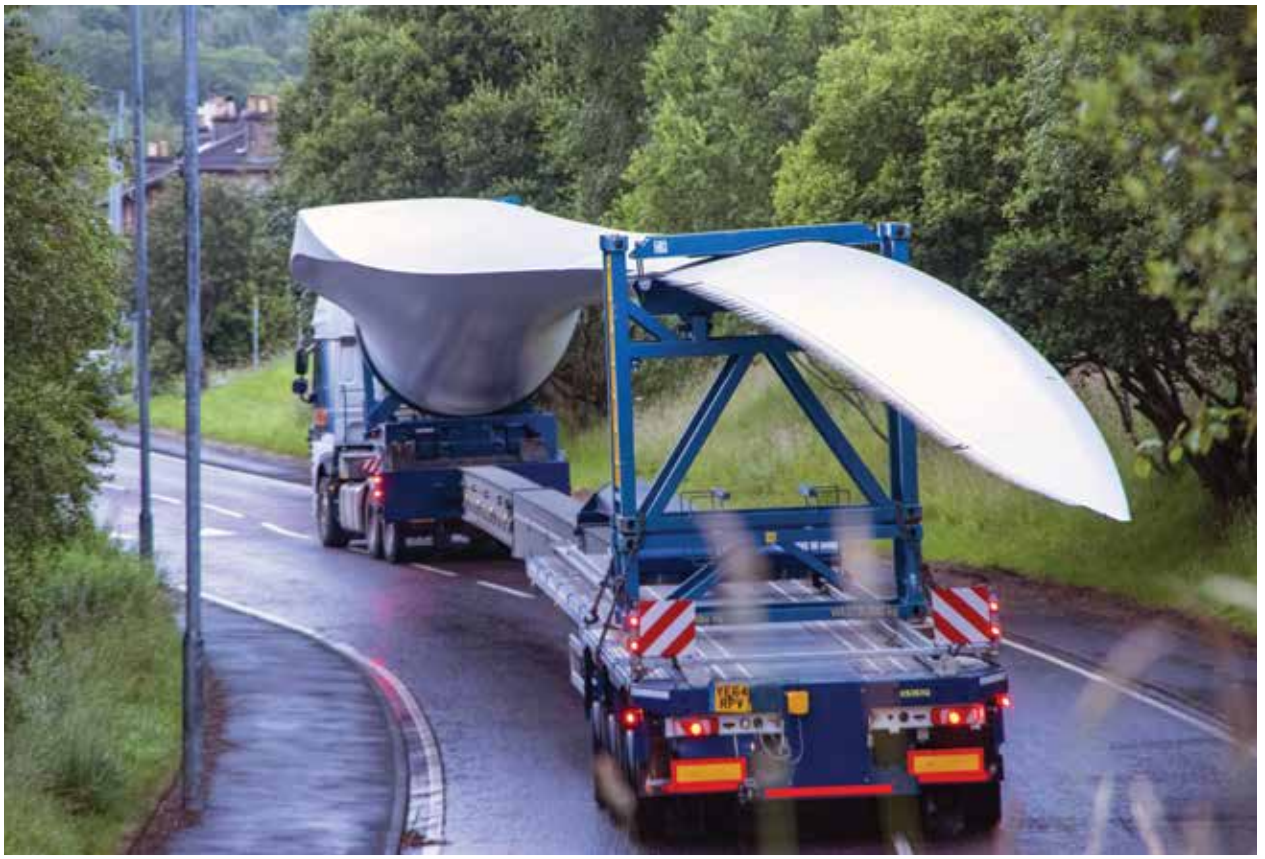


Over the course of the project, Collett handled and transported 150 tower sections, 50 nacelles, 50 hubs, 50 drive trains and 150 blades to South Kyle Wind Farm. (Courtesy: Collett and Sons)

CONSTRUCTION

## Collett delivers 50 turbines to South Kyle Wind Farm

Collett has completed the delivery of 50 Nordex N133 wind turbines to South Kyle Wind Farm. Under construction by Swedish multi-national power generation company Vattenfall, South Kyle's 50-turbine site is the company's largest onshore wind farm in the U.K. in terms of power generation.

