineering team for over 11 years. He brings a deep understanding of our technologies, supply chains and the wider wave energy industry.

Corporate Structure | ASX: CCE

Capital Structure

Shares on issue
15,642,573,710

Market Cap (14.11.22)
A$31.2m

Performance rights/Options
2,530,000,000

Cash position (30.09.22)
A$3.2m

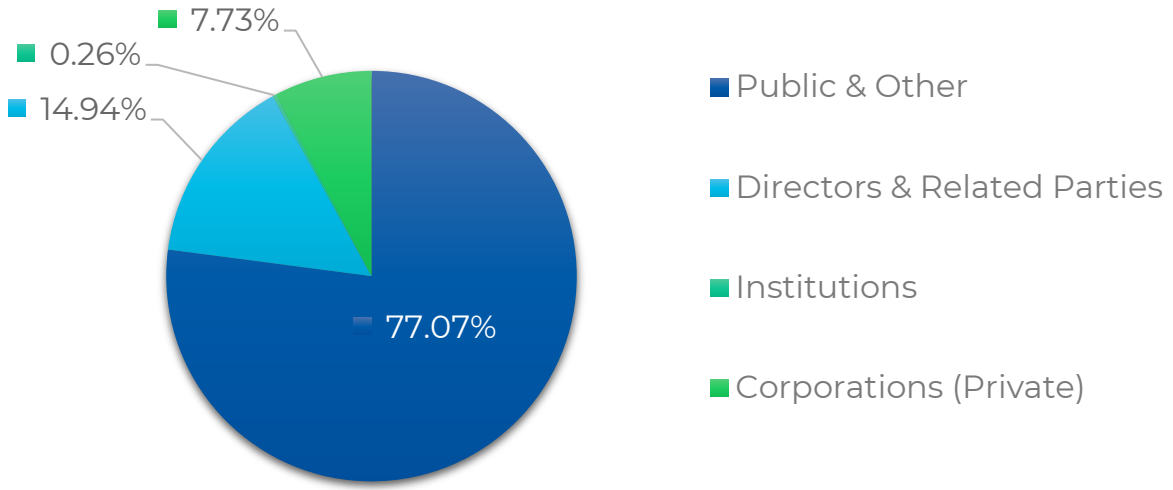
Share Price (14.11.22)
$0.002

No debt

Substantial Shareholders

Substantial Shareholders	% Shares on Issue
Michael Fitzpatrick (Director)	6.53%
Anthony Shields (Director)	4.97%
Dawnray Pty Ltd	2.58%
Grant Mooney (Director)	2.24%
Richcab Pty Ltd	1.30%
Daws & Sons Pty Ltd	1.14%

