

SSE RENEWABLES' & TOTALENERGIES' SEAGREEN 1100MW SEAGREEN OFFSHORE WIND FARM, OFF SCOTLAND, HAS ACHIEVED ANOTHER LANDMARK WITH THE INSTALLATION OF ITS FINAL TURBINE

At the wind farm, off Scotland, 76 of the 114 Vestas V164-10.0MW turbines are now energised at the site, which is located 27km from the Angus coast, now producing more than two thirds of Seagreen's full capacity power.

Once fully operational, Seagreen will be Scotland's largest offshore wind farm and will be capable of generating around 5000GWh of renewable energy annually.

The installation of the final wind turbine follows on from the completion of the successful turbine foundation jacket installation campaign which included the installation of the world's deepest wind turbine foundation at 58.6 metres.

Seagreen's project director John Hill said: "This latest project milestone further underlines the hard work by everyone involved in the project.

"The teams, including Vestas, operator of the Orca Cadeler, and our wind turbine marshalling team at Port of Nigg should be proud of what they have achieved.

"We will now continue with the commissioning of the final turbines and progress with the inter array cabling works.

"The project has already brought benefits to the local community, the UK supply chain and once fully operational in summer 2023, it will make a significant contribution to Scotland's and the UK's net zero targets."

SSE Renewables continues to lead the development and construction of the Seagreen project and will operate Seagreen on completion for the wind farm's expected 25-year lifetime.

SSE Renewables' and TotalEnergies' Seagreen 1100MW Seagreen offshore wind farm, off Scotland, has achieved another landmark with the installation of its final turbine.



HYDROGEN PRODUCED FROM SEAWATER AT CHINESE OFFSHORE PROJECT

Hydrogen has successfully been produced via the electrolysis of seawater on a floating offshore platform in east China's Fujian Province, according to multiple sources.

A test carried out by state-owned wind turbine manufacturer Dongfang Electric Corporation, saw a floating platform that hosted electrolysis capacity produce hydrogen for more than 240 hours.

China Global Television Network (CGTN) has reported that the test was verified by a team of experts from the Chinese Academy of Engineering (CAE).

H2 View has reached out to Dongfang Electric Corporation for more details of the test.

According to reports, the systems endured force eight wind speeds, meter high waves and rainstorms.

Electrolysis for hydrogen production typically requires ultra-pure water. In most projects using seawater, desalination equipment is normally established.

Writing for H2 View this year (2023), Stephen B. Harrison, Managing Director of sbh4, said, "The consequences of water supply issues are unacceptable. Impurities such as calcium ions in the water will rapidly damage a PEM electrolyser membrane due to the interaction with the catalyst coating. Alkaline electrolysers also have sensitivities to poisons in the water."



FIRST CAMPAIGN TO INSTALL TURBINES AT WORLD'S LARGEST OFFSHORE WIND FARM IS UNDERWAY

The campaign to install the first of 277 turbines at the world's largest offshore wind farm is underway, marking a major advance in the industry and speeding up the transition to a cleaner, more secure energy system.

The 260m tall turbines – which are almost twice the height of the London Eye – will be installed c.80 miles off the coast of Yorkshire using a specialist vessel, the 'Voltaire', with a lifting capacity of 3,200 tonnes, the largest of its kind in the world.

The scale of Dogger Bank Wind Farm is immense, occupying an area almost as large as Greater London, on seabed that once formed a land bridge between the UK and Europe. When fully complete it will have an installed capacity of 3.6GW of renewable electricity – more than two and a half times the size of the next largest offshore wind farm* – and be capable of producing enough green energy to power the equivalent of 6 million homes annually[^].





BALMORAL UNVEILS SCOUR PROTECTION SOLUTION THAT REPLACES ROCK DUMPING

Aberdeen-based provider of buoyancy and protection systems to the fixed-bottom and floating offshore wind industries, Balmoral, has launched a new solution for which the company says can drastically reduce scour phenomena around fixed wind turbines that cause seabed erosion and a reduction in foundation strength and stiffness.

The scour protection system, called Balmoral HexDefence™, integrates seabed protection and flow reduction to minimise offshore operational costs and potential cable failure, according to the company.

The structure eliminates the requirement to dump rock, instead providing a non-invasive approach to protecting the monopile and the immediate surrounding area, Balmoral says.

Furthermore, HexDefence has lightweight advanced composites construction and allows for streamlined installation method, which makes it easy to install without the need for additional vessels. This helps achieve an improved carbon footprint for all operations, the company pointed out.