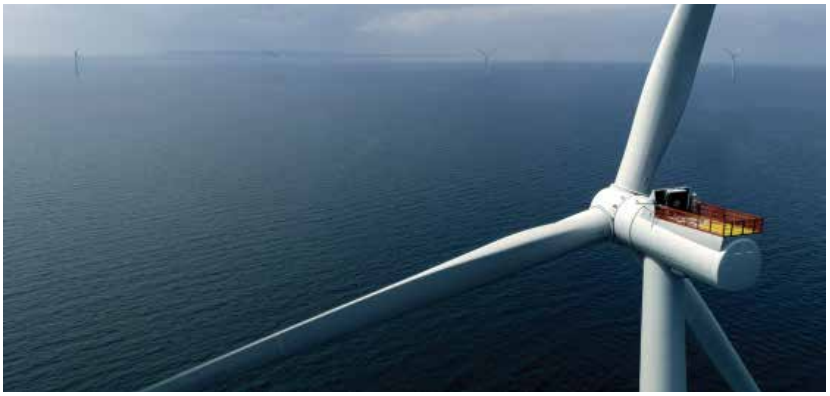
Appointed to undertake the delivery of the 450 components required to construct the 50 84-meter height Nordex N133 turbines, both the Port of Ayr and King George V Dock were used to store and handle components.

The heavier of the components, namely the 68-ton nacelles, 73-ton drive trains, and the 63-ton hubs, arrived at King George V Dock, with the lighter components, including the 18-ton blades and the 150 individual tower sections, arriving at the Port of Ayr. At both ports, each of the components was discharged from the vessel to a precise laydown plan, allowing Collett Team to access each in line with the wind farm's construction schedule.

With a combination of 6-axle trailers, 7-axle trailers, 8-axle trailers, 2x tower transporter clamp trailers, and 3x super wing carriers from across the Collett fleet, the team transported the components to site, approximately five kilometers east of Dalmellington town. On site, Collett had an additional team to undertake tower transport operations across the 50-turbine site, delivering each tower section to its respective crane pads in time for installation service.

With six heavy haulage tractor units and six steersman/escort vehicles in operation throughout, each of the 67, 48, and 50 ton tower sections, along with the 65-meter blades traveled in overnight convoys to minimize road traffic congestion from both ports and in surrounding areas.

Traveling under Police Scotland and Collett private escort from both ports of entry, Collett planned and executed 450 abnormal load movements. Operating seven days a week (as required), and with police escort resources high in demand and low in frequency, Collett requested double runs in order to maximize deliveries with the limited resources available. The team alternated between tower convoys, blades, and



Havfram Wind's work will start in spring 2027. (Courtesy: Vattenfall)

nacelle sets per demand required on site, until all 450 wind turbine components were successfully delivered.

Over the course of the project, Collett handled and transported 150 tower sections, 50 nacelles, 50 hubs, 50 drive trains, and 150 blades to South Kyle Wind Farm.

Expected to be operational in 2023, the 50 Nordex N133 turbines feature a 133.2-meter rotor with a swept area of 13,935 square meters. With a capacity of 240 MW, South Kyle Wind Farm is expected to generate enough electricity to meet the demands of about 170,000 homes annually, while offsetting up to 300,000 metric tons of carbon dioxide emissions per year.

**MORE INFO** www.collett.co.uk

CONSTRUCTION

## Vattenfall signs Havfram Wind for turbine installs in U.K.

Vattenfall has appointed Havfram Wind as preferred supplier for the installation of wind turbines for Vattenfall's Norfolk projects in the United Kingdom. The agreement covers transport and installation works over a period of three years, using one of Havfram Wind`s newbuild NG20000X Jack-Up Wind Turbine Installation Vessels (WTIV) with a 3,200-ton crane. The works will start in the spring of 2027.

"Our collaboration with Vattenfall is of great importance for us as an ambitious and fast-growing offshore wind construction company," said Even Larsen, Havfram Wind CEO. "Vattenfall is one of the largest players in the industry and already provides millions of European households with clean renewable energy. The Norfolk Boreas and Norfolk Vanguard projects are of particular interest, because of their multi-GW size and their important contribution to the U.K. renewable energy market, the largest in Europe."

