Despite Russia's ongoing war against Ukraine, the DTEK Group is completing the construction of the first phase of Tyligulska wind-power plant. (Courtesy: DTEK)

CONSTRUCTION

DTEK to complete construction of Ukraine wind plant

Despite Russia's ongoing war against Ukraine, the DTEK Group is completing the construction of the first phase of Tyligulska wind-power plant, with a capacity of 114 MW out of the total declared 500 MW. Nineteen wind turbines will start generating electricity to support Ukraine's energy balance.

The DTEK Group is planning to complete the Tyligulska wind-power plant to reach its full design capacity of 500 MW. The company is seeking options for the further implementation of the project, including negotiations with international donors and partners.

"The war will not stop us," said Rinat Akhmetov, SCM Group shareholder. "We continue to create jobs, pay taxes, produce coal, generate electricity, restore grids, fight for our energy independence, and invest in the future. We will win the war."

"Ukraine creates, and Russia destroys," said Maxim Timchenko, DTEK's CEO. "This is the fundamental difference in our world views. DTEK is building new energy facilities because we believe in the victory of Ukraine. And we are sending a signal to international partners that it is possible to invest in Ukraine today without waiting for the end of the war."

The DTEK CEO expressed his gratitude to all the energy professionals who bravely put on body armor to continue the construction of Tyligulska WPP, as well as all the partners for their support and help.

The implementation of the project in the Mykolaiv region in southern Ukraine is another step toward achieving the ambition of the "30 to 2030" initiative, with the aim of 30 GW of installed renewable energy capacity in Ukraine by 2030. Ukraine's current installed renewable energy capacity, including the temporarily occupied facilities in the south of the country, is about 10 GW. An increase in green-power generation to 30 GW would mean renewables make up 50 percent of Ukraine's power generation.

The president of Ukraine, Volodymyr Zelenskyi, has repeatedly emphasized the importance of green energy for the future of Ukraine, and the

Vaisala has added lightning data to its Helideck monitoring system. (Courtesy: Vaisala)

process of energy sector decentralization has already started. For the DTEK Group, the development of green power generation is a priority, helping lay the foundation for Ukraine's post-war recovery.

MORE INFO: dtek.com/en

INNOVATION

Vaisala integrates lightning data into weather suite

Vaisala, a global leader in weather, environmental, and industrial measurements, recently announced the integration of lightning data from Vaisala's Global Lightning Dataset GLD360, part of its Xweather suite of weather and environmental data services, into its Helideck Monitoring System.

Built to meet the demands of challenging offshore environments, Vaisala's Helideck Monitoring System uses thunderstorm and lightning information from GLD360, the only global sensor network that detects thunderstorms in real time anywhere, including oceans, seaports, and other areas outside the range of weather radars. Helicopter pilots, helideck operators, and offshore authorities can now make informed "waiting on weather" decisions that result in minimized operational downtime, improved route planning, and reduced cost and impact of weather disruptions.

This solution for offshore operations delivers:

- **Detection efficiency and location accuracy:** Vaisala's global lightning data network identifies 100 percent of global thunderstorms and locates lightning with a median accuracy of one kilometer.
- **Complete situational awareness:** The Vaisala Lightning Threat Zone provides storm and lightning trajectory in 10-minute increments up to 60 minutes out, advising when a location of interest may be impacted.

ZX TM allows the power curve of GE onshore wind turbines to be measured and verified as a function of the hub height wind speed. (Courtesy: GE Renewable Energy)

Maintenance-free lightning data services: With no capital investment needs or expensive offshore maintenance costs, the Helideck Monitoring System eliminates the need to purchase, install, or maintain single-point lightning detection sensors.

Highest-quality lightning data: Vaisala's expertise in lightning data, and its ongoing investments in operating and maintaining the world's best global lightning network, safeguards offshore operations with real-time lightning data with better than 99.99 percent availability.

Proven lightning and offshore weather expertise: Vaisala lightning detection networks are used by the U.S. Navy, U.S. Air Force, National Weather Service, Federal Aviation Administration, and many large power utilities and commercial organizations globally.

