



Codling Wind Park will require almost 30 percent fewer wind turbines than in the original proposal. (Courtesy: Codling Wind Park)

► CONSTRUCTION

Ireland wind project will require 30% fewer turbines

Ireland's largest Phase One offshore wind project, Codling Wind Park, which will be located off the County Wicklow coast, will require almost 30 percent fewer wind turbines than originally proposed. The development will still generate enough renewable electricity to meet more than 20 percent of Ireland's 2030 offshore wind targets.

While the initial estimate for the

number of turbines required had been put at a maximum of 140, the project team said that advances in wind-turbine technology, combined with a more detailed understanding of the wind-farm site, means a maximum of 100 turbines will now be required.

It has also been confirmed by EirGrid that Poolbeg in Ringsend will be the location of the project's electricity grid connection with 1,450 MW — enough electricity to power up to 1.2 million Irish homes — confirmed as the maximum amount of electricity it will generate.

Codling Wind Park is a 50/50 joint venture between Fred. Olsen Seawind

and EDF Renewables and will be about 13 to 22 kilometers off the Co. Wicklow coast between Greystones and Wicklow Town.

Feedback gathered from the public as part of a January and February consultation process will feed into the ongoing development of the project, and updated proposals will be presented at a third phase of public consultation later this year.

"We have made significant progress since our first phase of public consultation in March 2021 and we are looking forward to updating people, in Wicklow and Poolbeg in particular, and receiving their thoughts and feedback



When operational the Siemens Gamesa wind turbines will provide enough green electricity to power around 100,000 homes. (Courtesy: Siemens Gamesa)

on a range of topics, including the design of the project, the Environmental Impact Assessment we are working on, the best way we can deliver benefits to local communities through the Community Benefit Fund over the next 20 years and how best we can continue to engage with the fishing and sailing communities," said co-project director Scott Sutherland.

When developed, Codling Wind Park will be Ireland's largest offshore wind farm. The project is expected to create more than 1,000 jobs in the construction phase and 75 new, long-term jobs associated with its proposed operations-and-maintenance base at Wicklow Port.

Subject to all necessary permits and consents being received, Codling Wind Park could begin construction in 2026 and is expected to take two to three years to complete.

MORE INFO codlingwindpark.ie

► CONSTRUCTION

Siemens Gamesa selected by OX2 for project in Finland

Siemens Gamesa's SG 6.6-170 wind turbine has been chosen for the OX2's next project in Finland.

The Niinimäki project will be in the Pieksämäki municipality in the Southern Savonia region of the country and will use 22 SG 6.6-170 turbines, among the most powerful in the onshore wind landscape. With a hub height of 165 meters, these turbines will capitalize on strong wind speeds found in the region. When operational, these wind turbines will provide enough green electricity to power about 100,000 homes.

The deal follows a 70-MW deal for the Ribergen project in Sweden signed with OX2, as the two companies col-



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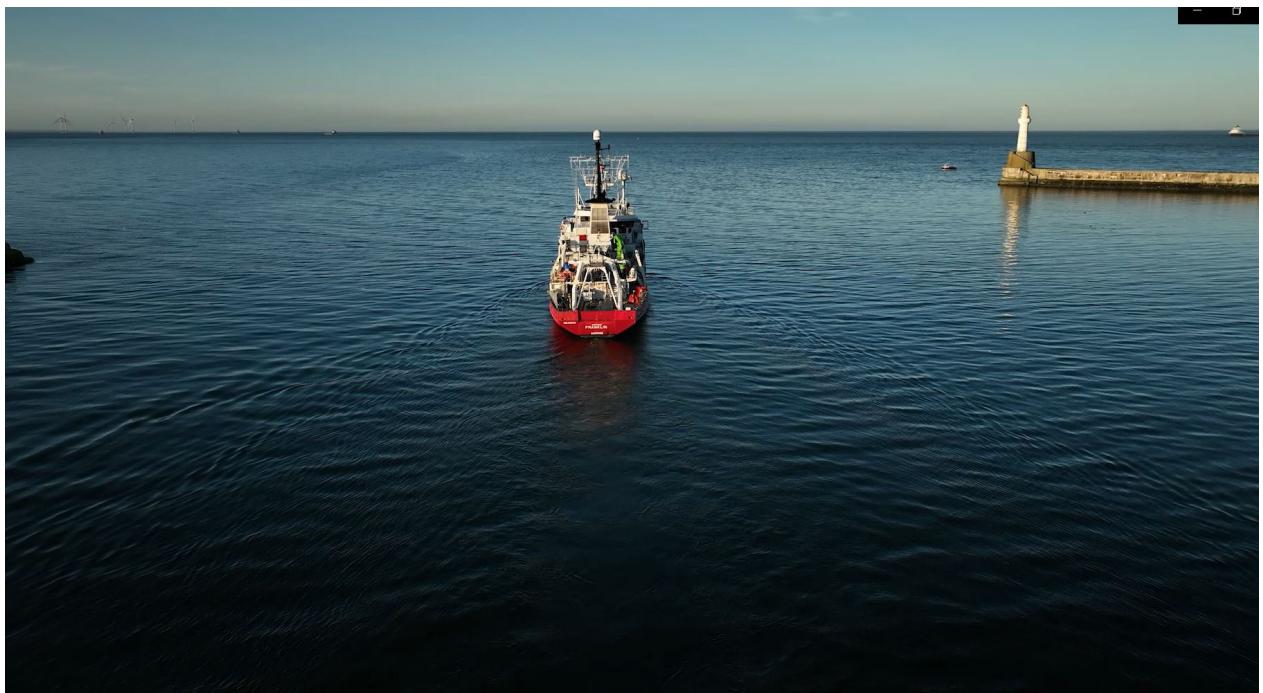
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The Salamander project is designed to provide the Scottish supply chain with an early capacity development opportunity. (Courtesy: ERM)