Ownership Structure



Number of Shareholders: 13,117*

*As at Nov 2022, Capital IQ

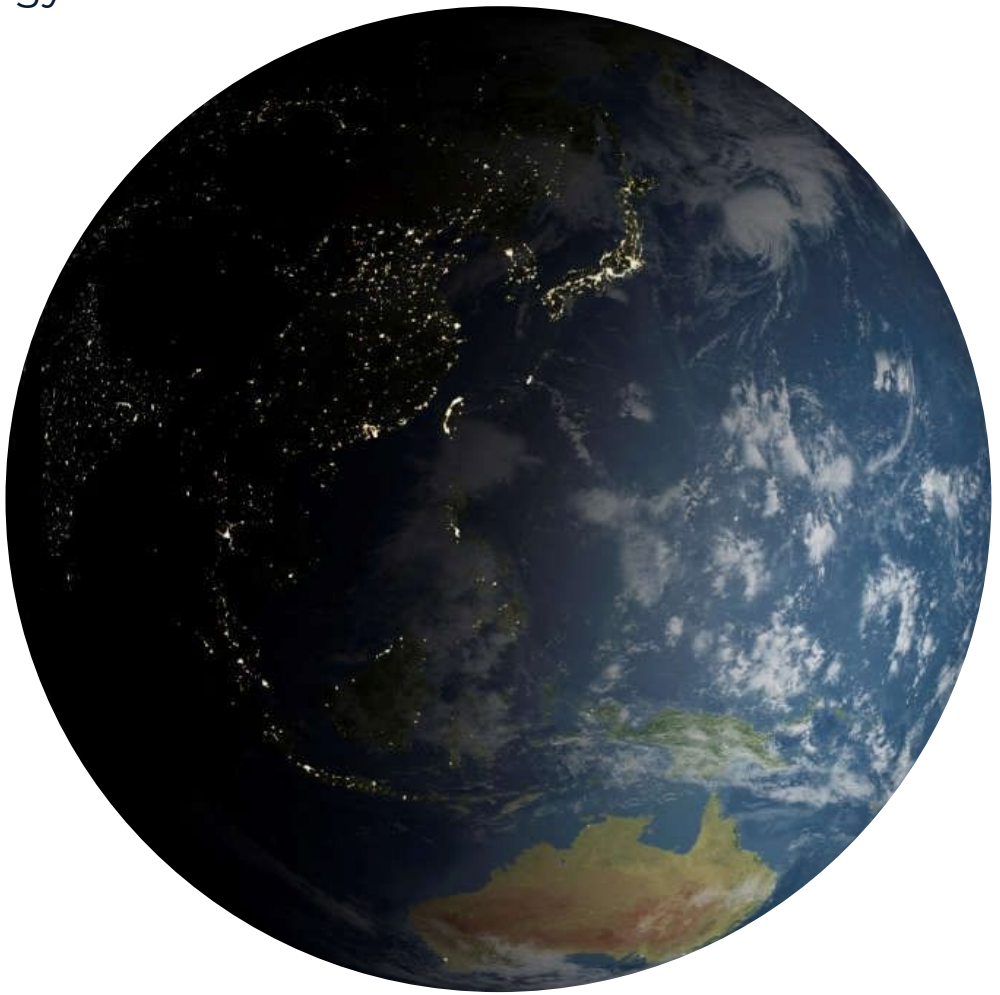
Global demand for renewable energy

Carnegie CLEAN 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_2 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 85%[1] 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[2]



[1] EIA.GOV (2021) International Energy Outlook 2021
[2] European Commission, Offshore renewable energy, 2020

FY22 Year in Review

Carnegie now ready to lead the industry into commercial deployment

- FY22 Key Achievements:
  - Achieved step-change improvement in CETO's cost and performance, based on modelling and tank testing, resulting in the new Product Validation Roadmap
  - CETO awarded Phase 1 and Phase 2 contracts in competitive EuropeWave PCP €22.5m Programme
  - Funded $3.4m MoorPower Scaled Demonstrator Project underway, designed to secure clean energy for offshore structures
  - Continued collaboration with world-class partners – HPE, Hutchinson, Microsoft, EuropeWave, Blue Economy CRC
  - Revenue generation from Government (Defence) electrical supply contract at 100% owned Garden Island Microgrid energy project (wave, solar, battery, desalination plant) in Western Australia