"We are extremely proud to be trusted by Vattenfall for such prestigious projects," said Martin Degan, Havfram Wind commercial director and vice president. "Vattenfall is a very experienced developer and has carried a thorough selection process with a high focus on quality and details. This clearly indicates that we, at Havfram Wind, have the right team onboard and have made the right choice for vessel capacity and time to market."

Havfram Wind is an offshore wind construction company focused on transport and installation services for both bottom-fixed and floating projects in the offshore wind sector.

**MORE INFO** havfram.com

CONSTRUCTION

## OEG Offshore renews Lubbers partnership for renewables

Global offshore services company OEG Offshore UK (OEG) has signed a new partnership agreement with logistics provider Lubbers Logistics Group to


Andre Mulder, director of renewable energy for Lubbers Logistics Group and Rob Goodall, OEG Offshore VP of business development, sign a partnership deal in the Netherlands. (Courtesy: OEG Offshore)

strengthen service capabilities in their move to support the renewables sector.

New aspects of the agreement will focus on the provision of OEG's expanded portfolio of services with both subsea and topside capabilities, in conjunction with a growing fleet of vessels.

"We've partnered with Lubbers for more than 14 years and look forward to continuing an excellent working relationship to provide the highest quality products and services throughout Europe for large scale projects," said Rob Goodall, VP of Business Development for OEG Offshore.

The enhanced partnership will continue to enable OEG and Lubbers to deliver on customers' requirements quickly, safely, and sustainably on a range of energy projects, from engineering and construction to operations and maintenance both for oil and gas and offshore renewables projects.

"The expansion of our collaboration will have a strong focus on the renewable energy sector," said Andre Mulder, director of renewable energy for Lubbers. "Customers within the wind and power industry can therefore make local use of the joint offshore services of OEG and Lubbers. As an example, a stock of offshore units is currently being placed in offshore port Eemshaven."

Lubbers' strategic network spans key European energy hubs in the Netherlands, Denmark, Norway, Germany, Italy, and Romania.

**MORE INFO** www.oegoffshore.com

INNOVATION

## Saildrone announces new model for uncrewed vehicles

Saildrone, a leader in providing near real-time maritime intelligence using small uncrewed systems, recently announced a new mid-size class of uncrewed surface vehicles (USVs). The

33-foot (10 meter) Voyager is designed for near-shore ocean and lakebed mapping, and to meet the challenges of IUU (illegal, unreported, and unregulated fishing), ISR (intelligence, surveillance, reconnaissance), law enforcement and maritime safety, drug interdiction, and border and harbor security.

"With our Voyager platform, Saildrone helps to eliminate maritime gaps above and below the ocean surface, reducing risk to mission and risk to force," said Richard Jenkins, Saildrone founder and CEO. "We want to be a force-multiplier for our partners and allies when it comes to ISR capabilities." Saildrone's three USV models — the Voyager along with the 23-foot (seven meter) Explorer and 65-foot (20 meter) Surveyor — have been developed to balance mission payload flexibility and endurance. The Voyager's larger size, compared to the Explorer, allows for a more persistent datalink, increased power available for ocean mapping and ISR payloads, and versatile payload integration options.

The ocean mapping sensor suite includes multibeam sonar equipment capable of seafloor mapping of depths to 900 feet (300 meter), and the ISR sensor suite includes a smart camera array, digital radar, and sub-surface passive acoustics. Primarily powered by wind and solar, the Voyager also features an electric propulsion alternative, useful for low-wind and near-shore operations.

Saildrone has built 100 23-foot Explorer-class USVs at its headquarters in Alameda, California. To meet the increasing demand for the new Voyager platform, Saildrone has elected to outsource the production of the wing, hull, and keel to composite specialists: Janicki Industries will manufacture the wing and keel in Washington, and Seemann Composites will manufacture the hull in Mississippi. Saildrone will continue to produce, install, and service internal components in Alameda. "One of the truly exceptional aspects of working at a company like Saildrone is the fact that hardware and software engineering, manufacturing, mission operations, and G&A are all housed under one roof — in a former airplane hangar on a site known for aviation and naval innovation," said Saildrone COO Mark Cuyler. "But with the rapidly increasing demand for ocean data collection across the fleet, it is necessary to outsource some of our production. Saildrone is proud to work with great U.S.-based companies like Janicki and Seemann, whose expertise in the marine composites industry will help us to more rapidly meet the demanding challenges of the world's oceans."

