

## THIS WEEK

### Vattenfall going for 4GW-plus off Norfolk

Vattenfall wants to supercharge its 3.6GW Norfolk wind cluster off east England by lifting the current capacity cap. **p2**



### Iceland sizes up kit for 220MW ice-breaker

Icelandic state-owned energy company Landsvirkjun has taken the first steps to securing turbines for a 220MW onshore wind double-header in the country. **p3**

### ESB and Coriolis target 133MW Vale of Leven

ESB and Coriolis have taken the wraps off plans for the 133MW Vale of Leven wind farm in Scotland. **p4**

## OFFSHORE

### Joint grid link plan for Celtic Sea floater neighbours **p5**

Swedish bid to streamline planning hits trouble **p8**



### Installation jack-ups on steroids

**TECHNOLOGY**  
**p9**

Round 4 derogation call 'bakes in harm' **p10**

Iberdrola hard hats go on at 476MW Baltic Eagle **p11**

Missing links on UK's 'multi-point interconnectors' **p14**

EnBW packing its bags at sole Taiwan project **p16**

## NEWS

Invis breaks new ground in Irish midlands **p6**

Vattenfall in planning for 96MW Eemshaven West **p7**

Council wants Stornoway wind for electrolyser **p12**

# Iberdrola and Orsted talks on US vessel pact

By Stephen Dunne

Iberdrola and Orsted are exploring a joint long-term charter of a Jones Act-compliant installation vessel to work on a multi-gigawatt US offshore wind pipeline.

The developers have held talks on joining forces for an around five-year deal to cover construction activity off the east coast, according to sources.

The discussions are early-stage and a number of issues would need to be ironed out before the charter comes to market, including what projects would be included and their order, it is understood.

Another question is how to handle delays to wind farms and where the vessel would go in the event of hold-ups. "A lot of discussions are going on," said a source.

The main focus will be on turbine installation although foundations may also be an option depending on vessel specifications, industry insiders suggested.

The charter would likely start around the middle of the decade depending on

consenting and financing decisions on wind farms, they added.

The talks have piqued the interest of big-name marine contractors as the length and depth of the proposed collaboration would be unprecedented. Five years is far longer than the more common one-off jobs that come to market.

Insiders said the terms would put a business case in reach for a newbuild US-flagged vessel, which would cost around \$500m.

That is the price tag Dominion has put on its Charybdis vessel, which will be operated by Seajacks as the only Jones Act-compliant jack-up when it hits the water next year.

Iberdrola and Orsted both have multi-gigawatt US project portfolios all due to enter construction in the coming years.

Orsted declined to comment but a spokesman for Avangrid Renewables, Iberdrola's US business, said there is a need for installation vessels and it is "exploring all options that align with our long-term business strategy".

# Triton Knoll developer defends CfD start delay

RWE Renewables has defended a decision to delay triggering a 15-year Contract for Difference for half of the capacity at the 857MW Triton Knoll wind farm in the UK North Sea amid soaring wholesale power prices.

A spokesman said the other half has been operating under the CfD regime since summer 2021, "paying back" the government as a result of current market conditions.

However, RWE and co-sponsors J-Power and Kansai Electric will delay initiating the CfD for the remaining 428MW until 1 April 2023, long after the estimated commissioning date of August 2022.

Triton Knoll is eligible for £94.81 per megawatt-hour for electricity produced under an inflation-linked CfD awarded in 2017 but must pay back the difference should wholesale prices rise above this threshold. The delay allows

the consortium to receive the wholesale power price, currently averaging £170/MWh, without sharing the upside with the UK taxpayer.

RWE said the decision "takes into account the flexibility within the CfD contract for a limited period of time, and which enables a project to allow for delays and losses incurred during the construction process".

The developer would not specify when asked what delays or losses had been incurred.

An Ocean Winds-led consortium has also put back the CfD start for all of the 950MW Moray East project's output until 31 March 2023.

Energy department BEIS this week urged companies with CfDs to "act fairly", although they are within their rights to hold off as long as the start date falls within the stipulated commissioning window.

# Grid hitch for 500MW solar and storage play in England

Tribus Energy and PS Renewables have hit a snag on the grid connection for their 500MW Sunnica solar-plus-storage project in England.

The developers have asked the Planning Inspectorate to postpone the start of the examination phase of the permit process until 18 July after National Grid said plans to build a transformer facility to extend the Burwell substation are no longer "technically feasible" due to a lack of space.

The backers of the project

in Cambridgeshire and Suffolk want the extra time to consider the implications and amend the planning application, they said.

A 30-day consultation period ending in June is being proposed to allow stakeholders to provide feedback on updated plans.

In response, planning examiners have questioned why the developers cannot proceed with their listed second grid-connection option to build a transformer facility 50 metres north of the Burwell substation.

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# Vattenfall going for 4GW-plus off Norfolk

Vattenfall wants to supercharge its 3.6GW Norfolk wind cluster off east England by lifting the current power capacity cap.

The Swedish developer has yet to disclose how high it wants to go but this week applied for a non-material change to its development consent order to remove the 1.8GW generation limit for its Norfolk Boreas project and reduce turbines from an upper limit of 158.

Vattenfall is now planning around 137 machines at the site under a new layout, lifting top power to just over 2GW based on 15MW units.

The company has confirmed to reNEWS it will file a similar application for sister

project Norfolk Vanguard shortly but declined to give specifics.

If turbine numbers are replicated at Vanguard, total capacity across the complex could reach 4.1GW based on 15MW hardware.

"Vattenfall's Norfolk zone is seeking to use the very latest innovation to further reduce the cost to the consumer of the energy produced," said a spokesman.

"To allow this, we will apply... to remove the maximum export capacity limit and reduce the number of turbines out at sea."

Vattenfall added that "a detailed review of the supply chain has shown there

have been advancements in technology making wind turbines more efficient and cost effective".

"These advances allow the generation capacity of a wind turbine to increase whilst remaining within the same parameters of scale."

Siemens Gamesa is already the preferred supplier for the Norfolk wind farms. Its most powerful machine on the market currently is the 14-236, which has a 15MW power boost option.

The Planning Inspectorate has given stakeholders until the 10 June to submit a relevant representation on the non-material change application for Boreas.

## Turbine part replacement blow at 50MW Kincardine

A major component replacement on a Vestas V164-9.5MW turbine at the 50MW Kincardine floating wind farm off Scotland is expected to take around two months.

The unit, mounted on a Principle Power semi-submersible floating foundation, will need to be towed back to port for repairs after issues were discovered "quite soon after" it came online in October 2021, sources said. Rotterdam has been tipped as the likely location as no UK port is suitable, they added. The wind farm's four other turbines are operating normally.

The component replacement represents a

significant technical setback for the world's largest floating wind farm just months after it became fully operational.

Not only is the problem expensive but financial sources said it could dent investor confidence in floating technology and raise questions about O&M strategies.

The project, originally developed by Flotation Energy directors Allan MacAskill and Lord Nicol Stephen, is majority-owned by ACS Group.

An expected sale was due to kick off in the first quarter but the timeline is now unclear, sources said.

Vestas and ACS declined to comment.

## CfD5 supply chain rules 'need work'

BEIS has conceded it needs to provide more clarity on how bidders in the fifth Contracts for Difference allocation round will be scored on their supply chain plans before raising the pass mark from 50% to 60%.

UK energy department officials made the admission in a fresh response to its consultation on the issue this week while remaining committed to imposing stricter criteria for the auction, due to open in March 2023.

Many respondents to the consultation questioned the effectiveness of the proposal in the absence of proper guidance with some requesting a delay.

Other steps to be introduced include feedback sessions with developers, a new questionnaire template, and reducing the validity of supply chain plans from 12 to nine months.

