



Large wind farms offer lower energy costs but there are relatively few in England. (Courtesy: Reuters)

► CONSTRUCTION

U.K. wind-farm builders call for deeper reforms

Planning law changes proposed by the U.K. government lack measures that aid larger onshore wind projects and national targets are needed to make stakeholders accountable, project partners told Reuters Events.

The U.K. government in December said it would ease restrictions on building onshore wind farms in England after objections by 34 MPs from the ruling Conservative party.

The U.K. operates 15 GW of onshore wind capacity, and development activity has mainly been confined to Scotland since rules in England were

toughened by David Cameron's Conservative government in 2015. Much of Scotland benefits from windier conditions and larger areas of unpopulated land but electricity demand is higher in England.

In a U-turn by Prime Minister Rishi Sunak, the government said it would adapt the National Planning Policy Framework to permit onshore wind development where local consent is demonstrated and any impacts identified by the local community are appropriately addressed. Previous rules meant opposition from one person could block the project, despite government surveys showing 80 percent of the public were in favor of onshore wind farms.

The details of the reforms will be established through a public consultation that will conclude in April and

will also seek views on how local communities could benefit from the projects through lower energy bills.

Further reforms are needed to support larger onshore wind projects as the proposed changes are likely to mainly aid smaller, community-scale projects, wind farm developer RWE told Reuters Events.

Turbine supplier Siemens Gamesa welcomed the reforms but called for the government to set national onshore wind targets that include planning milestones. Prior to the reforms, industry group RenewableUK targeted 15 GW of new onshore wind capacity by 2030 but only 1 GW in England.

The government is already reforming planning rules for offshore wind as it looks to quadruple capacity to 50 GW by 2030. "It's important that planning constraints are part of the prog-



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ress tracking as they already hinder offshore progress,” a Siemens Gamesa spokesperson said. “We should use our combined and substantial knowledge to improve these lead times.”

MORE INFO www.reutersevents.com/renewables/wind

CONSTRUCTION

Highest-grade U.S. rare-earth deposit announced

US Critical Materials Corp. recently announced the highest reported total rare-earth oxide grades (TREO) of any rare earth deposit in the United States at the Sheep Creek deposit in Montana. The levels have been confirmed by analyses from Activation Labs, an independent analytical laboratory in Ancaster, Canada.

“We have confirmed that Sheep Creek is the highest-grade rare-earth deposit in the United States, with a multibillion-dollar resource value,” said Jim Hedrick, US Critical Materials president and former rare-earth commodity specialist at the U.S. Geological Survey (USGS).

US Critical Materials has nearly 9 percent TREO (89,932 ppm), far ahead of any other domestic rare earth resource. The deposit also has readings of 2.4 percent (23,810 ppm) combined neodymium and praseodymium, which are both essential for the green economy. US Critical Materials has recently confirmed carbonatite mineralization at depth, below high-grade surface samples of 17.05 percent TREO and 16.44 percent TREO. The Sheep Creek, Montana, property under claim by US Critical Materials totals seven square miles.

For context, the Swedish government announced on January 12, 2023, that a Swedish state-owned mining company had discovered Europe’s largest deposit of rare earths, with an

average grade of 0.18 percent TREO.

US Critical Materials’ goal is to supply consumers, industry, and the U.S. government with the critical minerals required to meet technology, manufacturing, and defense needs, with the overall objective of addressing the necessity to obtain rare earth materials from “friendly” sources as defined by the Inflation Reduction Act (IRA). The United States is more than 90 percent import-dependent on rare earths, most coming from China.

The Sheep Creek claims contain 12 of the most essential critical minerals needed for the world’s evolution toward electrification and a “green economy.” In addition to their high rare earth levels, the claims are particularly low in radioactive thorium, thereby shortening the permitting process.

US Critical Materials is working with a national laboratory to develop efficient and environmentally safe processes for domestically refining the rare earths found at Sheep Creek.

MORE INFO uscriticalmaterials.com

INNOVATION

Emerson launches Ovation Green portfolio

Emerson has combined its power expertise and renewable energy capabilities into the Ovation Green portfolio to help power generation companies meet the needs of customers navigating the transition to green-energy generation and storage.

By uniting the recently acquired Mita-Teknik software and technology with its own Ovation automation platform, renewable-energy-knowledge-based cybersecurity solutions, and remote management capabilities, Emerson has created a new extension of its power-based control architecture. The resulting portfolio focuses



Ovation Green is a reliable portfolio of purpose-built renewables software and automation solutions. Courtesy: Emerson

on the emerging clean-energy market to provide simplified renewables automation to help power producers build and scale sustainable operations.

