RWE REACHES KEY MILESTONE WITH INSTALLATION OF HVDC OFFSHORE CONVERTER PLATFORM FOR SOFIA OFFSHORE WIND FARM

- RWE has achieved a significant milestone with the successful installation of the Offshore Converter Platform at its Sofia Offshore Wind Farm, marking the first deployment of HVDC technology for the company offshore.
- This installation represents the largest lift of its kind in the offshore wind sector, highlighting the effective collaboration between RWE, GE Vernova, and Seatrium.
- Sofia is RWE's largest offshore wind project currently under construction in UK waters, boasting a capacity of 1.4 gigawatts, enough to supply energy to approximately 1.2 million homes in the UK.

GIANT DUAL-ROTOR WIND TURBINE TAKES TO THE SEAS

China's Mingyang Smart Energy began the deployment of a unique floating wind turbine structure. The company referred to the OceanX platform as the world's largest floating wind power platform and the largest single-capacity floating wind platform.

Positioning of the platform commenced on Sunday, August 11, and it was expected to take 72 hours to travel the 191 nautical miles to its offshore location at the Qinghou IV Offshore Wind Farm in Yangjiang, a city in southern China, southwest of Hong Kong and Shenzhen. Officials highlighted that it was a challenging navigation, maneuvering the platform beneath major bridges and past busy harbors while transiting the Pearl River Delta's waterways.

The platform traveled along the Pearl River Delta toward its position in the ocean off Yangjian in Southwest China (Mingyang).

Built at the CSSC Huangpu Wenchong Shipyard, the platform was launched in mid-July. The unique arrangement incorporated two towers in a "V" shape, each holding an 8.3 MW MySE hybrid drive offshore wind turbine. The total output from the structure was expected to reach 16.6 MW.

Mingyang highlighted that it was the first use of ultra-high-performance concrete, which provided the structure with higher compressive strength. The company, which promotes itself as having the largest market share in offshore wind power, emphasized the unique features of the structure, including its airfoil double tower, double main engine, double rotors, and application of the cable stay system, all of which were world firsts.

The platform was designed for deployment in seas with depths of 35 meters (115 feet) or greater, with a draft of 5.5 meters (18 feet). It utilized a single-point mooring system that could withstand extreme typhoons. At its highest point, OceanX reached 219 meters (718 feet), with a maximum width in the air of approximately 369 meters (1,200 feet). The total displacement was about 15,000 tons.

SHANGHAI ELECTRIC'S PURPOSE-BUILT SOVS DELIVERED

On August 16, 2024, Shanghai Electric named and delivered two state-of-the-art Service Operation Vessels (SOVs) at ZPMC's Qidong base in China. These vessels, designed by Ulstein Design & Solutions AS, marked the first purpose-built SOVs for China's offshore wind industry.

Equipped with the innovative X-BOW and X-STERN designs, the SOVs were engineered to ensure optimal seakeeping, reduced slamming, and enhanced safety. The Zhi Cheng 60 (ULSTEIN SX197) and Zhi Zhen 100 (ULSTEIN SX195) offered superior station-keeping capabilities, improved wave response, and greater operability in rough sea conditions.

Liu Xiangnan, Vice President of Wind Power Company at Shanghai Electric, highlighted that Ulstein's design was chosen due to its market leadership, proven track record, and strong local presence. He noted that "during the process of developing these concepts, Ulstein demonstrated professionalism and expertise." The close collaboration between Ulstein, ZPMC, and Shanghai Electric laid a strong foundation for the successful completion of the projects.

Shanghai Electric, a leading provider of offshore wind turbines in China, expressed confidence that with these two world-class SOVs, they could bring more value to their clients while ensuring a safer working environment for colleagues at sea.

PARKWIND INSTALLS MJR OFFSHORE CHARGING SYSTEM

Parkwind, in collaboration with JERA Nex, has made a significant step towards sustainability by achieving the world's first offshore green energy charging using MJR Power & Automation's innovative system at the Nobelwind wind farm.

- The pioneering charging station enables vessels to access locally-generated renewable energy while at sea, significantly reducing CO2 emissions and promoting eco-friendly maritime operations.
- This milestone was reached after the system was successfully tested over a two-day period, with power being safely transferred to a Crew Transfer Vessel (CTV) from a fully operational offshore wind farm—an industry first.

Parkwind has installed this cutting-edge offshore charging station, designed to lower greenhouse gas emissions from maintenance vessels and promote sustainable practices. Powered by renewable energy from local sources, this investment in innovative infrastructure supports efforts to facilitate low-carbon marine transportation. By utilizing locally-sourced clean electricity, the initiative aligns with Parkwind's broader mission to produce renewable energy while minimizing its environmental impact.

This groundbreaking system, now operational at the Nobelwind wind farm, allows vessels to connect to and use green energy while maintaining position despite sea currents. The system, developed by UK-based partner MJR, was successfully integrated and deployed with Parkwind's support. Extensive testing of the automated coupling, uncoupling process, and charge management confirmed the system's success.

REMAZEL ENGINEERING COMPLETES SUCCESSFUL TESTING OF MONOPILE LIFTING TOOL

Remazel Engineering, an Italian company specializing in offshore engineering solutions, recently announced the successful completion of the testing phase for their Monopile (MP) Lifting Tool.

This tool, designed to meet the demanding technical requirements of the offshore wind sector, boasts an impressive lifting capacity of 3,000 tonnes and an adaptable diameter range between 7 and 9 meters.

The entire test bench was engineered and constructed in-house by Remazel. During testing, the tool performed under an exceptional load of 3,600 tonnes, setting a new record in the industry, according to the company.