## HKZ infield kick-off

Vattenfall has installed the first batch of Prysmian and TKF-supplied array cables at the 1.5GW Hollandse Kust Zuid wind farm off the Netherlands.

## Short-list for FEED job at major South Korea floater

The Shell-led MunmuBaram joint venture has shortlisted bidders for a front-end engineering and design contract covering the first 420MW phase of its 1.3GW Ulsan floating wind farm off South Korea.

Technip in partnership with South Korean shipbuilder DSME and DEMA Offshore alongside an undisclosed local shipyard have made the grade, said sources.

Samsung Heavy Industries, which has lined up two separate bids with GustoMSC and Ocergy for foundation designs, completes the list.

The FEED winner will be named by the year-end, according to an informed source.

MunmuBaram, where Shell holds 80% with CoensHexicon on 20%, was granted exclusive development rights

for 420MW of the proposed 1.3GW Ulsan earlier this year.

The project, to be developed in phases, will span an area of about 240 square kilometres with water depths between 120 and 160 metres.

■ The Chiba prefectural government in Japan has recommended to the national government that a new area off Kujukuri town should be considered for offshore wind development, joining the existing Chiba Choshi City and Chiba Isumi City zones.

■ Tepco Renewable Power is the first developer to declare an interest in the Hokkaido Hiyama zone off north Japan, kicking off consultations on an up to 90-turbine, 1.3GW fixed-bottom project at the site, which is expected to come up for auction in the future.

## Falck and BlueFloat in hiring drive for ScotWind suppliers

Falck Renewables and BlueFloat Energy are in discussions with suppliers for the mooring and installation works at their ScotWind floating developments.

TTI Marine Renewables and Bridon Bakaert are being lined up to design and manufacture mooring lines for the 1.2GW Bellrock and 500MW Broadshore projects.

The pairing is also in the running for the 1GW Stromar site, which the Italian-Spanish partnership is developing alongside Orsted.

A memorandum of understanding is in place with Scotland's Rigmor as the intended installation

contractor for Bellrock and Broadshore.

Anchors meanwhile could be supplied by Netherlands-headquartered Vryhof, which is locating a new supply chain north of the border, according to Supply Chain Development Statement Outlooks that were published last week.

■ Deep Wind Offshore of Norway is consulting on plans for the up to 6GW Erik Segersall floating wind farm in the Baltic Sea off Sweden.

The developer also plans to consult shortly on the 1.75GW Olof Skotkonung fixed-foundation project in the Bothnian Sea.



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# Iceland sizes up kit for 220MW ice-breaker

Icelandic state-owned energy company Landsvirkjun has taken the first steps to securing turbines for a 220MW onshore wind double-header in the country.

The developer has launched a market consultation to get firm information from manufacturers on available technologies for the 120MW Blanda and 100MW Burfell projects.

The exercise is also aimed at tying down costs and other parameters, which will be used to feed into wider technical and feasibility studies.

"Some interest" has already been lodged in the project consultation, according to Landsvirkjun director of wind energy development Unnur Porvaldsdottir.

The two developments are part of Iceland's latest energy master plan, which is due to be discussed in parliament this year, and would represent the country's first utility-scale



**SYNERGIES:** Test Enercon turbines installed near the Burfell hydropower plant

Photo: Landsvirkjun

wind installations. Blanda is expected to feature around 30 turbines with 25 at Burfell, all with maximum tip heights of 150 metres.

Both projects could be built

in phases and will make use of grid infrastructure linked to existing hydropower stations, Porvaldsdottir said.

An environmental impact assessment for Burfell has already been completed and construction could start in 2025-26 if permitted. Building work at Blanda would follow a year later.

Iceland has excellent wind conditions and has been studying the advantages of and potential for wind energy since 2012 when two Enercon E44 turbines were installed near the Burfell hydropower plant.

Those studies have shown capacity factors of 45% can be reached and that there are strong synergies between onshore wind energy and hydropower.

"In the winter we have low inflows into the hydropower stations but strong wind conditions," said Porvaldsdottir. "So wind could help us to optimise the energy system."



**COMPLEX TERRAIN:** Iberdrola's eight-turbine Mikronoros wind farm in Thrace with the developer's Patriarchis project featuring 1.3MW Siemens units top right

Photo: Iberdrola

## Iberdrola hits the heights at 33.6MW Mikronoros

Iberdrola has completed turbine installation at its 33.6MW Mikronoros wind farm in northern Greece.

Construction of eight Vestas V150-4.2MW units presented the company's "most challenging" project in Greece to date, according to country manager Thanasis Tsantilas.

The Mikronoros site is located in the province of Rhodopes in Thrace at an altitude of around 1100 metres with complex terrain.

"We also faced the challenge of extremely difficult weather over one of the worst winters in Greece in the last 42 years," Tsantilas said.

Iberdrola used a blade-lifter to carry components to the site, a strategy it will repeat at two more high-altitude projects in Greece, the 83.6MW Askio 2&3 complex.

Mikronoros will also be equipped with bird monitoring technology, Tsantilas added. The site will be energised by mid-May and reach commercial operations in the coming weeks after completion of trial runs and commissioning.

Operations in Thrace will

lift Iberdrola's installed wind capacity in Greece and Cyprus to 335MW. That tally will hit 435MW in early 2023 on completion of Askio 2&3 and the 18MW Rokani wind farm in Viotia.

Askio 2&3, in Western Macedonia, will be equipped with Vestas V150 turbines while Rokani will host the largest units in Greece with three Vestas V160-6.0MW machines.

Construction work at Askio 3 and Rokani has just started with Askio 2 set to follow later this year.

Iberdrola has built up a 1GW-plus portfolio of large-scale renewables projects in Greece with a roughly 50-50 split between onshore wind and solar PV, according to Tsantilas.

The company is aiming to submit a portion of the projects into Greece's upcoming series of renewable energy auctions, which are due to be held over the next four years.

The most advanced development assets include around 11 onshore wind farms ranging in size from 25MW to 65MW.

## Greenalia on consenting path for Spanish duo

Greenalia has filed to build two wind farms in Spain totalling almost 140MW.

The developer is seeking the go-ahead for the 106MW Levante project in Lugo province and 33MW Lamas de Feans in Ourense province.

Plans for the Levante site in AS Nogais, Becerreia and Tricastal municipalities include 19 5.6MW turbines with up to 105-metre towers and rotor diameters of

150 metres. Greenalia will also construct high-voltage power lines through the municipalities of Baralla, Baleira and Pol to connect the project to the grid.

The developer is planning to install seven 5MW-class turbines with 127.5-metre towers and 145-metre rotor diameters at Lamas de Feans in the municipalities of Baltar, Calvos de Randin and Os Blancos. Greenalia will invest

around €104m in the two projects, which are part of its 2.2GW onshore wind portfolio in Spain and a global 4.6GW renewables and energy storage pipeline.

Spanish developer Tiraventos has revealed plans for two wind farms in the northern Pontevedra province totalling 51MW.

The 30MW Os Cotos project in Cerdedo-Cotobade municipality will employ six 5MW turbine units with a tower height of 125 metres and up to 150-metre rotor diameters.

The 21MW Merendon wind farm in Oia and O Rosal municipalities will feature five 4.2MW units with 112-metre towers and 136-metre rotor diameters.

Planning documents indicate Tiraventos will use Vestas V150 hardware at Os Cotos and V136s at Merendon.

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# ESB and Coriolis target 133MW Vale of Leven

ESB and Coriolis have taken the wraps off plans for the 133MW Vale of Leven wind farm in Scotland.

A scoping report filed with the Holyrood government's Energy Consents Unit outlines a proposal for up to 19 turbines with 200-metre tip heights. The Irish-UK joint venture anticipates using up to 7MW hardware.

The site, located on open moorland within the Kilpatrick Hills of West Dunbartonshire, north-west of Glasgow, was previously identified by Lomond Energy for its Merkins wind proposal back in 2012.

