



Stockholm January 16th, 2018

CorPower deploy C3 Wave Energy Converter at EMEC

CorPower Ocean has successfully installed the half-scale C3 Wave Energy Converter (WEC) at the European Marine Energy Centre (EMEC) in Orkney, Scotland.

The C3 point absorber was installed at EMEC's Scapa Flow scale test site in collaboration with local marine contractor Green Marine (UK) Ltd. The device was towed to site and the surface operated install sequence was successfully performed from the Green Isle multicat vessel. The C3 WEC was connected to a floating Microgrid unit provided by EMEC.

The microgrid has been designed to allow the C3 device to behave as if it were grid connected by providing a stable voltage and frequency reference, simulating the impedance of a typical grid connection, absorbing power from the device under test and providing power to auxiliary systems.

With the C3's performance already proven in grid connected configuration during a dry testing campaign in Stockholm, this ocean deployment is looking to prove off-grid operations in an environment addressing market segments such as islands, offshore installations or remote coastal locations around the world.

CorPower's product development follows the structured five-stage verification process of Wave Energy Scotland (WES) and ETIP Ocean involving step-wise validation of survivability, performance, reliability and economics. The Stage 3 demonstration is funded by WES, the Swedish Energy Agency and InnoEnergy, with the testing at EMEC also supported by Interreg NWE FORESEA project.

The Stage 3 program demonstration is supported by best practice from EMEC in Orkney, alongside the experience from offshore power generation company Iberdrola Engineering and EDP, the University of Edinburgh and WavEC Offshore Renewables' expertise in cost and performance modelling.

Patrik Möller, CEO at CorPower Ocean:

“We are very pleased to have the C3 WEC installed at EMEC, marking a major milestone in our effort of providing reliable and competitive electricity generation from ocean waves. This demonstration program shows how our resonant WEC technology can significantly reduce both CAPEX and OPEX of wave energy. The compact lightweight design enables effective handling using low cost vessels, reducing operational costs. We are happy to announce a collaborative agreement with Green Marine where our teams will continue to work closely together to further improve our operations during the coming months of deployment.”

Neil Kermode, Managing Director at EMEC:

“On behalf of everyone at EMEC, I’d like to congratulate CorPower on the successful real-sea deployment of their wave energy converter. Installing technologies into the harsh marine environment is not easy, requiring a great deal of planning, ingenuity, and collaboration. But I know the learning that will come from operating the technology in the sea will be invaluable to CorPower. The EMEC team will continue to work with CorPower to support the performance assessment of their technology and we look forward to seeing this innovative device succeed.”

Jason Schofield, Managing Director at Green Marine:

“Green Marine has been working with CorPower for the past two years and to finally see all their hard work and careful planning materialise into a successful offshore installation of their device is a huge achievement for all involved. The offshore operations carried out were one of the slickest installation methods we have experienced to date, with both the CorPower and Green Marine teams working extremely well together. We look forward to continue working with the CorPower team over the coming months during their testing program as part of our framework agreement with them”

Tim Hurst, Managing Director at Wave Energy Scotland:

“Wave Energy Scotland is delighted to see one of its first programme participants install a prototype ready for at-sea testing with EMEC. We are looking forward to evaluating the test results over the coming months and seeing how the WEC performs in Orkney’s waters”

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For further information, contact:

Patrik Möller, CEO CorPower Ocean.

Cell: +46 701 772101, Email: patrik.moller@corpowersocean.com

Lisa MacKenzie, Marketing and Communications Manager EMEC

Tel: +44(0)1856 852207, Email: lisa.mackenzie@emec.org.uk

Photos can be downloaded here:

<https://www.dropbox.com/sh/luy56w12p1q91wl/AADlm35zNxszechu15fdGL-zda?dl=0>



CorPower C3 lifted by Green Isle multicat vessel.



CorPower C3 at EMEC Scapa Flow site



CorPower C3 deployed

Editors notes:

CorPower Ocean www.corpowerocean.com

CorPower Ocean brings a new class of high efficiency Wave Energy Converter, enabling robust and cost-effective harvesting of electricity from ocean waves.

The design principle is inspired by the pumping principles of the human heart and offers five times more energy per ton of device compared to previously known technology. This allows a large amount of energy to be harvested using a small low-cost device. The system has excellent survivability in storms, thanks to being inherently transparent to incoming wave energy. The step-change increase in structural efficiency is enabled by a novel system design and advanced control technology – providing a path for wave energy to overtake modern wind turbines in structural efficiency and long term competitiveness.

EMEC www.emec.org.uk

Established in 2003, EMEC is the world's leading facility for testing wave and tidal energy converters in real sea conditions. The centre offers independent, accredited grid-connected test berths for full-scale prototypes, as well as test sites in less challenging conditions for use by smaller scale technologies, supply chain companies, and equipment manufacturers.

To date, more marine energy converters have been deployed in Orkney, Scotland, than at any other single site in the world. Including the most recent deployment of CorPower's C3 WEC, EMEC have hosted 20 wave and tidal energy clients spanning 11 countries with 31 marine energy devices.

Green Marine www.greenmarineuk.com

Green Marine(UK)Ltd is one of the worlds most experienced marine operators working in the renewable sector, with an unprecedented track record. Working with Green Marine to successfully install our Wave Energy Converter was crucial to CorPower to ensure a successful, safe operation was carried out within small weather windows.

Wave Energy Scotland www.waveenergyscotland.co.uk

WES was formed in 2014 at the request of the Scottish Government and is a subsidiary of Highlands and Islands Enterprise. It takes a progressive and collaborative approach to tackling the issues which have proved challenging in the wave energy sector and is driving the development of wave energy technology in Scotland and beyond.

The aim of WES is to ensure that Scotland maintains a leading role in the development of marine energy. Through its programmes to date, WES has awarded £25.4m to 61 projects, working with 171 separate organisations, across 11 different countries.

Background

CorPower follows a structured five-stage verification process established as best practices for ocean energy technology by ETIP Ocean and Wave Energy Scotland. It involves step-wise validation of survivability, performance, reliability and economics starting with small scale prototypes in Stage 1, continued by sub-system testing and then fully integrated WECs in increasing scales up to array demonstration in Stage 5. The current Stage 3 program follows the prior testing of multiple prototypes in smaller scales performed in Portugal, France and Sweden since 2013

Current Stage 3 demonstration is supported by best practice from EMEC in Orkney, alongside the experience from offshore power generation company Iberdrola Engineering and EDP, the University of Edinburgh and WavEC Offshore Renewables' expertise in cost and performance modelling.

€6.5 million has been invested in the Stage 3 program by InnoEnergy, the Swedish Energy Agency and Wave Energy Scotland, with another €4 million contributed by the European Commission's H2020 WaveBoost project.

About Wave Energy

Harvesting nature's vast resource of energy contained in ocean waves sustainably and effectively could produce 2000-4000TWh per year – 10-20% of worldwide electricity consumption. Wave Energy is the largest untapped and the most concentrated renewable energy resource, offering local and stable electricity supply to coastal regions. The ocean represents the world's most powerful solar battery, naturally storing energy from the sun and winds, enabling cost competitive grid balancing by dispatching electricity with a natural time shift compared to solar and wind farms.