SMC MARINE:

COMPLETES TRIAL ASSEMBLY OF THE UNIVERSITY OF WESTERN AUSTRALIA'S M4 WAVE ENERGY PROTOTYPE

The 'Moored MultiMode Multibody' (M4) Wave Energy Demonstration Project, based in Albany's outer harbour at King George Sound, is set to design, construct, deploy, operate, and eventually decommission a wave energy converter. The M4 device, a surface-riding structure with two frame segments on floating buoys, generates electricity through the flexing motion at its hinge.

The M4 project aims to demonstrate:

- The potential of wave energy resources in the Great Southern region to support the local economy and potentially create an export industry.
- The capabilities of the local supply chain in handling large-scale ocean energy initiatives.
- The effectiveness of the M4 wave energy technology.

This device, an attenuator-type wave energy converter, consists of multiple floats connected by beams above water. The demonstration unit in Albany uses a 1-2-1 float array, with the float diameter increasing from front to rear. Power is generated as the centre float hinge allows relative rotation between the front and rear beams under wave action. The structure's single-point mooring and float configuration allow it to naturally rotate with changing sea conditions.

In addition to wave energy, the system incorporates two small wind turbines and a solar array to assist in data collection and transmission. The scaled-down demonstration model is 24 meters long and can absorb between 1-10kW of energy in the target sea states of King George Sound. Real-time data on device performance, including energy production and motion, will be transmitted to onboard systems.

The Great Southern coast is known for its world-class wave energy potential, both in power density and consistency. A future full-scale wave energy converter could connect to the grid at the Albany Windfarm in Moodrenup/Sandpatch. This project also aims to lay the groundwork for testing wave energy technology at a nursery site, showcasing the potential for wave energy in decarbonizing local industries, such as the Albany Shellfish Hatchery and the Historic Whaling Station on the Torndirrup Peninsula.

JAPAN BEGINS DEMONSTRATION OF OFFSHORE FLOATING SOLAR POWER GENERATION, INSTALLATION COMPLETE

The “Tokyo Bay eSG Project” has marked a significant step in Japan’s renewable energy advancements, showcasing the potential for generating clean energy at sea. Tokyu Land Corporation (Head Office: Shibuya-ku, Tokyo; President: Hiroaki Hoshino) and SolarDuck B.V. (Head Office: Rotterdam, the Netherlands; CEO: Koen Burgers), in collaboration with Kyocera Communication Systems Corporation, have successfully installed Japan’s first offshore floating solar photovoltaic (OFPV) power plant. This installation is part of the Tokyo Metropolitan Government’s Policy Planning Bureau initiative.

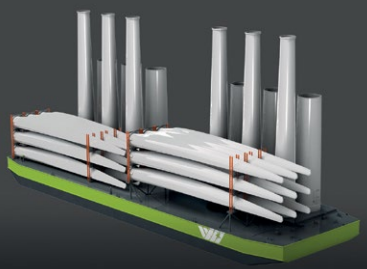
The project is a demonstration aiming to create one of the world’s most advanced energy generation systems in the Tokyo Bay area. Selected in November 2022 under the category of “cutting-edge renewable energy,” SolarDuck and Everblue Technologies, Inc. have been working on this initiative, which will see the deployment of OFPV technology over FY2024. The demonstration will explore power generation from OFPV systems, storing energy in ground-based batteries, and transporting these batteries.

The renewable energy generated from the OFPV will be used to power Open Street Corporation’s electric mobility vehicles and an electric boat, demonstrating practical, sustainable solutions for the transportation sector. Additionally, the project plans to explore renewable energy applications for future events in the Takeshiba area, further contributing to the initiative.

The ultimate goal of this demonstration is not only to achieve Japan’s first functional OFPV power plant but also to create a model for energy production and consumption that can be replicated in other regions of Japan and internationally.

GRS OFFSHORE RENEWABLES

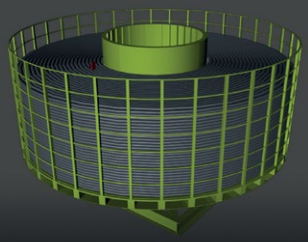
OFFSHORE EQUIPMENT



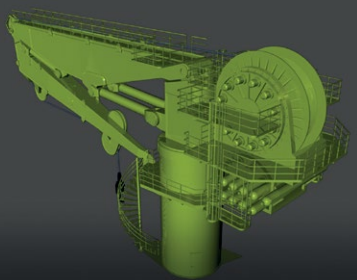
BARGE / PONTOON

ACCOMMODATION MODULE

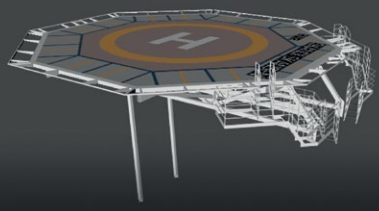
TRANSFER SYSTEM / GANGWAY



CABLE CAROUSEL / TURNTABLE



CRANE

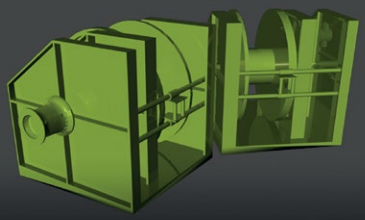


HELICOPTER DECK

OFFSHORE CONTAINER

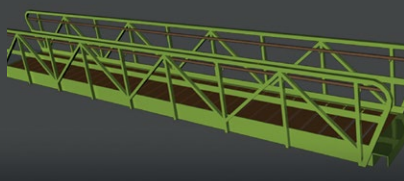
CABLE INSTALLATION EQUIPMENT

REMOTE OPERATING VEHICLE (ROV)



MOORING SYSTEM / WINCH

A-FRAME



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