That project was not consented. Vale of Leven has "no connection" to the

earlier application, said the developers.

The partners are considering an energy storage system at the site with a decision on this feature to be informed by the environmental impact assessment.

"Storage may take the form either of housed or containerised arrays of lithium or other batteries, or potentially other non-battery forms of energy storage technology," according to the scoping report.

ESB and Coriolis added the proposed designs are subject to change based on the outcomes of the scoping process and ongoing impact assessments.

## Statkraft back to square one on its Ackron application

Statkraft is withdrawing its planning application for the 49.9MW Ackron wind farm in the Scottish Highlands and will submit a revised proposal to address concerns raised during consultation.

Plans for 12 turbines with 150-metre tip heights were filed with Highland Council in December 2020.

Consultation responses include objections from bird charity RSPB citing potential impacts on the common scoter and hen harrier.

NatureScot also objected on grounds the site would result in unavoidable adverse effects on the East Halladale Flows Wild Land Area.

Ackron project manager Maya Hernes said Statkraft remains committed to the development and is convinced the site has "excellent potential" for a wind farm.

"It is disappointing that this will have a delayed impact on our timeline," she added.

RES has been given the green light to extend the life of its 26MW Glens of Foudland wind farm in Scotland.

Aberdeenshire Council granted permission for the project, which has been online since 2005, to continue running until end-2035. The decision adds almost eight years to the previously consented operating period.

# KPMG gets call to steer summer sale at Ecotricity

The sale of UK renewables developer and retailer Ecotricity is set to kick off in the coming weeks.

Financial services giant KPMG has been appointed advisor on the transaction and is expected to release information memoranda towards the end of May, a source told reNEWS.

Dale Vince, who founded the company in 1995, said last month he is looking to find a new owner so he can pursue a career in politics.

The buyer should share Ecotricity's "commitment to green energy" and have funding to "turbo-charge"

development of its green energy pipeline, which includes solar and storage.

Ecotricity is currently in the "biggest year of construction in its history" with two solar parks and a battery storage project alongside a grass-fed biogas plant due to be completed.

The company, with turnover of £300m and 800 staff, has 90MW of onshore wind in operation and construction.

Ecotricity is understood to be seeking a buyer by the end of this quarter. The disposal will include its retail division, which serves around 200,000 homes and businesses.

**ON THE MOVE: Components have started to arrive at EDF Renewables' 30.1MW West Benhar wind project in North Lanarkshire, Scotland, featuring seven Vestas V117-4.3MW turbines with 149.9-metre tip heights. The first blades were transported by road (pictured) under police escort last week to the site near Shotts, making a 45km trip from Glasgow docks. EDF said it expects the full delivery schedule**



to be complete by mid-May. Civil contractor I&H Brown completed foundations at the site in January and the wind farm is scheduled to go live this year.

Photo: Peter Devlin

# Non-binding bids rolling in for United Utilities asset package

UK water utility United Utilities has taken indicative offers for a portfolio of four operating wind farms and other renewables assets totalling 68.7MW in north-west England.

Non-binding bids were filed at the end of April for the diversified, unlevered package, which was commissioned between 2014 and the first quarter of this year, according to industry sources.

Up to 80% of the output is sold to United Utilities Water

through direct wire power purchase agreements. The average remaining lifespan of the assets is 25 years and there is a 70% minimum off-take guarantee.

United Utilities is understood to be willing to negotiate extensions of PPAs and leases due to the predictable energy needs of its water assets.

RBC Capital Markets is advising on the sale, which is code-named Project Sol and expected to complete this quarter.

# Landowners chase 147MW consent

Grayside has filed a planning application for its eponymous 147MW wind farm in South Lanarkshire, Scotland.

The developer, owned by two local landowners, wants to install 21 turbines with 200-metre tips along with a 20MW battery storage system, according to paperwork.

The site just south of

Lamington spans more than 2000 hectares. Grayside, which is seeking a 30-year operational lifespan, estimated construction will take 18 months.

Public consultation on the planning bid is underway. A separate application will be made to secure the grid connection.

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## Words to the wise on Green Volt paperwork

Scottish ministers have issued a scoping opinion on Flotation Energy and CNOOC's proposed 300MW Green Volt floater project off east Scotland.

Various items have been recommended for addition to the partners' consent application paperwork including full and detailed descriptions of all foundation options being considered.

An environmental impact assessment must also clearly detail export cable landfall locations as well as details of the mooring system being proposed.

The opinion is a response to a scoping report for the project issued late last year.

Flotation Energy and its Chinese ally are planning to install up to 30 turbines of between 10MW and 16MW on semi-submersible foundations at a site 75km off Aberdeenshire.

Some of the output will be used to power CNOOC's Buzzard oil and gas platform.

The partners are aiming to secure a lease in Crown Estate Scotland's Innovation and Targeted Oil and Gas (INTOG) exercise due to take place next year.

## Morecambe pair complete aerial surveys

Flotation Energy and Cobra have wrapped up 12 months of digital aerial surveys for their 480MW Morecambe wind farm in the Irish Sea.

The joint venture worked with environmental consultancy HiDef to gather data on bird and mammal species at the site off the Lancashire coast.

The partnership is now putting together an evidence plan with the help of offshore ecology and environmental management specialists ahead of filing a scoping report due later this year.

# Joint grid link plan for Celtic Sea neighbours

Floventis Energy intends to integrate grid infrastructure for its 200MW Llyr floating wind farm in the Celtic Sea with Simply Blue Energy and TotalEnergie's nearby Erebus project.

The joint venture of SBM Offshore and Cierco said its plan could include a common export cable route, grid connection location and substation for the two projects.

The developer added it has consulted the environmental statement submitted for the up to 100MW Erebus floater, which is due to be built 1.7km from Llyr, to inform its own scoping report.

Llyr comprises two adjacent 100MW demonstration arrays that will consist of up to eight 12MW to 20MW turbines with a 25-year lifespan.

Floventis said it will likely import the turbines from a manufacturing facility in

Europe with the components sent to a central assembly facility and then "potentially" transported to Pembroke port for onward installation.

The developer is considering either a barge, semi-submersible or tension-leg platform design for the floating foundations. Up to two parallel 132kV export cables are envisioned.

Floventis will engage in public consultation events and finalise its design for the project this summer.

The company expects to complete environmental baseline surveys for Llyr in the third quarter and file a marine licence application in the fourth quarter.

Project consent could follow in the fourth quarter of next year with fabrication running from end-2024 to early 2026.

Offshore installation is scheduled to begin in

late summer 2025 with commissioning scheduled towards the end of 2026.

■ Copenhagen Offshore Partners is to launch a round of virtual and in-person public consultations next week on its proposed 100MW Pentland floating wind farm off north Scotland.

The developer is expected to file a planning application later this year for the up to 10-turbine development. Commercial operations at the array 6.5km off Dounreay could start in 2026, subject to consent and financing.

## Onshore line construction underway for 1.4GW Sofia

Onshore cable construction has started to connect RWE's 1.4GW Sofia wind farm in the UK North Sea to the grid.

VolkerInfra is building the 2km line from the site of a new onshore converter station to National Grid's Lackenby substation near Redcar. The civil engineer has been contracted to design, supply and install the 400kV AC cable, which will take around two years to complete.

Kier Infrastructure has also started building the converter station.

## RWE puts in application for 1.1GW Awel y Mor off Wales

RWE has submitted a consent application for its up to 1.1GW Awel y Mor wind farm in the Irish Sea off north Wales.

The Planning Inspectorate now has until 18 May to decide whether to accept the project for examination. Stakeholders will be given time to make representations ahead of the six-month exam process.

Awel y Mor, which is set to feature up to 107 turbines with 332-metre tip heights, is

the extension project for the operational 576MW Gwynt y Mor wind farm.

