Wavepiston Newsletter July ‘22

UK takes the lead on ocean energy

The United Kingdom is setting a strong example with its support for the development of renewable energy sources. Its “Contract for Difference” program (CfD) has just completed the 4th allocation round which secures almost 11GW of clean energy - enough to power around 12 million homes.

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Two contracts were awarded to Orbital Marine Power’s 7.2 MW multi-turbine Eday project in Orkney, Scotland, which will deploy their innovative floating technology. Picture of Orbital Marine Power O2. Courtesy of Orbital Marine Power.

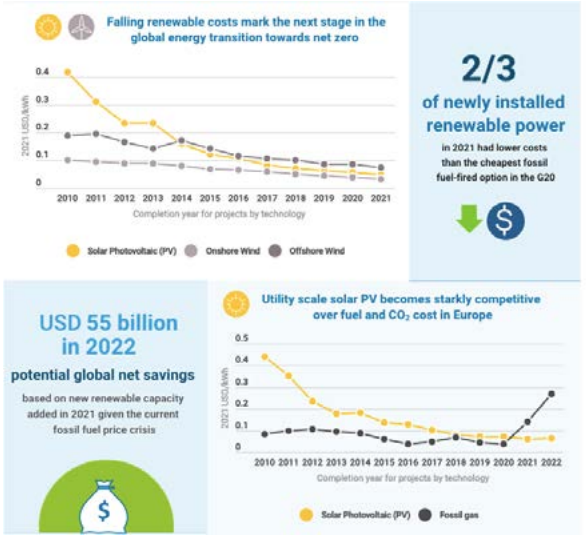
New to the program is developing technologies like tidal stream and floating offshore wind projects. Tidal stream was awarded a capacity of 41 MW at a price of £178.54 (€208.39) per MWh. The technology specific calls and the inclusion of ocean energy like tidal stream is also promising for wave energy as the CfD program will hold annual auctions from 2023 and wave energy is expected to be included in the future.

In a comment Ocean Energy Europe applauded the outcome of the UK auction. CEO, Remi Gruet, said: "The announcement is the first step in turning a 20 GW resource into a large-scale power source. Tidal energy can now take its rightful place in the UK's mainstream electricity supply. It is time for the EU to follow suit by actioning the commitments made in its offshore renewables strategy. Europe has long been the global leader in developing and deploying renewable energy – by dragging its heels on the Strategy, the EU now risks being left behind."

CfDs incentivise investment in renewable energy by providing developers of projects with high upfront costs and long lifetimes with direct protection from volatile wholesale prices, and they protect consumers from paying increased support costs when electricity prices are high. Applicant technologies are placed in different pots so that less mature technologies are not compared with more mature technologies.

(E) Breakdown of the outcome by technology, year and clearing price

Technology	Pot		2023/24	2024/25	2025/26	2026/27	Total Capacity (MW)
Solar PV (>5MW)	Pot 1	£/MWh	45.99	45.99	NA	NA	2209.41
		MW	251.38	1958.03	NA	NA	
Onshore Wind (>5MW)	Pot 1	£/MWh	-	42.47	NA	NA	887.96
		MW	-	887.96	NA	NA	
Energy from Waste (with CHP)	Pot 1	£/MWh	-	45.99	NA	NA	30.00
		MW	-	30.00	NA	NA	
Tidal Stream	Pot 2	£/MWh	NA	NA	178.54	178.54	40.82
		MW	NA	NA	5.62	35.20	
Floating Offshore Wind	Pot 2	£/MWh	NA	NA	-	87.30	32.00
		MW	NA	NA	-	32.00	
Remote Island Wind (RIW)	Pot 2	£/MWh	NA	NA	-	46.39	597.60
		MW	NA	NA	-	597.6	
Offshore Wind	Pot 3	£/MWh	NA	NA	-	37.35	6994.34
		MW	NA	NA	-	6994.34	



IRENA LCOE graphs

Wavepiston CEO, Michael Henriksen, argues that the Danish government can learn from The UK as well:

"The Danish government has chosen a "technology neutral" approach meaning that all bids for government supported programs are pooled together - irrespective of technology maturity, when they produce energy or how they affect the grid. The effect is that technologies like wave energy loses to wind and solar. Hence, new technologies will not reach the market. It would be a welcome change, if an approach like the technology specific CfDs would be adopted in Denmark and rest of Europe".

The UK practice of pooling similar technologies in different "auction pots" is also creating transparency and healthy competition driving down prices. In a press release the UK government notes that the competitive nature of the scheme has continued to place downward pressure on prices - the per unit (MWh) price of offshore wind secured in this round is almost 70% less than that secured in the first allocation round, in 2015.