Our partners

Carnegie CLEAN ENERGY

Fostering our partner ecosystem to accelerate commercialisation

Partners involved in commercialisation projects

EUROPEWAVE

HUON AQUACULTURE

tassal

saitec offshore technologies

HUTCHINSON

DNV

CLIMATE KIC AUSTRALIA

BLUE ECONOMY COOPERATIVE RESEARCH CENTRE

JULIA F. CHOZAS CONSULTING ENGINEER

YAVIN FOUR CONSULTANTS

Partners involved in tech advancements

PAWSEY supercomputing centre

Hewlett Packard Enterprise

Hewlett Packard Labs

Microsoft

AMCS AMC SEARCH

ACS AUSTRALIA

THE UNIVERSITY OF QUEENSLAND AUSTRALIA

IH cantabria INSTITUTO DE HIDRÁULICA AMBIENTAL UNIVERSIDAD DE CANTABRIA

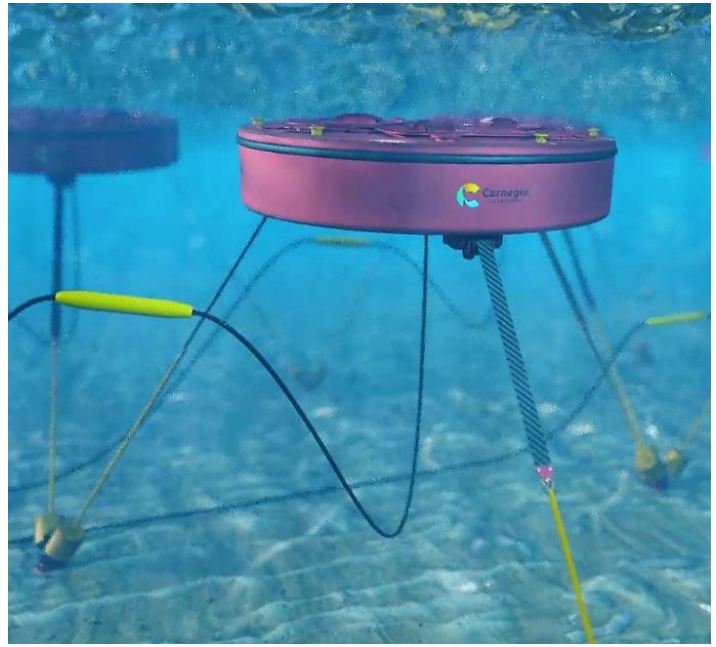
THE UNIVERSITY of ADELAIDE