Elsewhere, the German developer has started site investigations around the proposed landfall at Holland Haven in Essex for its up to 720MW Five Estuaries wind farm in the North Sea.

Data gathered will be used to inform a full consent application, which is expected to be filed in the third quarter next year.

## XLCC 'looking for new plant sites'

HVDC cabling firm XLCC is understood to be scouting out additional manufacturing bases to supply the UK-to-Morocco interconnector proposed by sister company Xlinks as well as future offshore wind clients.

The company has already signed an option agreement with Peel Ports to develop two factories on a 28-hectare site at Hunterston Port in Scotland and is due to hold a public consultation on

its proposals on 11 and 12 May. XLCC is primarily seeking to build plants in Scotland and Wales but is also exploring "alternative options" for production lines, a source said.

Local press reports suggested last month an unnamed manufacturer that makes subsea cables for offshore wind farms is in talks to lease a site at the Teesworks freeport in north-east England.



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# Invis breaks new ground in Irish midlands

Invis Energy is in the early stages of developing the 50MW-plus Umma More wind farm in County Westmeath, its first foray into the Irish midlands.

The Craydel Group and Asper Investment

Management partnership is eyeing up to nine turbines at the site, understood to be located to the east of Athlone.

Tip heights have yet to be revealed although they are likely to be around the 170-metre mark given project

capacity expectations. Various other works are also required for the development, including site access tracks and cabling.

Invis is planning to file a permit application via the strategic infrastructure route

in Ireland. This would allow the developer to submit paperwork directly to national body An Bord Pleanala, bypassing local authority approval. The process is reserved for 50MW-plus schemes.

Pre-application talks with planners for feedback on the proposal are underway.

ABP said it would decide whether to accept the strategic infrastructure application in August. If cleared, Invis would be given

the go-ahead to submit a planning application.

The company has developed hundreds of megawatts of wind farms but has stuck to the south, west and north-west Irish seaboard until now.

Invis has been scouting for sites in the Westmeath area for more than a year but this is the first proposal to emerge.

Craydel is headed up by Cork independent developer Michael Murnane.

## A lot gets thrown at you up here

"I've seen off storm Andy, Beatrice, and Charlie...but the RES team keep me going."

- A stoic wind turbine, on the North Atlantic coast

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## Statkraft pours out strategic cocktail at 86MW Coolglass

Statkraft is planning to erect 13 turbines at the 86MW Coolglass wind farm in County Laois in the Irish midlands.

The Norwegian developer is eyeing 6MW-plus hardware based on the current configuration. Tip heights and layouts have yet to be revealed for the site south-east of Portlaoise.

Pre-application talks have kicked off with An Bord Pleanala with a view to a permit application filing under the strategic infrastructure track. ABP is likely to give the go-ahead in August.

The developer is expected to get a local consultation push underway in the coming weeks.

Statkraft has meanwhile secured a permit to build a new grid substation in the midlands to connect its consented 50MW Cushaling

wind farm as well as other companies' projects.

ABP has given the nod for the 110kV facility in County Offaly, which includes a 400-metre power line to connect into the Cushaling-Mountlucas overhead wire.

The new substation, which will be handed over to system operator Eirgrid once built, will facilitate connection of the nine-turbine Statkraft wind farm.

It will also serve future renewables projects in the area as the existing Cushaling substation adjacent to the Edenderry power station is already at capacity.

Bord na Mona's nearby 75MW Cloncreen wind farm is expected to be the last to hook up to the network at Edenderry when it comes online in the coming months.

## IN BRIEF

■ SSE Renewables and FurturEnergy Ireland have taken the wraps off the preferred layout for the 19-turbine, 114MW Cummeennabuddoge wind farm in south-west Ireland. The developers said the design will now go through further refinement with a final proposal expected by the year-end.

■ The Dublin High Court has given the go-ahead for a judicial review against consent by ABP for Craydel's seven-turbine, 30MW Curraglass wind farm in County Cork. Justice Charles Meenan has cleared a number of community groups to take the case to a full hearing. A date has yet to be fixed.

■ CGN Europe Energy Ireland has submitted habitat and bird monitoring studies as part of planning conditions for the operational 9MW Corby Knowe wind farm in Northern Ireland. The Chinese company acquired the project from original developer Gaelectric in 2016.

■ A local developer is seeking permission to install two Enercon E-138 turbines at the 4.9MW Derm wind farm in County Roscommon. Peter Gillooly wants to erect one machine with a 165-metre tip and the other with a 150-metre tip to replace a previously permitted design featuring Vensys machines.



## Bumpy ride for 18MW Oude Maas build in the Netherlands

Storm damage and the recent cyber-attack at Nordex have delayed commissioning of the 18MW Oude Maas wind farm along the Oude Maas River to the south of Rotterdam in the Netherlands.

Developers Renewable Factory and Eneco have successfully installed four of the five N131 3.6MW turbines on 120-metre towers at the Zuid Holland site.

However, the testing phase for the machines has been postponed until a connection to the manufacturer's servers can be established, the developers told reNEWS.

Installation of the fifth turbine has been delayed because unassembled components were destroyed during Storm Eunice in

February. New parts, including motors and cabling, have already been delivered and will be assembled in the next two weeks, Renewable Factory said.

However, a date has yet to be fixed for connecting the completed hardware with Nordex's servers, it added. Eneco will own and operate two turbines at the project while Renewable Factory will own the remaining three.

Nordex was hit by a cyber-attack at the end of March and was forced to shut down some of its IT systems and disable remote access for turbines connected to its network. The company is continuing to investigate the incident.

## Gelderland authorities lay down rules for 43MW Horst en Telgt

Authorities in Holland's Gelderland province are drawing up an integration plan for Prowind's proposed 43MW Horst en Telgt wind farm.

The plan, which is produced by officials in response to early-stage applications by developers, will set out the guidelines and regulations that will have to be included in the project's permit, including limits for noise emissions, cast shadow, flicker and safety.

The document also paves the way for a public consultation process to determine the preferred

design of the wind farm, which will be determined by officials in late 2022.

The proposed project currently consists of seven 6.2MW turbines to be sited along the A28 road in Ermlo and Putten municipalities.

Pending agreement, a formal permit application is expected later this year. The council expects to make a decision on the paperwork in early 2023, paving the way for construction to start in 2025.

The wind farm is being developed with energy co-operative Veluwe Energie.

# Vattenfall goes into planning for 96MW Eemshaven West

Vattenfall is seeking planning approval for the 96MW Eemshaven West wind farm in Groningen province in the Netherlands.

The 16-turbine project will be equipped with 5MW to 6MW-class hardware featuring maximum tip heights of 225 metres and up to 165-metre rotor diameters

Project documents will undergo a six-week public consultation process and the local authority could make a

decision on the permit for the site to the west of Eemshaven by mid-year, Vattenfall said.

If no objections are raised, procurement for turbines and main construction works will start later this year with the build scheduled to begin in late 2023 or early 2024, the company added.

Vattenfall is developing the wind farm in partnership with Eemswind Foundation and Energie Cooperatie Oudeschip & Omstreken. The

authorities in Groningen province chose a preferred variant for the layout and location of the project in late 2021, opting for four rows of turbines in one of three areas designated for wind farm development.

The preferred variant was chosen after consultation with local residents and includes a plan for two community turbines, compensation measures and a local area fund.

## Developer to fix bullet hole in blade at Swedish wind farm

Swedish developer Arise is to repair a blade on a Vestas V136-3.45MW turbine at the 115MW Svartnas wind farm after it was hit by a bullet.

The component at the site in central Sweden's Dalarna county is thought to have been hit in early April and will be repaired on-site, Arise said.

The company described the incident as "highly unusual", adding the damage is "not huge". However, the turbine in question has been taken off-line until the repair work is completed.