Onshore wind and solar energy were both included in a CfD auction for the first time since 2015. Onshore wind secured almost 0.9GW of new capacity, clearing at a per unit price that was more than 45% lower than in the first CfD round in 2015, while solar secured more than 2.2GW.

On that note - Fresh figures from IRENA, The International Renewable Energy Agency, shows that new renewable capacity added in 2021 could reduce global electricity generation costs in 2022 by at least USD 55 billion. Between January and May 2022 in Europe, solar and wind generation, alone, avoided fossil fuel imports of at least USD 50 billion.

In fact, the period 2010 to 2021 has witnessed a seismic improvement in the competitiveness of renewables. The global weighted average LCOE of newly commissioned utility-scale solar PV projects declined by 88% between 2010 and 2021, whilst that of onshore wind fell by 68%, CSP by 68% and offshore wind by 60%.

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MEPs back boost for renewables use and energy savings

The Industry, Research and Energy Committee wants to accelerate substantially the deployment of renewable energy, and the reduction of energy consumption, by 2030.

Ocean Energy Europe applauds MEPs backing boost for renewables use and energy savings. Photo courtesy of OEE.

On Wednesday 13 July, Members of The European Parliament voted to raise the share of renewables in the EU's final energy consumption to 45% by 2030, under the revision of the Renewable Energy Directive (RED) -a target also backed by the European Commission under its "RepowerEU" package.

MEPs doubled the number of cross-border projects for the expansion of green electricity to two projects per member state. Member states with the highest annual electricity consumption will be obliged to adopt a third project by 2030.

The Committee also demands that member states set an indicative target for innovative renewable energy technology of at least 5% of newly installed renewable energy capacity.

In a separate vote on Wednesday, MEPs backed the revision of the Energy Efficiency Directive (EED), the law that sets energy saving targets in both primary and final energy consumption in the EU.

MEPs raised the EU target for reducing final and primary energy consumption: Member States should collectively ensure a reduction of energy consumption of at least 40% by 2030 in final energy consumption and 42.5% in primary energy consumption compared to 2007 projections. This corresponds to 740 and 960 million tonnes of oil equivalent (Mtoe) for final and primary energy consumption, respectively. Member States should set binding national contributions to achieve these targets.

This move has widespread support. The industry and research actors signing below welcome the European Parliament's initiative and call on Member States to back these ideas during interinstitutional negotiations in the autumn.

Dr Rainer Janssen, President of The Association of European Renewable Energy Research Centres (EUREC) said, "Europe is a world leader in research and innovation in several key renewable energy technologies. This new target will translate into support for the manufacturing of high-performance technology and provide fresh opportunities for renewable energy research centres to help companies develop new products."

Rémi Gruet, CEO of Ocean Energy Europe said, "This innovation sub-target can be Europe's bridge over the 'Valley of Death'. It will allow new renewable energy technologies to scale up in the market and will ensure Europe remains at the frontier of renewable energy innovation."

Michael Henriksen, CEO of Wavepiston adds: "These and other news clearly shows that renewable energies have tremendous momentum. But it requires a lot of hard work and support also from the EU member states".

W2EW partners visiting Gran Canaria for updates and inspection

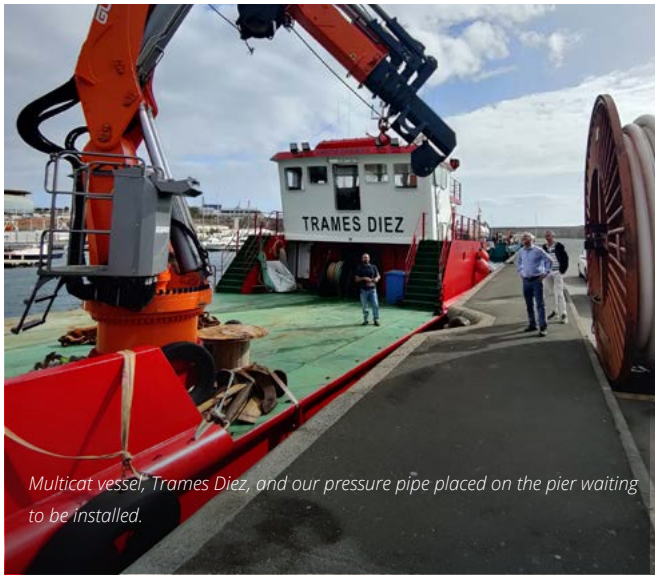
Meeting with Alejandro Peñafiel Hernández, Director of the Regional Multifunctional Complex at Gran Canaria North, and Juan Ramon Rodriguez, SPEGC (Society of Economic Promotion in Gran Canaria), regarding a potential project at the Technological Park in Gran Canaria North – an old prison being converted into a multifunctional technology centre lying next to the sea with energetic waves.