“Countries around the globe are focused on transitioning to a clean-energy economy in the coming decades, and while green energy is a simple concept everyone understands, the road to implementation is not always clear,” said Bob Yeager, president of Emerson’s power and water solutions. “With the Ovation Green portfolio, our software, support, and solutions are unified in one system from a single trusted provider to help power producers more quickly, easily, and reliably manage their renewable electricity operations.”

Renewable electricity capacity has seen record growth in recent years. However, transitioning to cleaner energy systems or scaling up existing ones is a complex undertaking for power producers. Wind turbines, solar arrays, lithium-ion batteries, hydrogen electrolyzers, and hydroelectric power all use a wide variety of automation software and technologies. As renewable portfolios grow, the number of applied technologies will multiply, increasing learning curves and adding complexity to operations as solutions from different vendors require

additional integration. While some existing systems can provide layers of connectivity between very specific assets, the Ovation Green portfolio will deliver a single set of purpose-built software and solutions that supports different technologies in one standardized, intuitive system.

By gathering, collating, and contextualizing vast amounts of data created by renewable generation and storage assets, Emerson’s Ovation Green portfolio provides a clear view of renewable operations in a seamless space. The portfolio will empower actionable intelligence from a unified platform to drive faster, more informed decisions to increase availability and production while reducing operations and maintenance costs.

MORE INFO www.emerson.com

INNOVATION

SKF cartridge pump simplifies lubrication

SKF has developed a compact cartridge pump that provides effective lubrica-



The AECP automatically lubricates up to 22 lubrication points. (Courtesy: SKF)

tion to applications such as small agricultural and construction machinery.

The pump, called AECP, automatically lubricates up to 22 lubrication points making it more time and cost-effective — than manual methods. The pump dispenses grease from standard tubes that are widely available from distribution or retail outlets.

“Using standard grease tubes makes refilling an auto-lube system as easy as refilling a grease gun,” said Jordan Butler, lubrication product line manager at SKF. “This saves operator time and automates a time-consuming maintenance task.”

Typical applications include dozers, loaders, and farm machinery such as balers and municipal equipment. This type of machinery is typically lubricated manually, which has downsides such as time consumption and the cost of repairs, which is picked up by the equipment rental fleet owner.

The system is also more straightforward for the end-user and keeps both grease and the machine clean. OEMs are likely to see a reduction in warranty claims over traditional manual greasing methods. Other benefits include increased equipment availability and reliability, simpler maintenance, lower cost of maintenance and spare parts, and easier retrofitting.

The AECF requires no special refilling tool or equipment. Grease is stored in standard grease cartridges making it easy to swap out and prime while the motor and pump elements pull grease in a metered way. The use of cartridges also allows for a wide range of lubricants. It also fits into tight spaces and can withstand harsh working conditions and environments.

The pump can be used to create a small progressive lubrication system when combined with SSV progressive metering devices. A built-in sensor gives early warning that a cartridge needs replacing. For more advanced monitoring options, the AECF can be operated with a controller. The pump is ready for sale in North America with global availability in the works.

MORE INFO www.skf.com/us

MAINTENANCE

Offshore drone market estimated at \$1.46B by 2033

The market for offshore drone inspection is anticipated to reach \$421.6 million in 2023 and grow at a healthy 13 percent CAGR between 2023 and 2033.

The various advantages offered by advanced drones (stability, low deployment costs, improved data quality, superior navigation algorithms, etc.) have increased their use in offshore inspection and maintenance services.

The use of these advanced unmanned vehicles is increasing in the oil and gas industry and in the defense sector. This has encouraged investment in this sector and strengthened offshore inspection and maintenance services.

The increasing demand for energy has led to exploration activities in a variety of deep-sea and hostile environments using innovative technologies developed in recent years. Areas that were humanly impossible to explore are now delved into with the help of drones.

For example, in August 2021, multinational energy company Equinor ASA completed the world's first drone logistics operation to an offshore facility. As a result, the offshore drone inspection market is expected to grow significantly during the forecast period.

Takeaways from the market study include:

- ▀ The global offshore drone inspection market is projected to reach \$1.4578 billion by 2033.

- ▀ The market witnessed 9.8 percent CAGR between 2018 and 2022.

- ▀ Filming and photography in application segment dominates the market with 24.4 percent market share in 2023.

- ▀ Under drone type, rotary wing offshore drone inspection dominates the market and is valued at \$226.4 million in 2023.

- ▀ Based on region, demand for offshore drone inspection is expected to increase at CAGR of 13.5 percent in East Asia during the forecast period.