Local police have been informed and are investigating, the developer added. It is not clear whether the damage is the result of deliberate sabotage by anti-wind farm campaigners or if it is a hunting-related accident, a source said.

Arise is considering limiting public access to the land around the wind farm in future to help prevent a repeat of the incident.

Arise manages the Svartnas site on behalf of asset owner BlackRock. The wind farm is equipped with 32 turbines and started operating in 2019.

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### IN BRIEF

■ The regional government in the German state of Bavaria is relaxing setback rules for some wind farms. Officials are planning to set a limit at 1000 metres for units in certain locations such as along motorways and major roads, forests and industrial sites, replacing the current '10H' or 10 times turbine height rule.

■ RWE has completed the Krusemark-Ellingen repowering project in Saxony-Anhalt, Germany. Output has increased to 19.8MW from 15.7MW after 15 vintage Enercon turbines were replaced with six 3.3MW Nordex units.

■ Ventient Energy has completed its acquisition of a 443MW renewables development portfolio in Spain from an undisclosed seller. The deal comprises 203MW of onshore wind and 240MW of co-located solar in Castilla y Leon.

■ Science company Solvay has signed a 10-year power purchase agreement for output from Statkraft's 86.8MW Pajuperankangas wind farm in Finland, which is currently under construction.

Fourteen turbines are scheduled to be connected to the grid in autumn 2023.

## Frederikshavn consultation gets rolling

A public consultation into European Energy's 72MW Frederikshavn near-shore wind farm off Denmark will open later this month.

The eight-week exercise includes a public meeting on 2 June at the Musical House in Frederikshavn where the developer will take questions on the project's environmental impact assessment.

The Danish Energy Agency and Frederikshavn Municipality, which have authority over the maritime and land portions of the project, respectively, will also participate.

DEA approved a preliminary feasibility study for the wind farm, including the EIA, on 26 April.

European Energy can now proceed to the next steps in the consenting process, including applying for an establishment permit.

## FEW Baltic 2 supply meeting

RWE Renewables and a consortium of GE Power and PILE-Elbud will hold a supply chain event on 19 May providing information on the onshore substation for the 350MW FEW Baltic 2 wind farm off Poland.

Information will be presented on the contract schedule along with technical and competence requirements for potential sub-suppliers, and the mechanism of contracting supplies.

## IN BRIEF

■ Eolos Floating Lidar Solutions is to start a two-year wind measurement campaign this month to inform the design of developer PGE Baltica's 1GW Baltica 1 wind farm off Poland.

■ DEME Offshore is making "strong progress" at RWE's 342MW Kaskasi wind farm in the German North Sea. The contractor has already put in place 22 monopiles under its work-scope, which includes installation of the majority of the 39 foundations and all the transition pieces, turbines and array cables.

■ Danish crew transfer vessel operator World Marine Offshore has contracted Norwegian shipbuilder Umoe Mandal to build two new vessels, which will be used by Orsted. In addition, WMO has entered into bareboat charter agreements for two similar vessels owned by Umoe Group.

■ Consultancy Ramboll has been contracted by Enefit Green to prepare a preliminary design for the 1.1GW Hiiu wind farm planned to be built north of the island of Hiiumaa off Estonia. The technical analysis of the wind farm is expected to be completed in August this year.

■ Polish energy company Orlen Group is planning to take part in Lithuania's inaugural 700MW offshore wind auction in 2023. Orlen said wind capacity expansion is among the strategic development directions that will determine the company's future.

■ Louis Dreyfus Armateurs and Tidal Transit have launched the first crew transfer vessel dedicated to the operations and maintenance at the 480MW Saint-Nazaire wind farm off France.

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# Swedish bid to streamline planning runs into trouble

A proposal by Sweden's government aimed at speeding up consent decisions by municipalities on offshore wind farms up to 22km from the coast is likely to be rejected by parliament.

Swedish wind energy association SWEA said political parties Centerpartiet, Liberalerna, Moderaterna and Kristdemokraterna are expected to vote against the legislation on 21 June, which would be enough to block its approval.

Under the government's plans, which also include onshore wind, local authorities would be required to determine applications within nine months of receiving the paperwork and justify their decisions.

Current regulations give officials the right to say no to projects, a so-called municipal veto, without giving any reasons and without the possibility of appeal.

"It is unfortunate and surprising that the proposition does not seem to have a majority in the parliament," said SWEA permitting specialist Tomas Hallberg.

Parliament's Environment and Agriculture Committee is currently in the process of

preparing the Bill ahead of the full vote.

Several motions have been put forward by some members of parliament who oppose the proposal.

Concerns include that removing the municipal veto would risk eroding the local authority's right to decide how land in its jurisdiction is used and could lead to increased negative effects on the environment through the development of wind farms.

## Consenting progress for Sweden sites

Svea Vind Offshore and Iberdrola have been awarded municipal approval for the 500MW Utposten 2 wind farm off Sweden.

The Spanish developer said the project is now pending completion of the administrative phase prior to obtaining environmental authorisation.

Meanwhile, the partners' up to 62-turbine Gretas Klackar 2 wind farm has passed the initial oral hearings to obtain its environmental permit.

The project is now in the process of being approved by municipal authorities.

## Tahkoluoto extension plan tweak

Suomen Hyotytuuli's planned 300MW to 500MW extension to the 42MW Tahkoluoto wind farm off Finland will feature a maximum of 43 turbines instead of up to 45 as previously proposed.

The new total is included in the so-called participation and evaluation plan as part of a sub-master plan published by the Pori City government.

Approval of the plan is one of the requirements of the project consent process and is expected to take place by the end of the year.

The Tahkoluoto extension would be located 30km north-west of the centre of Pori.

## Deadline move at Baltica 2&3

PGE and Orsted have extended the deadline to apply for the engineering, procurement and construction contract for onshore links to serve their 2.5GW Baltica 2&3 projects off Poland to 13 May.

The contract is for 64 months and is not subject to renewal. Lot one covers the 1498MW Baltica 2 and lot two the 1045.5MW Baltica 3.

The scope of the work for both packages includes supply and installation of power lines and transformer substations, as well as engineering design services.

The onshore infrastructure will be built in the vicinity of Osieki Leborskie, in the Choczewo commune, in the Wejherowo district of the Pomerania region.

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# Installation jack-ups on steroids

Imminent arrival of 15MW-plus turbines forces vessel operators to tear up existing designs in pursuit of scale, writes **Heidi Vella**

The continued growth in the scale of offshore wind turbines has driven a leap in installation jack-up vessel size, forcing operators to rethink existing concepts.

"It has not been a case of just copying and pasting designs and incorporating bigger factors but starting from scratch and looking at which technology is the best fit for the scale of the vessel," Jan De Nul project manager Standaert Rutger told reNEWS.

Leading turbine manufacturers Vestas, Siemens Gamesa and GE are all now marketing hardware with capacities reaching 15MW while the largest units currently going in the water rate at 11MW.

How this trend will continue is a hot topic among installation vessel operators as they try to future-proof new jack-up designs and investments by striking a balance between cost and capacity.

Jan De Nul, one of several

operators including DEME Offshore, Van Oord and Cadeler to commission new ships, is currently building the *Voltaire* at Cosco in China.

The jack-up incorporates a significant enlargement of payload capacity and crane operating height compared to the marine engineer's operational *Vole au Vent* ship.

*Voltaire* has been fitted with a 3000-tonne Huisman leg-encircling crane that Jan De Nul said is the world's tallest. The vessel itself has legs more than 130 metres long for stable operation in water depths of up to 80 metres. The maximum payload is 16,000 tonnes.

By comparison the *Vole au Vent* crane's lifting capacity is 1500 tonnes and it has 90-metre legs with a maximum cargo weight of 6500 tonnes.

The higher expected forces acting on the *Voltaire*'s legs due to their increased length and the larger crane required new designs, said Rutger.