laborate to push wind energy forward in the country.

Once installation is complete, expected in late 2024, Siemens Gamesa will also assume maintenance services for the project over a 35-year period.

"Our collaboration with OX2 continues to grow in the Nordics with another significant deal in Finland," said Clark MacFarlane, CEO for Siemens Gamesa's onshore operation in Northern Europe and the Middle East. "The country is truly stepping on the accelerator in its drive to promote wind energy, and we are pleased to provide leading technology to help meet its ambitions."

According to WindEurope, wind energy accounts for 10 percent of the country's electricity, and its objective is for that to increase to at least 27 percent by 2025 through both onshore and offshore wind. Finland aims to be carbon neutral by 2035.

This latest deal in the country builds on several others that Siemens Gamesa has collaborated on with partner OX2 since 2016 which total over 700 MW.

The Siemens Gamesa 5.X platform has now sold more than 4.5 GW of sales since its launch, with more than 2 GW coming in this region.

MORE INFO www.siemensgamesa.com

► CONSTRUCTION

ERM's MarineSpace to lead Salamander impact assessment

Salamander, a joint venture between Simply Blue Group, Ørsted, and Subsea7, has selected MarineSpace, an ERM Group company, to lead the environmental impact assessment (EIA) for the floating offshore wind project off northeast Scotland.

As part of the work, engineering consultant NIRAS has been contracted by Salamander to lead the Habitats Regulations Appraisal (HRA), and Brown & May Marine Ltd will provide commercial fisheries support.

The Salamander offshore wind project, 35 kilometers off Peterhead,

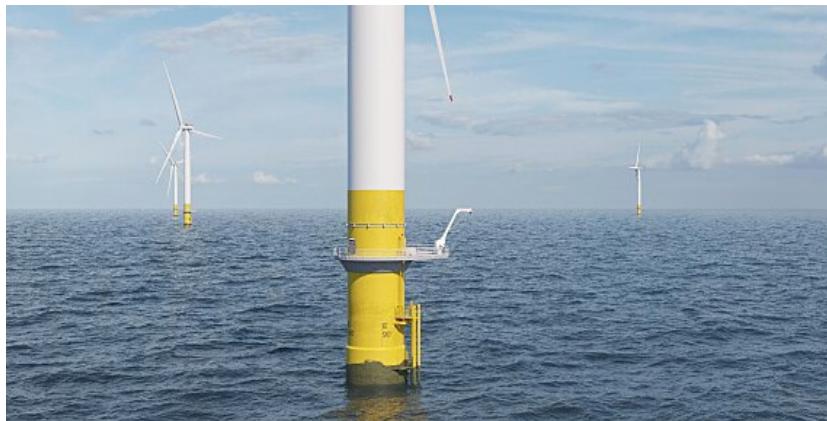
will be a contributor in delivering the U.K. government's target of 5 GW of operational floating offshore wind by 2030.