Lightning data when needed: The lightning data services are compatible with 4G LTE, 5G, and all common satellite internet communication solutions used at sea with minimal bandwidth requirements.

Compliance with industry standards: The certified Helideck Monitoring System solution complies with current CAP437 and Helideck Certification Agency requirements, and its CAA-certified software adheres to international aviation regulations.

"It's all about safety and efficiency. Lightning can cause power outages, damage helicopters and infrastructure, and even put people in harm's way. Monitoring lightning in real time to assess its impact is essential for protecting lives and assets and optimizing the timing of offshore helicopter take-offs, landings, hoist operations and fueling," said Mikko Nikkanen, head of maritime at Vaisala. "Our upgraded Helideck Monitoring System allows offshore customers to stay ahead of the weather and gain oceans of actionable insight to boost their operations with confidence."

Leveraging more than 85 years of measurement expertise, including 45-plus years in aviation weather and more than a decade of experience in demanding offshore weather applications, Vaisala's global support team has delivered hundreds of Helideck Monitoring Systems to partners around the world.

MORE INFO www.vaisala.com/helideckmonitoring

INNOVATION

GE Renewable Energy approves Lidar ZX TM

GE Renewable Energy recently approved the use of the nacelle-based Continuous Wave scanning Lidar ZX TM from Lidar OEM ZX Lidars for power performance testing.

Within the past year, the International Electrotechnical Commission released the standard IEC 61400-50-3, Use of nacelle-mounted lidars for wind measurements. In anticipation of and response to this new standard, GE Renewable Energy studied the use of those devices for power performance measurements.

This specific Lidar, ZX TM, allows the power curve of GE onshore wind turbines to be measured and verified as a function of the hub height wind speed and may be, when agreed with the customer, used instead of the procedure described in the IEC61400-12-1:2017 (ed. 1/ed. 2) using a meteorological mast and anemometry installation.

In addition to hub height measurements specifically used for power performance tests, operational rotor equivalent power curves can also be measured with ZX TM's 50 points around the full rotor swept area, providing full veer and shear information. These measurements help to inform operational strategies relating to turbine performance outside of warranted conditions, and may be important for turbines with larger rotor diameters offshore and on sites with complex veer or shear profiles onshore.

MORE INFO www.zxlidars.com

INNOVATION

Vaisala WindCube deployed off French Coast

Vaisala WindCube Lidar is integrated into the buoy data acquisition system. (Courtesy: Ocergy)

Ocergie SAS recently announced that its pilot OCG-Data Blue Oracle (Buoy with Lidar and Underwater Equipment for Ocean Resource Assessment and Characterization of Life in the Environment), is now anchored 30 kilometers offshore Leucate in the Occitanie region in 95-meter water depth in one of the pre-selected zones of the Mediterranean Floating Wind Tender (AO6).

Vaisala WindCube Lidar is integrated into the buoy data acquisition system. The buoy is fitted with TP Product structural compact flanges and was assembled at Euroports Marine Renewable Energy terminal in Port-la-Nouvelle.

"This key milestone closes the first year of the project, and the scientific teams are excited to embark in the data acquisition and analysis year-long phase, which is expected to provide valuable biodiversity and environmental information," said Christian Cermelli, president of Ocergie SAS.

"In addition, this buoy serves as a one-third scale pilot of our OCG-Wind Floating Offshore Wind foundation with important return on experience expected to further mature our FOW design."

The buoy data acquisition system is fully operational and high resolution metocean and bio-diversity data is already being acquired.

MORE INFO www.ocergy.com

WindESCo successfully installed its Swarm technology across Longroad Energy's Milford I & II wind plants in Utah. (Courtesy: WindESCo)

INNOVATION

WindESCo installs industry-first wake steering

WindESCo, a pioneer in improving asset performance and reliability for wind-turbine stakeholders, recently announced the installation of its Swarm technology across Longroad Energy's Milford I & II wind plants in Utah, featuring a combined capacity of 306 MW. The commissioning of Swarm at Milford marks the wind industry's first full-scale implementation of commercial wake steering and collective control technology.