**HEIGHT ADVANTAGE:** The *Voltaire* under construction at Cosco in China is equipped with the world's tallest Huisman leg-encircling crane

Photo: Jan De Nul

Optimising deck space to 7000 square metres while also incorporating the payload was one of the biggest challenges, he added.

*Voltaire*, scheduled for completion in the second half of this year, is contracted to work at Equinor's Dogger Bank A, B and C projects in the UK North Sea where it will install GE 14MW Haliade-X turbines over a three-year campaign.

Supply chain problems are thought unlikely to delay the jack-up's delivery as it was ordered prior to the pandemic but moving personnel around remains the "biggest struggle" given

Chinese Covid regulations, added Rutger.

The vessel should accommodate at least 20MW turbines and possibly greater, said head of commercial offshore wind Bart Willems, adding he believes there may eventually be a "top off in the curve" for turbine capacity but manufacturers should work with contractors to ready the industry.

"Hopefully they will not go higher and higher without considering the investments for installation vessels, which are significant," he said.

Rapid acceleration in turbine capacity meanwhile took the industry by surprise and forced operator Seaway 7 into a last-minute upgrade of its new installation jack-up, said executive vice president of vessels and offshore resources Torgeir E Ramstad.

Based on market research and insights from manufacturers, the company had finalised plans for newbuild *Seaway Ventus* last June and July but just before shipyard commitment in October the operator learned specifications needed to change "quite dramatically", he added.

"One (turbine) manufacturer said it would not exceed 900 tonnes for a tower in June and then in October this had grown to 1250 to 1300 tonnes," said Ramstad, adding this development took "the entire industry by surprise".

"We heard from developers

Analytics specialist Rystad Energy last month estimated demand for installation vessels will outpace supply by 2024. Jan De Nul's Bart Willems said his company has come to similar conclusions. "Based on very detailed research we predict there will be an undersupply for next-generation turbine vessels within the next three to four years. The market is becoming very heated," he added.

they also didn't expect turbine components to increase more than this lower end."

Manufacturers decided hub heights needed to increase, in some cases to allow bird corridors underneath blades, which added to the expected height and weight of towers. Others expanded the rotor diameter making blades longer.

This prompted Seaway 7 to substantially upgrade the crane on the *Ventus* so it is optimised for 15MW to 18MW turbines. Once delivered in 2023, the jack-up, which recently began construction at China Merchants Heavy Industry in Jiangsu, will operate in water depths of 65 metres.

It will have a telescopic leg-encircling crane with a maximum lifting capacity of 2500 tonnes in retracted mode and 1600 tonnes in extended mode.

*Ventus* will have a lower carrying capacity than some vessels commissioned by competitors, a strategic decision, said Ramstad.

"The *Ventus* can lift as high and as heavy but there is a trade-off between the capex cost, and subsequent day-rate charged, and carrying more turbines per trip," he said.

"For the turbine models we see coming in the medium term we are capable and feasible as a solution."

The vessel's inaugural projects will be Orsted's 900MW Borkum Riffgrund 3 and 242MW Gode Wind 3 in the German North Sea. ■

## Seaway 7 taking energy recovery to next level

Installation vessel operators are keen to shore up their investments with green fuel capability and low carbon propulsion technologies.

"When building a ship with a 25-year lifespan we need to future-proof it as much as technically possible against new regulations and client and community expectations," said Torgeir E Ramstad of Seaway 7.

The *Seaway Ventus* (illustrated) will have a new power generation system that will reduce fuel consumption by 20% via energy recovery, the operator claimed.

An on-board DC electrical and power regeneration system will allow electricity to be recovered during jacking operations and stored in a battery to manage power



Illustration: Seaway 7

peaks. This will help diesel generator sets to run in a more economic way, Ramstad said, adding *Seaway 7* is "the first in the business to take the technology this far".

The jack-up is also hydrogen-ready. The connection to the main switchboard will be set up for a liquid organic hydrogen carrier (LOHC) process.

This is an organic compound system that can

absorb and release hydrogen through chemical reactions. The liquid can be pumped on-board, like diesel, to hydrogen recovery equipment that feeds fuel cells to generate electricity.

"Nobody really knows yet if this will be a viable solution but if it is we will probably remove some of the existing diesel generator sets when installing the new equipment to save weight," Ramstad said.

Jan De Nul's *Voltaire* meets international standards of an ultra-low emission vessel as it is equipped with a double exhaust gas filter system that removes up to 99% of nanoparticles.

The jack-up is also biofuel-ready but it is up to clients whether they choose this option, the company said. ■

# Round 4 derogation call 'bakes in harm'

The Crown Estate's decision to progress leasing of Round 4 offshore wind sites in England and Wales via derogations is a result of poor planning, according to a stakeholder.

RSPB senior policy officer Helen Quayle criticised the approach, which allows all six sites offered through the seabed auction to be awarded lease agreements despite their potential impacts on environmental integrity.

The decision was made following the results of CE's Plan-Level Habitats Regulations Assessment, required as part of the leasing process to identify potential impacts

on nature conservation sites. Quayle told reNEWS derogation matters are designed to be an "exception".

"Any process that has led us to requiring derogations has failed because we haven't been able to avoid and mitigate impacts," she said. "That's really a symptom of poor planning for Round 4 and everything else that's gone before where impacts have already been locked in and not addressed."

The UK and Welsh governments are due to rule on whether CE's derogation approach should go ahead by 12 May. Plans to build

at the lease sites will move forward if no response is received by that date, subject to the implementation of environmental compensation measures.

The HRA identified two sites, the Flamborough and Filey Coast special protection area and the Dogger Bank special area of conservation, which could face adverse effects on seabirds and benthic habitats.

Both are located in the UK North Sea, close to the seabed leases for RWE's 3GW Dogger Bank South complex and GIG and TotalEnergies' 1.5GW Outer Dowsing.

A spokesperson for Corio, GIG's offshore arm, declined to comment on the HRA process or the derogation notice. RWE said it is engaging with CE on the leasing process, which is "commercially sensitive".

Orsted's 2.4GW Hornsea 3

round, which will now be limited to the NE1 seabed area off Shetland. The auction is only open to existing ScotWind bidders with applications due 10 May.

Waves Group has secured the marine warranty surveyor contract for the 1.2GW Dogger Bank C wind farm off east England, making a clean sweep for the marine consultancy across all three phases of the project.

Crown Estate Scotland has said an average of £1.5bn could be spent on supply chain commitments across each of the 17 offshore wind sites awarded in its recent ScotWind auction after publishing the Supply Chain Development Statement Outlooks for the projects.

## IN BRIEF

Commissioning of turbines at Orsted's 1.3GW Hornsea 2 wind farm in the UK North Sea has progressed slower than expected with the ramp-up profile delayed compared to internal year-end expectations, chief executive Mads Nipper said during a first-quarter results presentation.

However, Orsted is on track to officially complete the wind farm this summer with all foundations, array cables and turbines installed.

Octopus Renewables Infrastructure Trust is to acquire Arjun Infrastructure Partners' 7.75% stake in the 270MW Lincs wind farm off east England, which came online in 2013.

Crown Estate Scotland has opened clearing for the ScotWind leasing

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## Potential winning strategies

Creation or restoration of habitats as well as reduction of pressures on wildlife could be among compensation options put forward to offset potential harm caused by offshore wind farms. British Trust for Ornithology senior researcher Aonghais Cook said closing sand eel fisheries at Dogger Bank could provide greater food availability for protected seabirds and be an effective strategy for developers.

was the first UK wind farm to go through the derogation process.

Consent was awarded in 2020 under the condition the company construct onshore nesting towers for kittiwakes along the east English coast.

Since then, Vattenfall's

1.8GW Norfolk Boreas and 1.8GW Norfolk Vanguard along with ScottishPower Renewables' 602MW East Anglia 1 North and 900MW East Anglia 2 have also been approved by the Secretary of State with compensation requirements.