Saildrone has been conducting sea trials of the Voyager in the San Francisco Bay and offshore of California since late 2022, and the first operational maritime security and ocean mapping missions will begin this spring. The company is producing new Voyagers at a rate of one per week. The data collection capabilities of Saildrone's autonomous vehicles have been proven in nu-

merous operational missions, covering almost 1 million nautical miles from the Arctic to the Antarctic.

**MORE INFO** www.saildrone.com

INNOVATION

## Xodus, Daymark to team up on North America offshore wind

Global energy consultancy Xodus has signed a memorandum of understanding with Daymark Energy Advisors to collaborate on advancing the development and deployment of projects in the rapidly growing North American offshore wind industry.

The partnership is the first of its kind for the offshore wind consultancy market in North America. Daymark brings an integrated view of onshore energy infrastructure, regulation, and markets while Xodus is a leader in techno-commercial offshore wind development. Under the agreement's terms, Xodus and Daymark will collaborate to answer questions from developers and state agencies as activity ramps up.

In combining strengths and expertise, the "surf-and-turf" offering will carve out a leadership presence in the offshore wind consulting market by providing understanding of the delivery of electricity from an offshore wind turbine through to the ratepayer. "Having gained a strong reputation for our work in architecting, developing, and supporting offshore renewables and energy transition projects around the world, we have now firmly established ourselves in the North American market," said Stephen Swindell, Xodus' managing director.

"We have a long track record of activities in the global offshore wind, oil and gas, cables, and interconnectors sectors. Both parties bring different — but complementary — knowledge and skillsets to the energy market and infrastructure project consultancy. We look forward to working with the Daymark team to bring additional and combined expertise to the market."

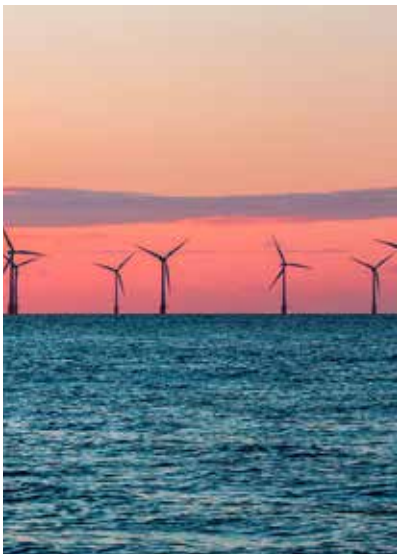
"This is an exciting opportunity to combine our expertise — on land and at sea — to offer clients more complete solutions to the challenges they face and the questions they have about this growing industry," said Marc D. Montalvo, Daymark president and CEO.

**MORE INFO** www.xodusgroup.com
www.daymarkea.com

INNOVATION

## ONYX, Nearthlab team up for predictive maintenance

ONYX Insight, a global provider of predictive maintenance solutions and Nearthlab, an autonomous drone solution company, have entered into



Nearthlab's autonomous drone takes 15 minutes of flight time to finish the inspection for one wind turbine. (Courtesy: ONYX Insight)

partnership to deliver a whole turbine predictive maintenance solution for wind farm operators.

ONYX Insight will use Nearthlab's experience with mobile drone technology, reducing reliance on the availability of trained drone pilots and enabling self-performing operators to perform visual inspections of their turbine blades for substantially lower costs.

"After two years of collaboration with Nearthlab across a large fleet of assets, we've identified strong benefits to turbine health management by combining our technologies into one unified offer," said Ashley Crowther, ONYX Insight's chief commercial officer.

"For major components in a fleet, the damage cases can be managed efficiently, end-to-end, from detection through to repair and QAQC." The partnership will cover North America, with ONYX Insight licensed to use Nearthlab's Zoomable software to assess the health of wind turbines.

"NearthWIND Mobile, our latest plug-and-play solution, is proving to be a game-changer in the world of drone inspections," said Jay Choi, Nearthlab's co-founder and CEO. "Now, dubbed with ONYX Insight's expertise and reach within the predictive maintenance market, Nearthlab will come to spread its wings wide across industries and regions."