Top photo:
From left to right: Steen G. Thomsen, Wavepiston, Esther Capote Kerr, Wavepiston, Alejandro Peñafiel Hernández, Director of the Regional Multifunctional Complex at Gran Canaria North, Juan Ramon Rodriguez, SPEGC (Society of Economic Promotion in Gran Canaria)

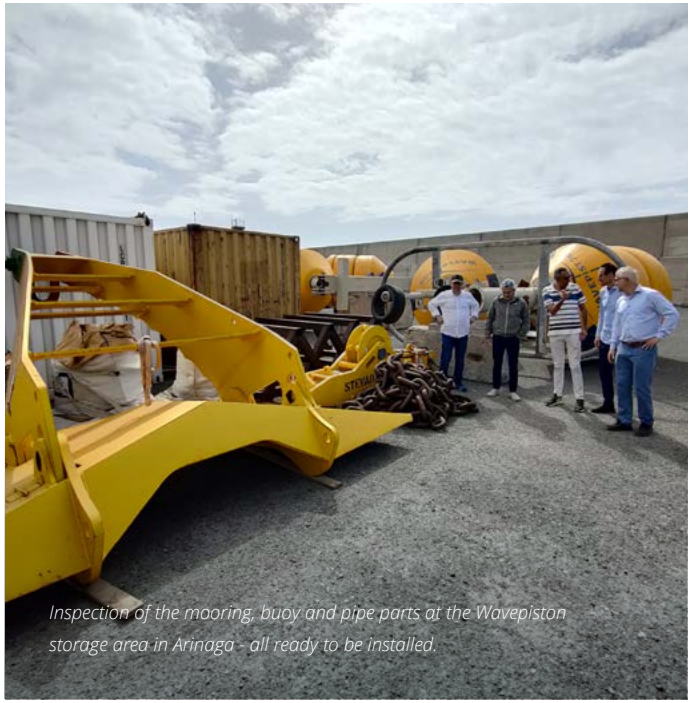
Discussing the installation procedure with Alberto Pariente, director of Trames, and the W2EW partners, on board his Multicat vessel, Trames Diez. We can use this vessel for all our offshore installations, e.g. pipe, mooring, string and energy collectors.

W2EW Wave to Energy and Water

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 831041



Multicat vessel, Trames Diez, and our pressure pipe placed on the pier waiting to be installed.



Inspection of the mooring, buoy and pipe parts at the Wavepiston storage area in Arinaga - all ready to be installed.

Senol Özmutlu, Vryhof Anchors, and Alberto Coello, Wavepiston, inspecting the Vryhof anchors and discussing the installation procedure.

The W2EW partners next to the mooring chains and the system buoys.

Mayor visit and parliamentary attention

Wavepiston is increasingly attracting attention from local and national politicians in Denmark. In June we had a visit from the mayor of Elsinore (Helsingør, where we are headquartered), Benedikte Kiær together with Birgit Johns Nielsen, responsible for programs supporting local companies. Our visitors got a briefing about the potential of wave energy and the progress of development at Wavepiston. Benedikte Kiær posted a very positive piece on LinkedIn following the visit.

We are also getting noticed by relevant members of the national parliament in Denmark. After the summer break we will be hosting visits from members of two different political parties. More to come on that in the fall.

Green Impact Summit and GI100 Award

In May we attended and presented at the Green Impact Summit organized by Sustainary, where we had a great day at telling about the advancement of #waveenergy. Thanks to professor Julia Fernandez Chozas, Donagh Cagney from Ocean Energy Europe, Anders Køhler from Floating Power Plant and public affairs consultant Esben Norrbom.

At the Green Impact Summit we were also announced as winners of the Green Impact 100 (GI100) competition. 100 investment ready start-ups showcased their green solutions to investors and companies at the Green Impact Summit 2022.

Together with our CEO, Michael Henriksen at the award ceremony was Human Shojaee (left) President of Sustainary (the organiser) and Alon Tal (right), Israeli environmental activist, academic and member of the Israeli parliament, who was speaking at the summit.

Selfie from left to right: Esben Norrbom, Michael Henriksen, Donagh Cagney and Anders Køhler.

On stage from right - Julia F. Chozas and Donagh Cagney.

Update on our capital raise

We are progressing with raising capital for the next phase of development as previously announced. At this point in time we have secured a commitment of EUR 600K from existing shareholders and we are having dialogues with potential new significant investors. The timing of a subsequent crowdfunding phase, which we have previously described as part of the capital raise process, will be decided upon conclusion of these dialogues.

More details can be found on the front page of www.wavepiston.dk, where we have also published a more detailed technical progress document. In the progress document there is a description of the updated design for the energy collectors of the system. We have identified the suppliers and placed the purchase orders.

We wish everyone a pleasant summer.

Link to pdf

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www.wavepiston.dk