Traditional inspection methods can be replaced with advanced technology, providing more data with less risk and less downtime.

Offshore operators will continue to use other assistive technologies such as AI, wireless networks, analytics, robotics, IoT, and cloud systems to access and analyze data to improve data-driven decision making.

Unmanned aerial vehicles (UAVs) have been highly efficient and lucrative technology for conducting surveillance activities in offshore environments across a variety of industries.

Due to the great advantages these devices offer, governments and companies are using them to perform a variety of functions such as collection of data for inspection, security, and surveillance. This increases the demand for the offshore drone inspection market.

MORE INFO www.factmr.com



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MAINTENANCE

Reygar wins funding for performance monitoring

Reygar, a vessel monitoring and control solutions provider, has won InnovateUK funding to develop a range of new features for its BareFLEET product in collaboration with Singapore-based designer, builder, owner, and operator of high-speed aluminum craft, Penguin International Limited.

The project, dubbed FleetVision, will build on Reygar's BareFLEET technology to offer live feedback on aspects of vessel performance, leveraging Penguin's experience in shipbuilding and ship management.

Machine learning tools will be jointly developed to identify operating efficiency and cost reduction opportunities and to monitor machinery health, alongside adaptations that will enable more vessel types to benefit from the system.

Penguin designs and builds a range of aluminum workboats that it also owns and operates. Since 1995, Penguin has delivered more than 200 aluminum vessels to ship owners and is the world's biggest builder of multi-role crew boats.

Both Reygar and Penguin envisage long-term, mutual benefits, with the project acting as a potential launch pad for access to new technology and target markets.

James Tham, Penguin's managing director, sees potential in the application of data-driven performance monitoring technology to enhance efficiency and emission reductions for commercial high-speed vessels.

"FleetVision represents the coming together of proven expertise and experience in real-time remote monitoring technology and the design, construction and operation of efficient, human-centric high-speed workboats," he said. "The outcome will be an intelligent performance analytics and decision support tool, developed by experienced practitioners, for sustain-

able high-speed vessel operations."

"We are passionate about helping fleet operators make better, more informed decisions to reduce fuel consumption and emissions," said Reygar CEO Chris Huxley-Reynard.

"Live feedback on vessel performance means that a range of cost, fuel and emissions saving opportunities can be seen and acted upon in real time, optimizing operations both onboard and from the shore. Leveraging machine learning to help identify trends in machinery health and vessel performance also improves availability and supports the achievement of operating efficiency goals."

MORE INFO www.reygar.co.uk

MAINTENANCE

Guardian announces lifeline upgrades

Global height safety specialist Guardian recently announced its upgraded line of Self-Retracting Lifelines (SRLs) at the World of Concrete show in January. Improvements to the line include more robust shock packs to withstand greater fall forces, thicker cables, and redesigned braking systems — all of which combine to provide greater dynamic strength. The enhanced range also features an updated design that brings the SRLs together under a unified look.

"Testament to our belief that safe should be simple is the dynamic new look that spans our entire SRL family," said Judd Perner, product and engineering director. "We look forward to rolling out our new Guardian industrial design across our broader height safety range over the coming months."

"As the industry leaders in SRLs, we think it's our job to lead the way — continually challenging ourselves to set new benchmarks in robust safety, durability and useability," said Scott Lapier, product manager. "We have treated this year's introduction of a

new ANSI standard as an opportunity to advance our entire SRL family. Our growing new product development team has explored every aspect of the user experience — from design and performance, to ergonomics and use to deliver a range that is even safer, stronger, and simpler to use."

Guardian is showcasing the new range in advance of the August 2023 effective date for the ANSI Z359.14-2021 SRL standard. Each product in the enhanced range also features a digitally enabled QR code on the housing label, which provides instant access to manuals, declarations of conformity, technical data sheets and other product information.

MORE INFO www.guardianfall.com

MANUFACTURING

Vestas announces 2023 outlook

The wind-power industry's challenging period continued in 2022 due to unexpected geo-political uncertainty, an accelerating energy crisis, and high inflation. In this environment, Vestas' fourth quarter results were negatively affected by additional challenges. The negative impact in the fourth quarter causes the full-year results to be lower than the outlook, primarily driven by a confined number of project delays, an impairment on the V174-9.5 MW turbine and increased warranty provisions.

In 2022, Vestas made strategic and commercial progress in terms of strengthening operations and substantially raising prices that indicates Vestas will deliver improved financial results in 2023. Activity levels in 2023 are expected to be lower than in 2022 followed by a step up in 2024 where installations in key markets are projected to increase.