UNIVERSITY of TASMANIA

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

Carnegie CLEAN ENERGY

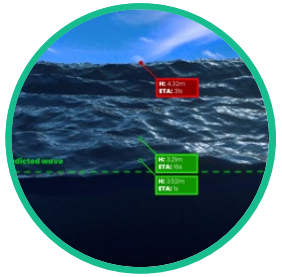
Advanced competitive products to capture commercial opportunities

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 €22.5m 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

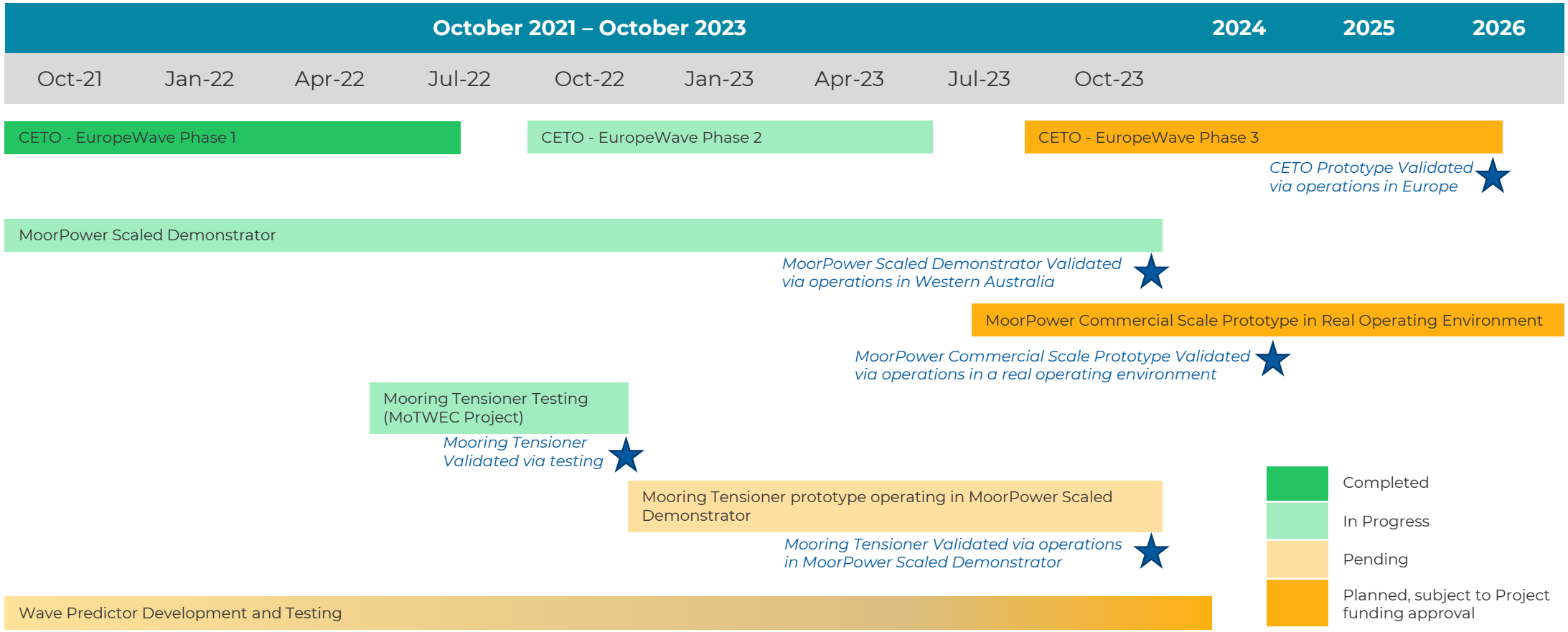
- Product able to predict upcoming waves using AI up to minutes into the future, before they impact the shore, a structure or a wave energy converter
- Increases the safety and performance of activities including critical offshore operations and rock fishing
- Tank testing campaign conducted, followed now by possible increase in data acquisition