Balmoral says its new system is also capable of use with antifouling coatings and does not require special equipment for end-of-life recovery.

“The interlocking panels are generally 10m long and customized to fit varying monopile diameters and feature integrated lifting and access points. In simple terms, the installation process involves sinking the foundation, sleeving it with HexDefence, fitting the transition piece and assembling the pylon and blades”, said Fraser Milne, Balmoral’s engineering and projects director.

“The system is also suitable for retrofitting to existing monopile structures.”



RIDGEWAY

ROCKBAGS
100% RECYCLED

Introduced into the U.K. and Europe by Ridgeway and Sumitomo in 2009, We have been busy listening, learning and promoting the offshore applications and benefits of the Kwoya Filter Units or more commonly referred to by the offshore and marine markets as “Rockbags”.

Designed originally as an effective means of “filter layer” scour protection for subsea structures in dynamic seabeds and challenging velocities, the Kwoya Filter Unit Rockbag has evolved to become a significant technical product and proven a safe, 100% recycled clean engineering solution with various innovative options on size and product specifications.

The knowledge base and expertise learned from severe Japanese weather conditions has expanded the use of the Rockbags over many decades within civil engineering applications also marine infrastructure protection of cables, pipelines, and seabed correction. Patent protected for various applications (Patent Nos EP2341592, EP2348215 and EP2354535, the Rockbags, used in combination with other traditional methods of cable and scour protection, are adding value to the solutions toolkit of the marine contractors.

Ridgeway have been working in collaboration with clients to add value on providing tools for stability calculations, CFD, excessive performance testing and modelling also trusted environmental subsea performance during their lifetime and importantly safe decommissioning.

INNOVATIVE SUBSEA ASSET PROTECTION

Once installed the filter unit Rockbags create their own mini ecosystem encouraging the regeneration of aquaculture environments, this aspect has become an important aspect for developers adding real value environmental engineering and sustainability in their subsea solutions.

In addition to this, Ridgeway have established a comprehensive geographical stock network of fast response capability for filled Rockbags under hook at ports throughout Europe utilising local labour and logistics.

Ridgeway have now a significant project track record for example flagship projects such as Teesside Offshore Wind Farm by EDF Energy Renewables. A world first in 2013 using Filter Unit Rockbags for scour protection on monopiles. It has also won contracts for works in Ireland at Arklow Bank, in Scotland at Beatrice, in England on Robin Rigg constructed by German provider E.ON, Gwynt y Môr wind farm in Wales (RWE Renewables UK) and other E.ON's schemes such as Humber Gateway and Rampion. For more information please visit: www.rockbags.com



U.S. DEPARTMENT OF ENERGY INVESTS NEARLY \$10 MILLION TO ADVANCE MARINE ENERGY

The U.S. Department of Energy (DOE) today announced nearly \$10 million for seven innovative projects that will accelerate development and testing of marine energy technologies. Marine energy resources—such as wave, tidal, and ocean and river currents—are abundant, predictable, and complement other renewable energy sources. These investments advance research on wave-powered technology for use in seawater desalination and support a feasibility study for a potential ocean current test facility.

“Marine energy technologies have incredible potential to provide clean electricity as well as clean water,” said Alejandro Moreno, Acting Assistant Secretary for Energy Efficiency and Renewable Energy. “These projects represent DOE’s first significant investment in marine energy serving the blue economy market, and will advance technologies that can meet these needs and help achieve President Biden’s goal of a net-zero-emissions economy by 2050.”