Vestas' preliminary and unaudited 2022 results show a total revenue of EUR 14.9 billion Euros. The Service

business accounted for 3.155 billion Euros of the total revenue, corresponding to a year-on-year growth of 27 percent. The higher-than-expected revenue growth in service thereby partially offsets the lower-than-expected power solutions revenue, which has been affected by delays in execution.

Based on preliminary numbers, the EBIT margin before special items was 8.0, primarily driven by isolated events in the fourth quarter of 2022 as well as delays in a confined number of projects by the end of the fourth quarter. In the fourth quarter, additional warranty provisions of 210 million Euros were made. The higher warranties primarily relate to increased repair and upgrade costs and a few select cases. As a result of an expected challenged profitability and lower order intake for offshore projects using the V174 turbine, an impairment of 95 million Euros has been made on that platform in the quarter.

Increasing the price on wind turbines is and has been a necessity to address the external cost inflation and ensure the industry's long-term value creation. Order intake in the fourth quarter was 4.2 GW with an average selling price of 1.15 million Euros per MW, a sequential increase of 8 percent. For the full year of 2022, this resulted in an average selling price of 1.07 million Euros per MW (onshore only: 1.04 million Euros per MW).

Free cash flow amounted to 1.283 billion Euros in the fourth quarter but was negative 953 million Euros for the full year compared to 183 million Euros in 2021. This development was primarily a reflection of the lower profitability and resulted in a net debt position of 46 million Euros.

In 2023, high inflation levels are expected throughout the supply chain and reduced wind-power installations to affect revenue and profitability negatively. The lower level of installations is caused by slow permitting processes in Europe as well as dampened activity levels in the U.S. due to a steep ramp-up ahead of a busy 2024 driven by the Inflation Reduction Act. Increasing prices on order intake is an offsetting

factor, but still leaves Vestas challenged on profitability in 2023.

MORE INFO www.vestas.com/en

MANUFACTURING

Siemens Gamesa plans nacelle facility in New York

Siemens Gamesa recently announced its intention to build a major offshore nacelle manufacturing facility in New York state, subject to the company's wind turbines being selected by the New York authorities in their third offshore wind solicitation. The planned facility will be at the Port of Coeymans. It would create up to about 420 direct jobs, support a significant rise in indirect jobs, and represent an investment of about \$500 million in the region.

Siemens Gamesa is also committing to localizing several new component supplier facilities, including steel component fabrication, bearings, and composite components, demonstrating the further development of a sustainable local supply chain ecosystem. This could help double the number of jobs created by the facility.

New York expects to procure a minimum of 2 GW of offshore wind energy and up to 4.7 GW in this third round of procurement to achieve a total of 9 GW of offshore wind energy.

The announcement builds on Siemens Gamesa's track record of establishing major manufacturing facilities in markets with attractive and stable frameworks to meet the growing demand for offshore wind. Siemens Gamesa has secured a site in the state's capital region; advanced engineering plans and 3D visualizations have already been developed. The facility has been designed with the capacity for potential expansion to guarantee its long-term development.

"The announcement of this proposed facility in New York is a major step forward in our desire to lead the massive U.S. offshore wind market,"

said Marc Becker, CEO of Siemens Gamesa's offshore business. "We're excited by the opportunity presented by the State of New York to further develop our manufacturing footprint. We have a solid history in delivering on our commitments across the globe, including the establishment of offshore wind-focused plants in Denmark, France, Germany, Taiwan, and the United Kingdom. The numerous economic, employment, and environmental benefits that offshore wind presents are enhanced by solid policies and frameworks, which are critical for financial success." The proposed facility and supplier network in New York would supply components for all Siemens Gamesa offshore wind power projects along the U.S. East Coast.

MORE INFO www.siemensgamesa.com

MANUFACTURING

Vestas to power Aidu wind project in Estonia

Vestas recently received a 68 MW order from Dirkschhof Estonia OÜ to power the Aidu project in Estonia.

The order includes supply, installation, and commissioning of 15 V150-4.5 MW turbines, as well as a 20-year Active Output Management 5000 (AOM 5000) service agreement.

"We are honored to continue the partnership with Dirkschhof to deliver this project to Aidu," said Juan Ferron, vice president, sales, for Northern and Central Europe at Vestas. "Aidu will contribute to further decarbonize Estonia, and we are proud to support this project with our industry-leading wind energy solutions." The site is in Lúganuse parish, Ida-Viru County, in northeast Estonia. The delivery and installation of the wind turbines is expected in the third quarter of 2023 with the commissioning scheduled for the first quarter of 2024. ↙

MORE INFO www.vestas.com/en