The project is designed to provide the Scottish supply chain with an early capacity development opportunity, enabling it to play a much greater role in subsequent large-scale floating offshore wind buildout.

"This is another milestone in the development of the project," said Huw Bell, Salamander project director. "We are working with very experienced companies that are supporting us with our ambitions in creating a project that play a significant role in how the industry delivers floating wind going forward."

Salamander will deploy floating offshore wind technologies to support the cost reduction and learning journey needed for the commercial deployment of floating offshore wind.

Salamander recently awarded the pre-FEED foundation design to Ocergy for its OCG-Wind foundation technology. Salamander is intended to be progressed through the innovation track of Crown Estate Scotland's Inno-



Ocean Wind's Scottish wind farm is expected to meet the power requirements of about 650,000 households. (Courtesy: Palfinger)

vation and Targeted Oil and Gas (INTOG) leasing round. The INTOG round will grant seabed leases through an auction process, which will be split into two pots — one for smaller scale innovation projects of less than 100 MW and one for larger projects linked to oil and gas infrastructure.

MORE INFO www.erm.com

► CONSTRUCTION

Palfinger to provide new cranes to Scotland wind farm

In 2023 Palfinger will deliver 60 of its new PF120-4 fixed boom cranes to the Moray West Offshore Wind Farm in Scotland and one PTM12000 jetty crane to its Operations & Maintenance (O&M) base.

Thanks to its long coastline and ideal wind conditions, Scotland is a hotspot for the offshore wind industry. The Moray West offshore wind farm is in the outer Moray Firth off Inverness.

In addition to the 60 fixed boom cranes, Palfinger will supply a PTM12000 jetty crane for Buckie Harbour. The commercial port has been selected as the long-term Operations & Maintenance (O&M) base and will be used to support the construction phase of the Moray West offshore wind farm and beyond.

The large-scale project is being developed by Ocean Winds, a 50-50 joint venture formed by EDP Renewables and ENGIE. It will consist of 60 wind turbines, each with a generating capacity of 14.7 MW.

Once operational, the Scottish wind farm is expected to meet the power requirements of about 650,000

households in Scotland for the next 25 years and thereby contribute to the county's targets of achieving net zero emissions by 2045.

"We are proud that the launch of our renewed range of fixed boom cranes allows us to offer our customers and partners even better performance in their daily business and that the re-designed solution is well received by them," said Gunther Fleck, Vice President Sales & Service Region Marine at Palfinger.

"What is more, the delivery marks the start of a promising partnership between Palfinger Marine and Ocean Winds."

Palfinger's range of fixed boom cranes comes prepared for load handling operations with a safe working load of 1,000 kilograms at 3- to 7-meter outreach in single line operation and up to 3,000 kilograms at 2.9- to 6.9-meter outreach in double line operation.

MORE INFO www.palfinger.com

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Sven Utermöhlen, CEO of RWE Offshore Wind (left) and Marc Becker, CEO of Siemens Gamesa's offshore business (right), at the Danish National Test Center for Large Wind Turbines in Østerild, Denmark. (Courtesy: RWE)

CONSTRUCTION

RWE signs Siemens Gamesa for Denmark plant

RWE is progressing with the deployment of Denmark's largest offshore wind power plant by signing a Preferred Supplier Agreement with Siemens Gamesa; 72 units of Siemens Gamesa's flagship SG 14-236 DD offshore wind turbines are planned to be installed at RWE's 1,000-MW Thor project. In addition, a service contract for the wind turbines is included. All deliveries are subject to RWE's final investment decision.

"With Thor, we will massively contribute towards Denmark's ambitious climate targets," said Sven Utermöhlen, CEO of RWE Offshore Wind. "In order to deploy this offshore project, we will rely on our track record of more than 20 years in offshore wind and on experienced suppliers, like Siemens Gamesa, which are committed to working hand in hand with Danish supply chain companies and the local

workforce. As RWE, we want to be one of the key drivers of offshore wind energy in Denmark."

"We're thrilled to collaborate once more with RWE, and feel particularly encouraged by the signing of the Preferred Supplier Agreement for the Thor project," said Marc Becker, CEO of Siemens Gamesa's offshore business. "Our partnership already encompasses 12 offshore wind projects in both operation and development, totaling over 5.1 GW of capacity in several countries."