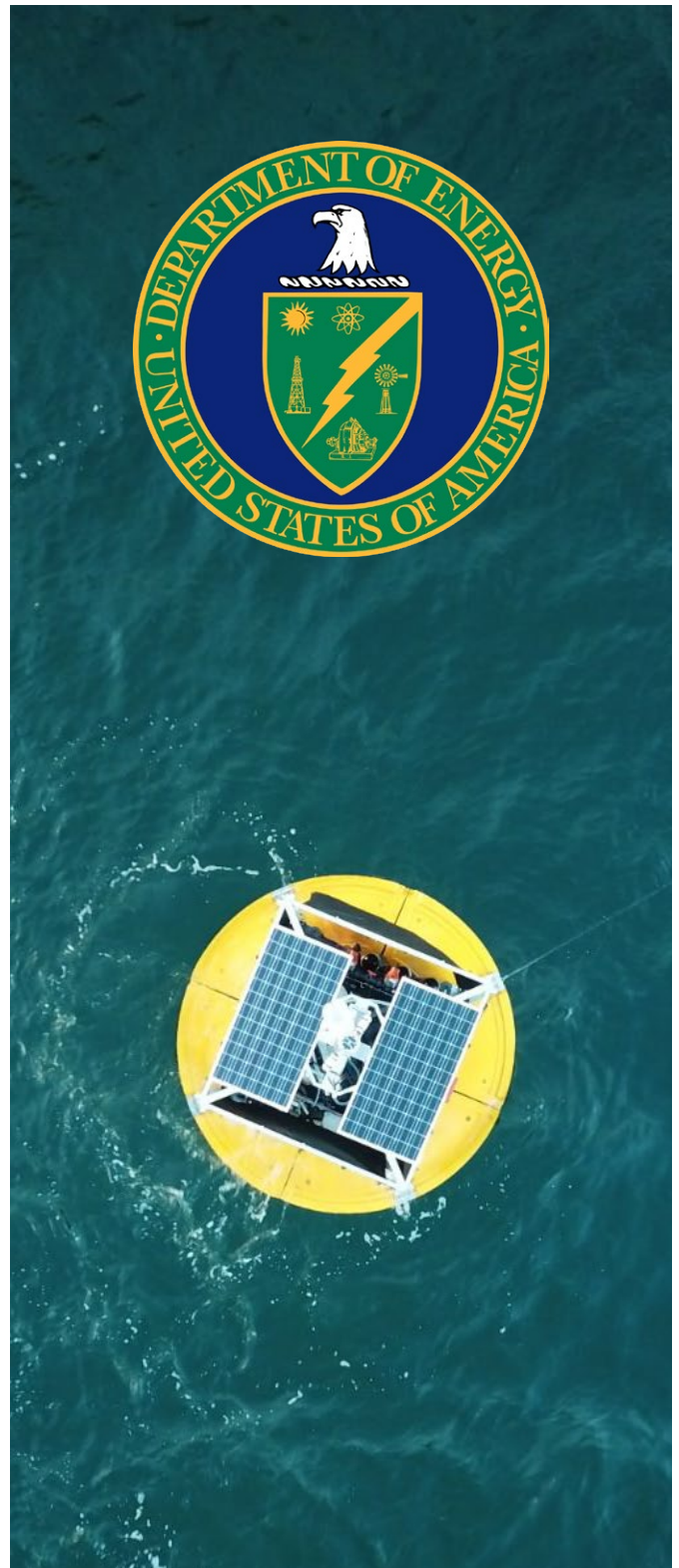
The seven projects announced today are part DOE’s Water Power Technologies Office’s (WPTO) Powering the Blue Economy™ Initiative, and six advance solutions that could provide low-cost, emission-free, and drought-resistant drinking water in disaster-relief situations and to small communities.

The seven projects focus on four areas:

Proving robust and reliable designs of wave-powered desalination systems.

- Oneka Technologies USA, Inc.’s Oneka IceCube—Emergency Relief Wave-Powered Desalination (Fort Pierce, FL). This project will optimize the Oneka IceCube, a wave-powered desalination device specifically designed for emergency relief applications and the grand prize winner of WPTO’s Waves to Water Prize. The team aims to reduce costs and improve technical performance, durability, and reliability to maximize water output, ease deployment and manufacturability, and prepare for commercialization. (Award amount: \$1,996,849)

- Sea Potential, LLC’s DUO-DS Wave-Powered Desalination System Sea Trials (New Canaan, CT). This project will deploy, test, and accelerate commercialization of the DUO-DS wave-powered desalination device, which pumps seawater through a reverse osmosis membrane to generate freshwater. The team proposes a deployment off the coast of Massachusetts to capture performance data. (Award amount: \$1,789,178)



GRS IS EXPANDING

We extend a warm and hearty welcome to our new colleagues, Waël Fachate and Andy Huang, as they join our dynamic team at GRS, knowing that they will undoubtedly contribute to our ongoing success. At GRS, we continue to embrace growth and innovation, consistently reaching new milestones and expanding into international markets.



Waël Fachate

Welcome Waël Fachate, our new Chartering Manager in Hamburg. With a Shipping Trading Master's from the University of Nantes and a background in tanker ship brokering, he joins GRS Hamburg. Wael specializes in offshore small tonnage and service brokerage, including tugs, workboats, crew transfer, guard vessels, and survey vessels.



Andy Huang

Welcome Andy Huang, our Strategy+Sourcing Manager in Taiwan. With 25+ years in sales and business development across semiconductor, instrumentation, and wastewater reuse, Andy brings a proven record of accomplishment and networking prowess.



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