FIRST SUCTION BUCKET JACKET FOUNDATIONS ARRIVE IN ASIA-PACIFIC

The 920 MW Greater Changhua 2b and 4 offshore wind farms achieved a significant milestone in 2024 with the arrival of the first batch of suction bucket jacket foundations (SBJs) at Taichung Port, Taiwan. These structures, shipped from Korea, marked an innovative leap in offshore wind technology for the Asia-Pacific region.

Each SBJ stands approximately 80 meters tall and weighs up to 2,300 tonnes. These steel cylinder structures are pre-attached to jacket braces, enabling faster, pile-free installation. This method reduces noise pollution, making SBJs one of the most environmentally friendly foundation technologies available today.

By the end of 2024, 44 out of the planned 66 SBJs had been fully assembled. Additional foundations and wind turbine components are expected to have arrived at Taichung since then, supporting the offshore construction that begins this year.

ATOMS PLATFORM AND LIFTRA INSTALLATION CRANE: REVOLUTIONIZING OFFSHORE TURBINE INSTALLATION

With next-generation turbines exceeding 15 MW, the offshore wind industry faces growing demand for innovative solutions to meet installation and maintenance challenges. One major hurdle is the limited availability of jack-up vessels capable of efficiently managing these larger turbines. Addressing this issue, the Liftra Installation Crane, combined with the ATOMS platform, is paving the way for more flexible and scalable offshore operations.

In partnership with SOLVE WIND, this groundbreaking platform is set to reshape the offshore wind landscape, particularly in regions with limited infrastructure, such as the USA, Japan, and Korea.

Benefits of the ATOMS Platform:

- Lowering the LCOE:

This solution offers a cost-effective alternative to traditional jack-up vessels, significantly reducing overall project expenses.

- Enhanced Flexibility:

Designed for both fixed-bottom and floating turbines, the ATOMS platform incorporates Self-Hoisting Crane technology, eliminating hub-height limitations and enabling cost-efficient installation of taller turbines.

- Increased Vessel Availability:

As a low-CAPEX option, this technology can be produced in greater quantities, boosting vessel availability and reducing charter rates.

By integrating the Liftra Installation Crane with the ATOMS platform, the offshore wind sector is poised to accelerate deployment and reduce costs, ensuring the scalability needed to meet global renewable energy goals.

TILTED ROTOR WIND TURBINES:

A POTENTIAL GAME-CHANGER FOR OFFSHORE WIND FARMS

An international consortium has launched a study to explore the potential benefits of wind turbines equipped with tilted rotor blades. These innovative designs aim to minimize the wake effect, enabling turbines to be positioned closer together without reducing efficiency.

By mitigating wake turbulence, the energy output per turbine could see notable improvements, making offshore wind production more cost-effective. Additionally, the tilted rotor blades appear capable of capturing wind from higher atmospheric layers, further enhancing overall wind farm performance.

If proven successful, this development could significantly lower the costs of offshore wind projects while maximizing the use of available space, marking a substantial advancement in renewable energy technology.

GRS OFFSHORE RENEWABLES

BLUE ECONOMY
COOPERATIVE RESEARCH CENTRE

CLEAN ENERGY FROM OCEAN WAVES: M4 WAVE ENERGY CONVERTER DEPLOYED IN ALBANY

The Moored MultiModal Multibody (M4) Wave Energy Converter (WEC) has been successfully deployed in King George Sound, Albany, Western Australia. This 22-meter-long, 42-tonne surface-riding device has begun collecting performance data while harnessing renewable energy from ocean waves.

Over the next months, the M4 is expected to generate clean energy and deliver crucial insights into its efficiency and potential as a sustainable energy source for Australia's Great Southern region. This initiative marks a significant advancement in the country's efforts to tap into wave energy as a renewable resource.

"This is a world-first," said Christophe Gaudin, Director of MERA and UWA Oceans Institute. "The M4 is a fully open-sourced wave energy generator, with all data from its operation shared publicly on a dedicated website. By making this information available, we aim to uplift the global ocean wave energy industry, sharing valuable lessons and building investor and user confidence. This project is of international importance."

The deployment of the M4 represents a vital step toward advancing ocean wave energy technology, with implications for renewable energy development worldwide.

INYANGA MARINE ENERGY GROUP TAKES CONTROL OF FRANCE'S FIRST GRID-CONNECTED TIDAL TURBINE

Inyanga Marine Energy Group has officially assumed control of the D10 tidal turbine, France's first grid-connected tidal energy system, originally deployed in 2015. Situated in the Fromveur Passage off Brittany's coast, the turbine supplies clean energy to the remote island of Ushant.