RWE will build the Thor wind-power plant in the Danish North Sea, about 22 kilometers from Thorsminde on the west coast of Jutland. Installation of the turbines at sea is expected to begin in 2026. The installation works are planned to be carried out from the Port of Esbjerg, Denmark. Both RWE and Siemens Gamesa intend to use the skilled local workforce during the construction and commissioning of the project, both in the harbor as well as offshore.

The SG 14-236 DD is Siemens Gamesa's flagship offshore wind turbine. It features a capacity of almost 15 MW and a 236-meter diameter rotor with

an astounding swept area of 43,500 square meters.

For the operation and maintenance of Thor, RWE will set up a service base at the port of Thorsminde. RWE intends to contribute to the local economy and community by creating up to 60 permanent jobs. This includes technicians, engineers, nautical personnel as well as crew for the service vessels.

With a planned capacity of 1,000 MW, Thor will increase Denmark's share of electricity produced from renewable energy sources and help to reduce the country's carbon emissions, in line with the European Green Deal. Once fully operational, which is planned to be no later than the end of 2027, RWE's Thor offshore wind power plant would be capable of producing enough green electricity to supply the equivalent of more than one million Danish households.

MORE INFO thor.rwe.com

INNOVATION

Vestas Denmark prototype turbine produces first kWh

Vestas has finalized installation of the V236-15.0 MW prototype turbine at the Østerild National test center for large wind turbines in Western Jutland, Denmark. The prototype has successfully produced its first kWh of power and will now undergo an extensive test and verification program to ensure reliability before full type certification and serial production begins.

"This is a great step forward in our ambition to accelerate the green energy transition and it is a major milestone for Vestas and our partners," said Anders Nielsen, Vestas Chief Technology Officer. "Colleagues across Vestas have worked very hard and collaborated closely to ensure the rapid progress in developing and assembling the V236-15.0 MW prototype, and this achievement is a testament to the dedicated

Vestas has announced preferred supplier agreements for the V236-15.0 MW turbine for a total of more than 8 GW in five different markets. (Courtesy: Vestas)

work of the many Vestas employees involved. With this wind turbine we set new standards for technological innovation, industrialization and scale across renewable energy to create a sustainable offshore wind industry.”

The prototype development and assembly work has taken place across Vestas’ R&D and production sites in Denmark. The blade molds have been developed at Vestas’ blade factory in Lem and the 115.5-meter prototype blades have been manufactured at Vestas’ offshore blade factory in Nakskov. The prototype nacelle has been developed and assembled at the offshore nacelle factory in Lindø port of Odense. The test program for the generator, converter, and grid system integration has already started at LORC test facility in Denmark.



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A large advertisement for American Wire Group (AWG). The background features a vast desert landscape filled with numerous wind turbines. In the lower left foreground, there is a graphic of a globe with a blue and white pattern, overlaid with a stylized representation of electrical cables. To the right of the globe, the letters "AWG" are written in large, bold, white font, with "AMERICAN WIRE GROUP" in smaller white text below it. To the right of the text, there is a large cylindrical spool of cable, showing multiple copper conductors inside. The top half of the ad has a blue gradient background. Text on the right side reads: "PowerGuard® Medium Voltage Power Cables", "Single Conductor Aluminum (Compact or Compressed)", "35 kV 100%", and "UL Listed – CSA Certified". At the bottom, the website "buyawg.com" and email "sales@buyawg.com" are listed along with phone numbers "800.342.7215" and "945.455.3050".

With a swept area exceeding 43,000 square meters, the V236-15.0 MW moves the boundaries of wind-energy production to about 80 GWh/year, enough to power about 20,000 European households and displace more than 38,000 tons of CO₂ every year.

The V236-15.0 MW is designed to perform while reducing the number of turbines at park level, strengthening the project business case. The globally applicable offshore turbine offers 65 percent higher annual energy production than the V174-9.5 MW, and for a 900 MW wind park it increases production by five percent with 34 fewer turbines. It offers partial-load production, resulting in a more stable energy production, and a capacity factor over 60 percent depending on site-specific conditions.

Launched in February 2021, Vestas has until now announced preferred supplier agreements for the V236-15.0 MW turbine for a total of more than 8 GW in five different markets.

MORE INFO www.vestas.com

INNOVATION

Russelectric highlights EMO switches

Russelectric, a Siemens business, a manufacturer of power control systems and automatic transfer switches, is highlighting the external manual operator (E.M.O.), a standard feature of the Russelectric® RTS-03 Series and RTS-30 Series of open-transition automatic transfer switches, a line of 480 VAC 30-cycle and 3-cycle UL tested switches available in the market today. The unique External Manual Operator feature enables easy, safe, and quick manual transfer with the door fully closed, reducing downtime and the risk of arc flash injuries.