Nearthlab's use of autonomous drone technology combined with ONYX Insight's market leadership in wind-turbine predictive maintenance can help wind operators reduce the costs of maintaining their turbines.

With ONYX Insight now able to monitor 85 percent of major component failures, an all-in-one turbine health management provider delivers the confidence to self-perform sooner, enabling owner/operators to identify problems earlier, manage them with fewer resources, and ultimately bring down the overall cost of wind-farm operations.

The partnership will enable wind operators full predictive data maintenance for their wind turbines with consistent reporting from a single

ecosystem while bringing drone operations in-house.

Founded in 2015, Nearthlab provides AI-powered O&M solutions for the infrastructure inspection market. With extensive experience in wind-turbine blade inspection, Nearthlab's autonomous drone takes 15 minutes of flight time to finish the inspection for one wind turbine. Data collected from the inspection is uploaded onto Nearthlab's data management platform, Zoomable, to be analyzed into insights assisting companies to optimize their operation and maintenance procedure.

**MORE INFO** onyxinsight.com

MAINTENANCE

## TÜV NORD and COWI to take over Owner's Engineering Services

Together with the international consulting group COWI, TÜV NORD will provide Owner's Engineering services for the Egyptian wind farm Gulf of Suez on the Red Sea Coast.

In this project, COWI will perform project management and design review while TÜV NORD will be responsible for all site services such as civil, mechanical, and electrical quality supervision. With a capacity of 500 MW, the project, which is being led by renewable energy developer AMEA Power in collaboration with Sumitomo Corporation of Japan, will be the largest wind farm in Africa.

"We are very pleased about the cooperation of COWI and TÜV NORD in this particular project, which the combined team in Denmark, Germany, and Egypt from both companies have jointly been driving forward," said Alexander Ohff, executive vice president, Renewables at TÜV NORD. "Together with COWI and the Sponsors, we will ensure the highest international technical quality and safety standards to make this flagship wind-energy project in Egypt a success."


Executives from TÜV NORD and COWI. (Courtesy: TÜV NORD)

"Being a part of developing clean renewable energy solutions is at the heart of our business," said Holger Hahn, COWI's project director. "With TÜV NORD, we get a strong partner for this important onshore wind project and can complement each other's expertise and strengths in delivering the best possible solution to our customer and their customers. I see this as a start of a long and successful cooperation."

**MORE INFO** www.tuev-nord-group.com/en/home

MAINTENANCE

## Firetrace report: Proactive steps can manage fire risk

Offshore wind developers and operators can take steps to proactively manage fire risk on their assets to protect the huge levels of public investment coming into the sector to support ambitious U.S. offshore capacity targets, according to a report from Firetrace International, a supplier of fire suppression technology to the global renewable energy industry.

The U.S. is embarking on a buildout of offshore wind that will cost billions. It is expected that $12 billion in capital investment will be allocated to offshore wind expansion in an aim to increase offshore wind power capacity, with a target to reach 30 GW by 2030 as opposed to 42 MW today. A significant proportion of this investment will come from public money. The report strengthens looks at insurance data, which estimates one in every 2,000 wind turbines will have a fire in its lifespan. The report also addresses the increased fire risks on an offshore asset due to the sheer size, location, and the conditions these assets are exposed to, as well as the costs and complexity for routine operations and maintenance, and lack of access to traditional firefighting methods.

A fire on an offshore wind asset also has more far-reaching consequences, some of which may not be considered by developers and owner/operators. The report draws out four key impacts of a fire incident on an offshore turbine: risk to personnel, negative environmental repercussions, financial costs, and reputational damage.

The risk to personnel on an offshore asset is higher due to the remote location and complexity of a potential evacuation. Also due to asset location, a fire incident on an offshore turbine can have detrimental effects on the surrounding environment such as debris from an asset falling into and polluting the water, which can harm marine life. Such environmental events cause significant reputational damage as well.

In terms of financial costs, for onshore turbines, the replacement of one turbine can cost up to $9 million, including the revenue loss of up to 18 months of down-time. This estimate

Firetrace's report looks at insurance data, which estimates one in every 2,000 wind turbines will have a fire in its lifespan.(Courtesy: Firetrace)

approaches twice as much for an offshore asset.