Wakes at wind farms create substantial turbulence and curtailment, reducing plant output by up to 20 percent, according to a study published in Wind Energy Science. As wind-energy installments have grown in turbine size and scale over the last several years, this problem has been exacerbated. Wakes are of particular concern to the growing number of offshore wind plants planned around the world, including along the Atlantic and Pacific coasts of the U.S.

Swarm, the industry's first commercial solution for collective control of wind turbines, works by combining advanced analytics, model-in-the-loop control, and Industrial Internet of Things (IIOT) to accomplish +3 percent increase in annual energy production (AEP) via wake steering and additional collective control applications developed by WindESCo.

Swarm reduces curtailment, optimizes low wind resource, and protects against extreme conditions that have become increasingly common due to climate change, thereby increasing asset life.

The Milford I&II Swarm installation was completed in December 2022 on 165 turbines, consisting of a mix of GE 1.5-MW and Clipper 2.5-MW machines. With both sites operational for more than a decade, WindESCo and Longroad's collaboration supported the plants' repowering, which also included rotor, blade, and controller upgrades for many turbines.

"It's no secret that as assets age they have a natural tendency to experience certain losses in efficiency," said Jeremy Law, Longroad Energy's head of asset management. "But that doesn't have to be the end of the story. We are committed to looking at innovative solutions that not only mitigate production loss, but actually reverse that direction of travel. We selected Swarm at Milford I & II because we are comfortable that WindESCo will deliver that expected AEP gain."

"While many research teams have modeled and written about the potential for improving wind-plant performance through wake steering, never before has a large-scale commercial test of such technology been completed," said Mo Dua, WindESCo founder and CEO.

"We are so proud of the years of work that went into bringing this solution to the market. The commissioning of Swarm at Milford demonstrates that large-scale wake steering is possible as a retrofit solution for older assets, while also proving feasibility for Swarm to support the expanding global fleet of wind turbines offshore.."

MORE INFO www.windesco.com

A heavy-duty pontoon system has been installed at the Neart na Gaoith wind farm in Scotland. (Courtesy: Inland and Coastal Marina Systems)

MAINTENANCE

ICMS installs pontoon system in Scottish offshore wind farm

Supporting Scotland's growing offshore energy sector, Inland and Coastal Marina Systems (ICMS) recently installed a heavy-duty pontoon system in Eyemouth Harbour as part of the new operations and maintenance (O&M) base for the Neart na Gaoith Offshore Windfarm.

The pontoon system comprises a 58 meter by 4 meter pontoon and a 27 meter by 4 meter pontoon, both with 1 meter freeboard to match that of the vessels, creating a quality berthing facility for crew transfer vessels (CTVs) serving the new windfarm, which is situated 15.5 kilometers off the coast of Fife.

With a capacity for displacement vessels up to 140 metric tons, both pontoons are connected to the shore via 28 meter by 1.5 meter access bridges and are topped with GRP decking suitable for commercial application, offering excellent anti-slip properties. "We installed NNG's new pontoons in the busy harbor basin, on the marine side, during the build phase of the O&M building, which meant working closely with multiple contractors to ensure the project was completed safely and on time," said Calum MacDougall, engineering sales manager at ICMS.

Illumination from high-level lighting further ensures safe working conditions for workers and CTV crews year-round during the commissioning and ongoing maintenance phases of the Neart na Gaoith Offshore Windfarm.

"We've been delighted to be involved with a project that will bring long lasting benefits to the local community, businesses and the economy," MacDougall said.

MORE INFO inlandandcoastal.com

MAINTENANCE

ONYX Insight launches windy season campaign

ONYX Insight, provider of predictive maintenance solutions, has launched Get Ready for the Windy Season, a campaign to inspire operators to take a three-step predictive maintenance approach to ensure their wind-turbine fleets are optimized for the windy season and reduce unexpected downtime during the winter.