Mooring Tensioner

- Provides passive tension for CETO and MoorPower products
- Can be a standalone offering that improves station-keeping for vessels
- Prototype and test rig built and testing is underway
- Next step is the design and integration of a prototype into the power take-off of MoorPower

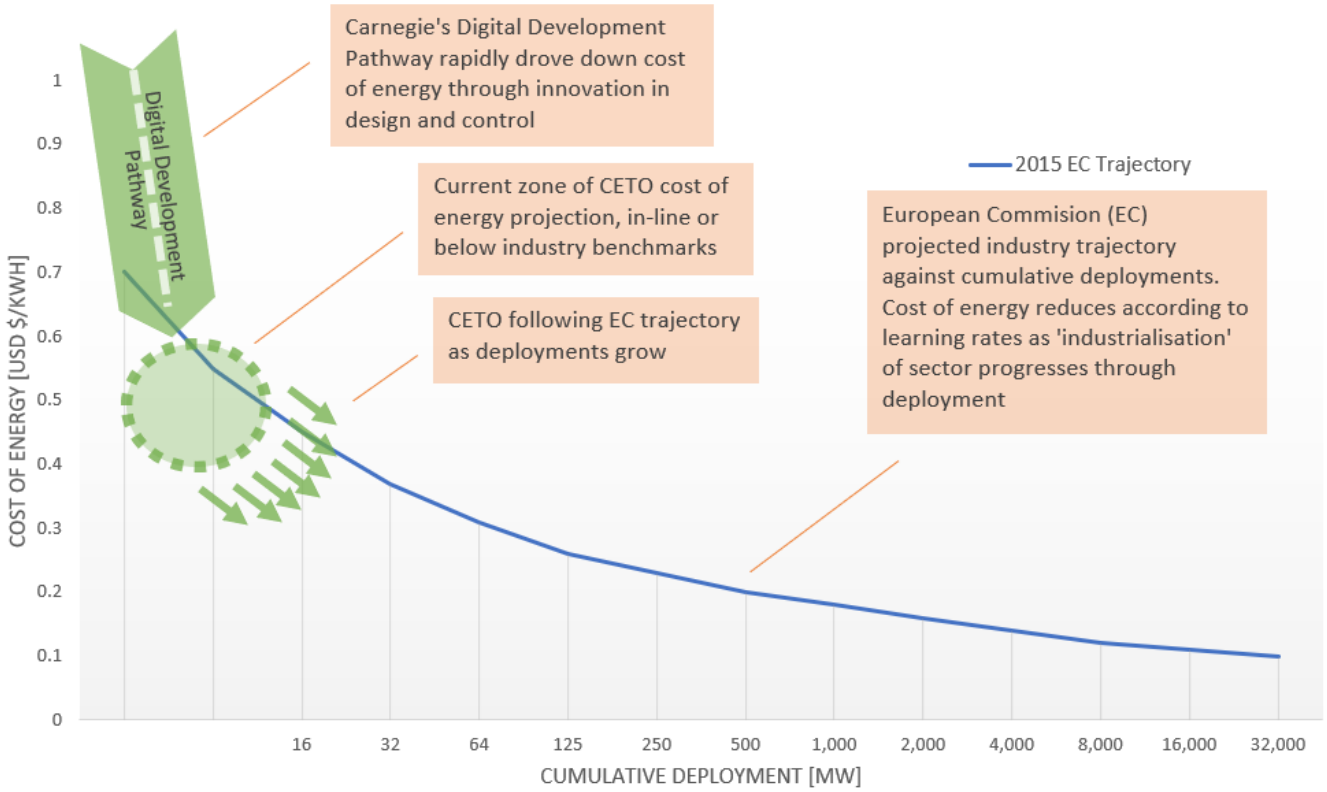
Group Product Validation Roadmap

Carnegie Products
Product Validation Roadmap Summary



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 (leveraging the boom in 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

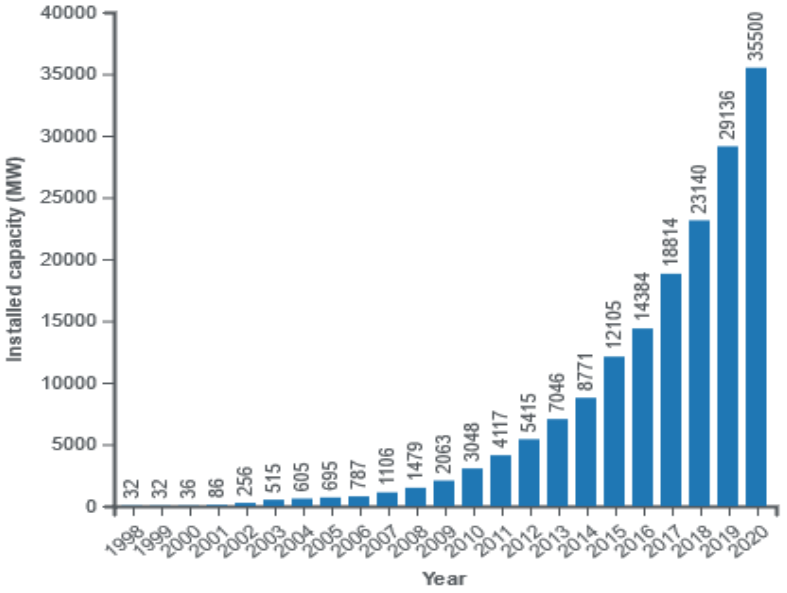
Offshore wind and solar sectors serve as a blueprint

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[3]
- 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[4]
- 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)



[3] Global Offshore Wind Report (2021) Global Offshore Wind Report 2021
[4] Ocean Energy Europe, March 2020

Why now

This is the time to get involved in Carnegie

1

Why wave energy

- The most consistent and concentrated source of clean energy – present 24/7
- Power density much higher than wind and solar energy
- One of the world's largest untapped renewable sources

2

Why Carnegie

- Unique competitive wave energy technology
- Contracts in place and tier one partnerships
- Clear strategy and accelerated route to commercialisation

3

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

4

Investors committed to ESG

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

Thank You

Carnegie Clean Energy Limited
ABN: 69 009 237 736
ASX: CCE

Telephone: +61 (0)8 6168 8400
Website: www.carnegiece.com

Registered Office:
21 North Mole Drive, North Fremantle WA 6159

Postal Address:
PO Box 39, North Fremantle WA 6159