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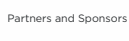
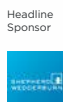


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## Nordsee 1 main bearings swap job going smoothly

The consortium replacing rotor shaft bearings on Servion turbines at the 332MW Nordsee 1 wind farm off Germany is on track to complete the campaign by the end of the summer.

Ulrich Strutz, commercial manager at consortium member SAL Renewables, said the work on 44 of 54 6.2M126 turbines at the Northland-owned project in the North Sea is progressing well after starting in February.

No reason for the large-scale O&M programme has been revealed. The project is being delivered by the ARGE

N1 joint venture comprising SAL, OWS Off-Shore Wind Solutions and Wind Multiplikator.

Jack-up vessel Thor, which was recently acquired by SAL parent Harren & Partner, is deployed on the job.

ARGE N1 performed the other 10 main bearings replacements at Nordsee 1 in 2021.

The experience gained should help “mitigate the risks” and potential operational challenges for this second campaign, said Strutz. Nordsee 1 has been online since 2017.

## S7000 to return to duty despite damage to one of its two cranes

Saipem expects its S7000 vessel to return to operations in June following an incident that damaged one of its two heavy-lift cranes during a routine test last month.

Investigations carried out so far “have not shown any significant structural damage other than those to crane number-one”, the company said.

The ship’s hull was unaffected and the unit is expected to return to operation using the second, unaffected crane, it added. “It

is reasonable to expect that the Saipem 7000 vessel will be able to return to operation starting from June, even if with partial use of the lifting capacity,” the contractor said.

One of the cranes was damaged during the five-year lift test offshore Amoyfjorden in Norway when the main block wire broke, resulting in two cargo barges and the main block being released into the water.

The company continues to investigate the reasons behind the incident.

## Haizea completes ‘challenging’ tower build for Saint-Nazaire

Spanish fabricator Haizea has completed a contract to manufacture towers for GE Renewable Energy turbines destined for EDF Renewables’ 480MW Saint-Nazaire wind farm off west France.

Chief executive Borja Zarraga told reNEWS the job was done on time but had been “very challenging” as the company needed to implement manufacturing solutions to tackle the size of the tubulars for the 6MW generators.

Installation of the Haliade turbines is already underway and first power is expected in the coming months.

Meanwhile, Haizea is due to complete the 11 towers for Siemens Gamesa turbines to feature at Equinor’s 88MW

Hywind Tampen floating wind project “in the coming weeks”, as well as “finalising execution” of 26 towers for the turbine manufacturer’s 11MW machines to feature at Vattenfall’s 1.5GW Hollandse Kust Zuid wind farm.

GE and Endiprev France have meanwhile selected marine service operator Valemo to commission turbines at Saint-Nazaire.

■ Fred Olsen Windcarrier has won a contract from Siemens Gamesa for the transport and installation of 62 8MW turbines at Iberdrola’s 496MW Saint-Brieuc wind farm off north-west France. The contractor will mobilise a jack-up during the spring of 2023 for the work.

# Iberdrola hard hats go on at Baltic Eagle

Iberdrola is getting set for work on the water at the 476MW Baltic Eagle wind farm after securing approval from German federal maritime and hydrographic agency BSH last week.

The Spanish developer is conducting a seabed investigation and unexploded ordnance removal campaign ahead of a summer installation start at the Baltic Sea site, said project director Luiz Perez Portela.

Construction will launch with the offshore substation and transmission system.

Iberdrola is in charge of delivering the platform while 50Hertz is managing delivery and installation of electrical equipment as well as all the grid links including the export cable and onshore lines.

Efforts will ramp up in summer 2023 when turbine foundations are scheduled

to be installed by Van Oord heavylift vessel Svanen. Array cables will be laid in the same timeframe by the Dutch contractor’s Nexus vessel.

German steel specialist EEW has already completed the first of 50 monopile foundations while Spain’s Windar has fabricated the first transition piece.

Installation of Vestas V174-9.5MW turbines is scheduled for the summer of 2024 under a “low-risk”, three-year approach to the build, said Portela. Construction will be focused on the summer months to “minimise risks

and maximise efficiency”, he added.

The Baltic’s “complex seabed in terms of soil conditions” means the developer is looking to take “all measures in the design, procurement and installation” phases to minimise potential issues.

Baltic Eagle is Iberdrola’s second wind farm in the Baltic Sea after the 350MW Wiking, completed in 2017.

“We have the benefit of having a team that worked on Wiking and is aware of the requirements of all stakeholders. This is a key asset,” Portela said.

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### IN BRIEF

■ Shell and Eneco joint venture CrossWind has appointed energy and marine consultancy ABL Group to provide marine warranty survey services for the transportation and installation of turbines at the 759MW Hollandse Kust Noord wind farm in the Dutch North Sea. The first turbine is planned to be installed by 2023.

■ Heerema Marine Contractors has been awarded a foundation installation contract for EnBW’s 900MW He Dreht wind farm in the German North Sea.

The work-scope includes transport and installation of 64 monopiles and transition pieces with the project due online in 2025.

■ Vattenfall and BASF are jointly participating in the tender for the 1.4GW Hollandse Kust West wind farm while SSE Renewables has formed a strategic partnership with Brookfield to bid for the zone.

■ Renexia has inaugurated its 30MW Beleolico near-shore project, Italy’s first offshore wind farm. Ten MingYang 3MW turbines are spinning at the site.

## 20MW plan in Norway

Everfuel and Greenstat are jointly developing a hydrogen hub in Kristiansand, Norway, kicking off with a 20MW electrolyser.

Hydrogen Hub Agder will be accompanied by a distribution centre targeting the shipping industry as well as off-takers in construction and trucking.

The partners are collaborating with Elkem for the lease of land at the seafront on the harbour-side Fiskaa industrial compound.

Commissioning of the first phase is expected in late 2024, depending on funding and permitting for the plant. A second phase scaling the electrolyser up to 60MW is planned to go live in 2027.

# Council wants Stornoway wind to power electrolyser

Western Isles local authority Comhairle nan Eilean Siar is finalising a business plan for an 18MW electrolyser to be operational by the mid-2020s.

The project, to be located in Arnish, will be part of the Outer Hebrides Energy Hub, which secured an £11m allocation under the Islands Growth Deal Heads of Terms last year. A total of

£120,000 has been allocated to support the business planning exercise, which will be submitted to Scottish ministers for review this summer.

The 18MW first phase will potentially be supplied with renewable electricity from the planned 180MW Stornoway wind farm being developed by EDF Renewables UK and Wood joint venture Lewis Wind Power.

Up to three turbines could be erected initially by 2024-25 to supply electricity to the electrolyser via a private wire arrangement, said local authority strategy manager John Cunningham.

A spokesperson for Lewis Wind Power said while the developer is "open to considering" green hydrogen integration with the Stornoway wind farm, it is "too early" at this stage to make any commitments.

The 18MW capacity would supply various off-takers including PureZero, a supplier of zero carbon generators powered by green hydrogen targeting the festivals sector, local buses and a EU-based shipping company.

## Carlton Power chasing 70MW pipeline of projects across UK

Carlton Power has unveiled a pipeline of seven UK green hydrogen projects totalling more than 70MW.

Each will be a minimum of 10MW, though some have potential to reach 30MW or 40MW depending on off-take agreements and demand, said Carlton Power projects director Eric Adams.

The most mature is the 10MW Trafford green hydrogen project in Manchester, which is in the final stages of planning. Commercial operations are scheduled to start in early 2025.

The 10MW Langleigh plant, near Plymouth, also has a planned opening date in early 2025.

Both projects are being submitted for support under the UK government's new Hydrogen Business Model. Project tenders will need to be submitted by September.