In the U.S. and Europe, April-September is when the wind is less consistent and has a reduced speed. This is the time for wind owner-operators to do the groundwork and to complete as much maintenance and repairs as possible, ensuring turbines are primed for when the wind is more intense, and profitability is greatest.

Time spent offline during the windy season can have significant impacts. For example, more than 58 percent of wind-farm operational expenditure can be attributed to operation and maintenance costs, 65 percent of which are unplanned.

ONYX Insight works proactively with wind-farm owner-operators using a combination of predictive maintenance solutions such as advanced analytics, data, and engineering, encouraging them to implement a three-step process in a bid to streamline their operations and avoid unplanned stoppages during high wind times.

In the U.S. and Europe, April-September is time for wind owner-operators to do the groundwork and to complete as much maintenance and repairs as possible. (Courtesy: ONYX Insight)

Step One: Getting wind asset data in order is the first step on the journey to peak performance. Aging wind sites may not have CMS systems, or ones that enable them to make better decisions or put in place a predictive maintenance strategy. It allows asset managers to access and interpret this data, improving real-world performance.

Step Two: Prioritize urgent issues. Using solid data and analysis, owner-operators can detect the most serious damage, fix it, and extend the life of turbine assets.

Step Three: Get your turbines fit for the future. Operators should get ahead of the game by ensuring their turbines are fit for the future thanks to a simplified engineering approach to maintenance rather than a nominal, scheduled or reactive approach that can potentially miss issues.

ONYX Insight is a market leader in providing CMS, with the company collecting data directly from more than 14,000 turbines across 30 countries across the globe.

"With a greater onus being placed on renewable energies, we want to ensure wind operators are well equipped to meet growing demand for clean power head-on," said Bruce Hall, Onyx Insight CEO. "A key part of this is helping them to reduce asset downtime, as well as maintenance costs." "Not only can early intervention prevent extended periods of turbine downtime, but it can also extend the lifespan of assets," said Evgenia Golysheva, Onyx Insight VP of strategy and marketing.

By working with wind-farm operators, we can help them to effectively fix their turbines while the sun is shining. By doing so, it helps ensure we all benefit as much as possible from the enormous generating potential of wind power."

MORE INFO onyxinsight.com

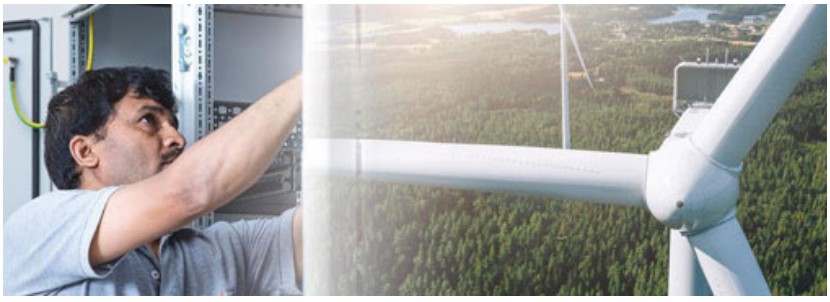
If the South Korea project materializes, Vestas will supply and install 40 units of the V236-15.0 MW turbine. (Image features the 90-3.0 MW turbine at a wind farm in Sprogø, Denmark.) (Courtesy: Vestas)

MANUFACTURING

Vestas to supply South Korea offshore wind project

Vestas has signed a preferred supplier agreement with Korea South-East Power Company (KOEN) for the 600 MW Wando Geumil offshore wind project in Wando-Gun, South Jeolla Province, South Korea. If the project materializes, Vestas will supply and install 40 units of the V236-15.0 MW turbine. Vestas will also deliver 20 years of operation

RecyclableBlade technology will be installed on 44 of Sofia's 100 SG 14-222 DD offshore wind turbines. (Courtesy: Siemens Gamesa)



KK Wind will exclusively supply converters and control panels to Vestas. (Courtesy: KK Wind)

and maintenance service for the wind farm when operational.