With the external manual operator, the manual transfer process is faster for both the preferred and the alternative power sources, and no special



In a pilot project, TÜV NORD is using drone support for the end-of-warranty inspection. (Courtesy: TÜV NORD)



The EMO design enables manual transfer with the door fully closed. (Courtesy: Russelectric)

procedures are required to ensure the system is de-energized during the transfer operation.

The External Manual Operator uses

the same Russelectric transfer mechanism as the automatic electrical operator. During an open-transition transfer, the contact mechanism is locked in position until an over-center position is reached. Preloaded springs then instantaneously open the closed contacts (quick-break) and instantaneously close the open contacts (quick-make) with only a momentary break in between.

This quick-break design along with rapid arc quenching features provide for rapid arc interruption, under maximum voltage and amperage, reducing contact erosion and overheating to extend useful life. Russelectric transfer switches have the highest 480 VAC 3-cycle closing and withstand ratings of any switches available today.

MORE INFO www.russelectric.com



When it is installed, the Vestas/ENGIE project will be the largest wind project in Latin America. (Courtesy: Vestas)

► MAINTENANCE

TÜV NORD pilot project uses drones for turbine inspection

In a pilot project for a European wind turbine manufacturer, TÜV NORD is using drone support for end-of-warranty inspection. The entire concrete tower is photographed by drone; experienced TÜV NORD experts later evaluate the images. In the medium term, an automated image recognition system is also to be used, which will pre-sort images with conspicuous features on the basis of extensive training data so that the experts can view and evaluate the images in an even more targeted manner.

"Initially, small cracks and spalling can later lead to critical damage in the concrete structure," said wind-energy expert Michael Lange, who is responsible for remote inspection projects for renewable energies at TÜV NORD. "That is why it is important to assess any anomalies on the tower before the end of the warranty period so that they can be repaired."

Using drones for this inspection simplifies image capture and also means greater occupational safety, as no additional skilled personnel with rope access technology have to be deployed, according to Lange.

"We are also working on a system that will allow the drone to fly autonomously up the tower, so that jobs can be completed in less time," he said.

"We use digital technologies such

as drones or new software solutions to make services more efficient or safer," said Alexander Ohff, TÜV NORD's executive vice president of the renewables segment. "Pilot projects evaluate the benefits in practice."

Using the drone-based inspection, 34 of the manufacturer's wind turbines have already been assessed this year. The results have been validated. Now, the procedure is being extended to additional sites. Talks are under way with other manufacturers and wind farm operators.

MORE INFO www.tuev-nord-group.com

► MANUFACTURING

Vestas gets repowering order for U.S. wind project

Vestas has received a 73-MW order to repower an undisclosed wind project in the U.S. The order consists of 33 V110-2.0 MW wind turbines in 2.2 MW operating mode, which will replace the site's current technology.

The order includes supply, delivery, and commissioning of the turbines, as well as a 10-year Active Output Management 5000 (AOM 5000) service agreement.

Turbine delivery begins in the third quarter of 2023 with commissioning scheduled for the fourth quarter of 2023.

MORE INFO www.vestas.com

► MANUFACTURING

Vestas, ENGIE expand partnership on Brazil wind farm

Vestas and ENGIE Brasil Energia SA are expanding a partnership, with the 288-MW order of 64 units of V150-4.5 MW wind turbines for the Serra de Assuruá wind farm in Gentio do Ouro in the state of Bahia, Brazil.

Both companies signed an agreement to implement the largest wind project in Latin America that, once fully installed, will have a total nominal capacity of 846 MW.

Vestas will also deliver a 25-year Active Output Management 5000 (AOM 5000) service agreement. This agreement will optimize energy production while also providing long-term business case certainty.

"It is a pleasure to work in partnership with ENGIE Brasil Energia and reinforce the joint commitment to facilitate and accelerate the energy transition in Brazil," said Eduardo Ricotta, President of Vestas Latin America. "At Vestas we will continue working to contribute to the development of the Brazilian energy matrix based on wind energy and closely with our partners to continue developing large-scale projects such as the Serra de Assuruá."

The delivery and commercial operation of Serra do Assuruá is estimated to start gradually from the second half of 2024 ↗.

MORE INFO www.vestas.com