"Speed is everything when it comes to tackling fires in a wind turbine," said Ross Paznokas, Global Business Development Manager — Clean Energy, Firetrace. "A faulty electrical component, for example, can, in a matter of minutes, ignite a fire that leads to the total destruction of the turbine. With the level of investment on the line, much of which will be public money, developers and operators cannot afford to overlook the risk of fire."

"At the moment, 75 percent of the inquiries we have for our fire suppression technology come from organizations that have already experienced a fire event," he said.

"With so much money at play, protecting assets should be a key priority. We need to start proactively installing automatic fire suppression technology, which cost less than the rounding error in a renewable project budget, to prevent the impacts of fire incidents in offshore wind."

**MORE INFO** www.firetrace.com/wind-turbine-fire-suppression-systems



MANUFACTURING

## Vestas secures 370 MW order for 2 U.S. repowering projects

Vestas has received an order for two wind projects totaling 370 MW to repower the Pleasant Valley and Border Winds projects owned by Xcel Energy in the U.S. The order for the 213 MW Pleasant Valley project in Minnesota consists of 97 V110-2.0 MW wind turbines delivered in 2.2 MW operating mode, while the 156 MW Border Winds

project in North Dakota, consists of 71 V110-2.0 MW wind turbines delivered in 2.2 MW operating, which will update the current V100-2.0 MW technology at both sites.

"Vestas and Xcel Energy have a strong history of bringing wind energy to local communities across the U.S., and we look forward to continuing this partnership by extending the longevity and increasing the energy projection of current wind projects like Pleasant Valley in Minnesota and Border Winds in North Dakota," said Laura Beane, president of Vestas North America.

"Upgrading the site's current technology will not only extend the lifespan of the project and bring clean energy to thousands of households, it will also provide needed economic opportunities to these communities."

"As a national leader in wind energy, we're pleased to work with Vestas on repowering two Upper Midwest wind farms which have long provided clean, affordable energy to our customers as well as economic benefits to surrounding communities," said Chris Clark, president, Xcel Energy Minnesota, North Dakota and South Dakota. "Advancing the technology at Pleasant Valley in Minnesota and Border Winds in North Dakota is important to our plan for achieving 85 percent carbon-free energy by 2030 in the region while keeping energy costs as low as possible."

Both projects include supply, delivery, and commissioning of the turbines, and Vestas will continue to service the turbines and provide an energy-based availability guarantee, designed to ensure optimized performance of the asset.

Turbine delivery for both projects will begin in the second quarter of 2025 with commissioning scheduled for completion in the fourth quarter of 2025.

**MORE INFO** www.vestas.com/en



MANUFACTURING

## Dominion selects K2M for Virginia offshore wind oversight

K2 Management, a global renewable energy consultancy, recently announced a four-year partnership with Dominion Energy, an energy company with 7 million customers in 16 states, to provide quality oversight services for the Coastal Virginia Offshore Wind (CVOW) project, to be located 27 miles off the coast of Virginia. With a capacity of 2.6 GW via 176 offshore wind turbines, the project is a step forward in the growth of the offshore wind industry in the U.S., which has set a target of 30 GW of installed offshore wind capacity by 2030.

"We're thrilled to be partnering with Dominion Energy on such a ground-breaking project," said Lars Andersen, president — Americas at K2 Management. "Our expert knowledge and experience ensured we were successful in a highly competitive tender and will enable us to bring Dominion Energy advice and insights from more than 500 accumulated offshore wind engagements around the world." K2M will serve as Dominion Energy's owner's quality assurance representative, and among other services, will provide quality oversight at suppliers' manufacturing facilities for all major components. The manufacturing stage began in Q4 of 2022, and K2M's involvement recently began with an expected completion date of April 2027.

"Given its wealth of experience, K2M is the clear partner to oversee the day-to-day fabrication at our suppliers' facilities, as well as the delivery of major components to the Portsmouth Marine Terminal," said Joshua Bennett, Dominion Energy vice president of offshore wind. "We are at the forefront of delivering reliable, affordable, and increasingly clean energy to our customers, and this partnership is going to help us meet those expectations with our offshore wind project."

**MORE INFO** www.dominionenergy.com