"We are honored to have been selected as preferred turbine supplier by KOEN for the Wando Geumil offshore wind project and the trust that the customer placed in Vestas," said Purvin Patel, president of Vestas Asia Pacific. "Aiming to become a leader in offshore wind, Vestas is committed to support decarbonization of the country as well as the Asia Pacific region, in close partnership with our customers."

"We are so excited to take part in this project, which will be the first collaboration for us with KOEN," said Srdan Cenic, country manager of Vestas Korea and vice president, head of sales offshore of Vestas Asia Pacific. "Through the project, KOEN and Vestas will work together to unleash the potential of offshore wind in the west coast of the country and contribute to South Korea's goal of generating 20 percent of its energy from renewable sources by 2030.

KOEN is a power-generation company newly started on April 2, 2001, according to the South Korean government policy for restructuring the power generation industry. The company operates five power generation facilities with a total capacity of 10,324 MW. Delivery of the turbines will be expected to begin in the fourth quarter of 2025, with commercial operation scheduled for the third quarter of 2026.

MORE INFO www.vestas.com/en

MANUFACTURING

Vestas completes converter, controls sale to KK Wind

The sale of Vestas' converters and controls business has been completed and marks the transfer of Vestas' three converters and controls factories to KK Wind Solutions. About 600 of Vestas' experienced and skilled colleagues will join KK.

"I'm very excited about the next chapter of our partnership with KK Wind Solutions, and I look forward to growing and maturing the wind-energy supply chain together," said Tommy Rahbek Nielsen, executive vice president and COO at Vestas.

"I would also like to extend my deepest appreciation to our dedicated and skilled colleagues, who will join KK. You have done an outstanding job, and I know you will continue doing so together with your new colleagues at KK."

"Our people are our most important and valuable asset," said Mauricio Quintana, chief executive officer, KK Wind Solutions. "Their expertise and dedication are vital in accelerating the green energy transition, and we are excited to welcome our new colleagues whose skills and know-how will help us further develop the industry's supply chain."

Vestas looks for partners that help scale renewables efficiently in the long-term. As part of the partnership between Vestas and KK, KK will exclusively supply converters and control panels to Vestas, and the partnership will further advance with co-development of future Vestas converters.

KK Wind Solutions and Vestas have agreed on several transactional service agreements to ensure business continuity, knowledge transfer, and stable operations throughout the integration period.

MORE INFO www.kkwindsolutions.com

MANUFACTURING

Siemens Gamesa's RecyclableBlade set for U.K. wind project

Siemens Gamesa's RecyclableBlade has been selected by RWE for 44 SG 14-222 DD offshore wind turbines to be installed at the Sofia offshore wind-power project off the east coast of the U.K.

"Our industry-leading RecyclableBlade technology is now delivering even greater circularity of resources," said Marc Becker, CEO of Siemens Gamesa's offshore business.

"When we began working with RWE on the Kaskasi project, we knew that we had taken the first major steps toward delivering a decisive change to the wind sector. Having the opportunity to produce and install 132 RecyclableBlades for the Sofia project is a remarkable achievement. It fully demonstrates the joint focus between our companies to develop and deliver even greater levels of sustainability for renewable power generation globally."

In 2022, RWE became the first commercial, large-scale offshore developer to install Siemens Gamesa's fully RecyclableBlade, with a number of blades being used in the Kaskasi offshore wind-power project 35 kilometers north of the island of Heligoland in the German North Sea. The Sofia project will use RecyclableBlades measuring 108 meters long, representing the first deployment of that variant.

Siemens Gamesa's RecyclableBlade technology enables the reclamation of the blade's components at the end of the product's lifespan: the resin, fiberglass, and wood, among others, are separated using a mild acid solution.

The blades will be manufactured at Siemens Gamesa's Hull factory, which built the first RecyclableBlades for the Kaskasi offshore wind power project.

MORE INFO siemensgamesa.com