Previously owned by French company Sabella, which went into liquidation in January 2024, the D10 turbine's operation rights have now been secured by Inyanga Marine Energy Group until August 2028. Headquartered in the UK, with an office in Brittany, Inyanga has overseen offshore operations at the site since 2016.

Diane Dhomé of Inyanga Marine Energy Group highlighted the support received during the transition: "All permitting for the D10 turbine has now been renewed. We deeply value the support from the Brittany Region and French Administration, reflecting our shared vision for advancing renewable tidal energy."

The D10 turbine, positioned 55 meters below the surface, stands 17 meters high with a diameter of 10 meters. It can produce up to 250kW of clean electricity, consistently powering Ushant's grid since its last deployment in early 2022. The turbine has also undergone efficiency upgrades and demonstrated no adverse effects on the marine environment.

Richard Parkinson, CEO of Inyanga Marine Energy Group, commented: "Having been heavily involved in the D10's offshore operations, we were saddened by Sabella's bankruptcy. However, we are delighted to have concluded the takeover, ensuring a bright future for this iconic turbine. This marks another milestone in our journey toward becoming the global leader in tidal energy."

The Fromveur Passage, also known as St. Vincent's Channel, is renowned for its powerful tidal currents, the second strongest in France, making it an ideal location for tidal energy generation.

FRENCH FIRM COMPLETES FLOATING SOLAR PLATFORM FOR PETRONAS' MALAYSIAN PROJECT

French renewable energy company Offsolar has announced the completion of its 238 kWp floating solar platform for Petronas' Centre of Excellence for Offshore Renewable Energy (CEFORE) in Malaysia. This initiative marks a significant milestone in advancing offshore renewable energy technologies.

The platform is now entering its commissioning phase, aligning with Petronas' energy transition strategy. Engineered to endure tough marine environments, the floating solar system aims to deliver cost-effective and sustainable electricity in regions with limited land availability, according to Offsolar.

"This project with the PETRONAS Group is a pivotal moment for the AREMA GROUP and showcases Petronas' trust in our capabilities," Offsolar stated in a social media post. "We are proud to support Petronas' energy transition and contribute to making renewable energy more innovative and accessible."

The CEFORE project, developed collaboratively with University Malaysia Terengganu (UMT), Schneider Electric Industrial Automation, CITAGLOBAL ENERGY SDN, and Honeywell Energy and Sustainability Solutions, supports Malaysia's broader national energy transition roadmap.

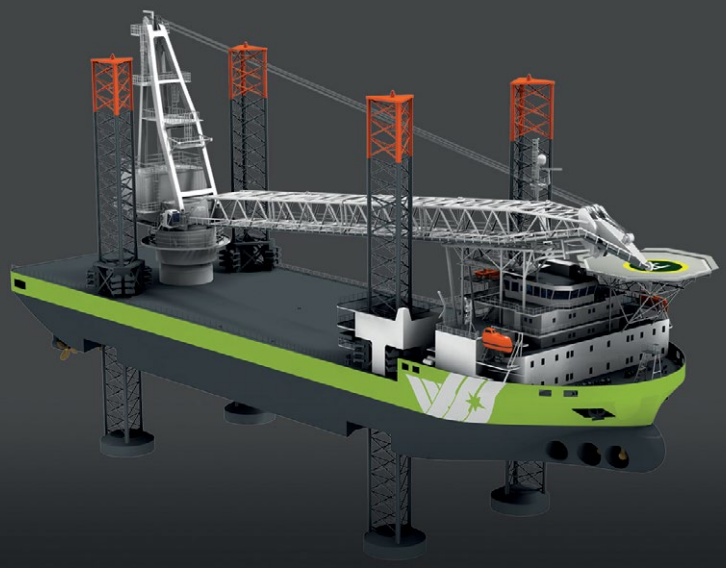
UMT highlighted the project's integration of offshore wind turbines, floating solar photovoltaics, ocean wave energy, and a sophisticated energy management system, creating a unified renewable energy framework. "This initiative not only advances renewable energy but also benefits the UMT community, the local population, and industries like fishing," UMT noted.

Offsolar, headquartered in Toulouse, France, continues to focus on cost-efficient offshore renewable deployments that prove resilient in demanding marine environments. The system is designed to integrate seamlessly with offshore wind, aquaculture, and fishing activities, promoting the multi-functional use of marine spaces.

Research by Rystad Energy emphasizes that floating solar will be instrumental in Southeast Asia's renewable energy growth, addressing the lack of suitable locations for onshore solar farms while offering innovative energy solutions for the region.

GRS OFFSHORE RENEWABLES

AN EXTENSIVE DATABASE OF OFFSHORE VESSELS



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