Carlton has engaged with electrolyser suppliers with the aim of selecting the equipment ahead of submission.

The Trafford Park

electrolyser will be supplied by a combination of private wire solar from a 15MW to 16MW array that is currently under development, augmented with 'sleeved power purchase agreements' or low carbon electricity meeting requirements in the Low Carbon Hydrogen Standard.

Carlton is in talks with several potential local industrial anchor customers that can become hydrogen-ready in time for the Trafford electrolyser's operation.

Smaller off-takers, from sectors such as transport would potentially be ready to be supplied once the capacity is online.

The developer is investing in a number of energy transition projects and technologies including liquefied air, batteries as well as green hydrogen.

"We are at the development end. We will bring in investors and will deliver projects and potentially will retain an equity share or sell a stake, depending on specifics of each project," Adams said.

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## Public cash for RWE test plant

RWE has secured a public funding commitment for a 14MW electrolysis test plant in Lingen, Germany.

The developer plans to invest €30m in the project with the state of Lower Saxony providing €8m. Construction is slated to start in June

The pilot, located on the site of RWE's Emsland gas-fired power plant, will test two electrolysis technologies for planned large-scale hydrogen projects and could be operational from mid-2023.

## IN BRIEF

■ CIP's Energy Transition Fund has teamed up with Portuguese developer Madoqua Renewables and consultancy Power2X to develop a €1bn green hydrogen and ammonia plant in Sines, Portugal, with 500MW of electrolysis capacity powered by wind and solar projects developed in parallel.

■ Norwegian trio Arendals Fossekompani, Kongsberg and Moreld have joined forces to develop a combined offshore substation and hydrogen factory. The Hydepont concept can be sited in the ocean, close to offshore wind farms, to convert all or some of the electricity produced into hydrogen.

■ SSE Renewables has chosen the port of Den Helder in the Netherlands to serve as its O&M base if the company secures the development rights for the 1.4GW HKW offshore wind farm. The developer has rented a business space at the port and plans to produce green hydrogen at the site,

which would fuel the ships servicing the wind farm as well as be used locally, according to the port.

■ Demolition of the former SGN Commercial Services gas holder site in Inverness, Scotland, is ongoing to make way for an up to 20MW green hydrogen project. Site clearance by SGN is expected to take 12 weeks, after which Getech will begin work on its project, subject to necessary approvals.

■ EDF Group is planning to develop 3GW of electrolytic hydrogen projects worldwide by 2030, involving between €2bn and €3bn of investment, which will be developed and co-financed through industrial partnerships and through national and European support mechanisms.

■ Macquarie's GIG and Nobian have appointed former Shell Germany chief executive Stijn van Els to head their green hydrogen joint venture HyCC, effective from 1 July.



OFFSHORE WIND CONNECTIONS 2022

# Collaboration the secret to success for Humber region

The Humber region has the potential to become the UK's leading offshore supply chain hub but only with increased government funding and collaboration between businesses, writes Dan Woodland.

at the Offshore Wind Connections conference in Bridlington last week that opportunities to unlock the English east coast area's capabilities will require a sustained supply of work backed by state financial incentives. ORE Catapult head

of government affairs Stuart Barnes argued the Humber's involvement in operations for "over a third of UK (offshore wind) capacity" makes it the perfect area for state investment.

"Let's use this cluster, the Humber... as a kind of demonstration ground, a proving ground," Barnes said. "If government has to start somewhere then why not here?"

ORE Catapult has put together a business case, with input from RWE and Orsted, to urge the energy and transport departments in Whitehall to provide further infrastructure investment to the region, he added.

Orsted supply chain manager Marc Adams said UK companies should first focus on current domestic

market opportunities to help accelerate and scale up industry around the Humber.

Suppliers need to be able to keep up with the pace of developers and their projects to allow them to meet national offshore targets, he added.

RWE supply chain plan manager Graham Wright said this will also require a "joined-up approach" between contractors and developers to create more clarity with business and trading.

Elsewhere, ship and port agency Carlbom Shipping chairman Camilla Carlbom Flinn pointed to the Able Marine Energy Park and its role in the local supply chain.

The Humberside facility is "an opportunity the region cannot let slip" and should be given "whatever it takes" to

## 'Go for export opportunities'

Orsted is urging UK supply chain players to set their sights on export opportunities. UK head Duncan Clark told delegates it is time to expand around the world as other countries begin to drive the "massive growth" of renewables.

The UK's capabilities in consultancy, operations and maintenance as well as cable and foundation manufacturing are "highly exportable" strengths for overseas markets, he added.

ensure its success, including further government backing, she added.

RenewableUK deputy chief executive Melanie Onn said SeAH Steel's switch from AMEP to Teesside was disappointing. "But I would say the sustained political vigour towards wind energy for the UK really supports the conditions for areas to go after those new investments and keep up that sustained pressure."

## Bigger Siemens Gamesa blade plant to start rolling in January

Siemens Gamesa is aiming to start blade production at its newly-extended Hull factory next January. Head of UK business development Andrew Elmes told the audience in Bridlington that all steel structures for the £186m facility have now been erected.

Work at the Humberside plant will run until May 2023 although manufacturing will

be able to start before the construction job is completed. Civil engineer VolkerFitzpatrick was awarded an £82m design and build contract.

Elmes said Siemens Gamesa's move away from typical turbine materials to new designs including carbon fibre in blades will bring "more skills and jobs as well as new supply chain openings" to the region.

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# Missing links on UK's 'multi-point interconnectors'

The UK government's plan to "export excess cheap wind energy" to neighbouring countries is facing a number of regulatory and legislative hurdles.

Energy department BEIS last week declared it is planning an overhaul of the current licensing regime to allow operation of multi-point interconnectors (MPIs), which it claims will cut offshore wind transmission development costs and minimise impacts on communities.

The UK already shares point-to-point interconnectors with its European neighbours through which they can trade and share surplus power.

Under the MPI model, however, clusters of future offshore wind farms would link to these giant subsea cables, bypassing the need for developers to build separate transmission lines from each project.

According to Energy Minister Greg Hands (pictured), the approach has the "potential for huge savings" and

Plenty of blanks to be filled in on BEIS plans for exporting power from wind farm clusters to two or more countries, writes **Tom Goulding**



would "ease offshore wind development by establishing a future generation of offshore connection hubs".

"It (an MPI) scores two big hits," a source told reNEWS. "It improves spatial averaging, which means wind power can achieve greater penetration on the grid if it is feeding into two countries.

"It also means less inconvenience for local residents by reducing the number of radial points coming ashore."

BEIS held a consultation last autumn on how best to facilitate the technology. Stakeholders voiced concerns that the existing legal and regulatory regime does not "provide an adequate enduring solution" for MPIs.

The department now plans to tweak the Electricity Act 1989, which would "introduce a new licensable" activity for the technology.

Chief among the issues is whether MPIs should be branded as electricity transmission (OFTO) assets, which is how offshore wind cables are currently classified, or treated the same way as traditional point-to-point interconnectors.

Following feedback to its own consultation published last month, energy regulator Ofgem said it will not limit its interim framework to one model and is currently open to applications for both OFTO-led and interconnector-led licensing approaches.

Conflicting revenue models

could also prove to be a headache. Offshore wind owners currently derive their revenue from the government's Contracts for Difference regime whereas sponsors of point-to-point interconnectors draw on Ofgem's cap and floor regime for payment.

Both mechanisms limit exposure to wholesale power prices, providing the long-term certainty needed by investors to back construction of the different asset types.

While Ofgem has already said it will initially incentivise MPIs under a pilot cap and floor scheme in the second half of 2022, respondents to its consultation have highlighted the "commercial importance" of ensuring CfDs can still be granted to wind farms connecting to the UK grid via an interconnector.

BEIS said in its consultation it recognises the need for MPI development to "suitably align" the cap and floor mechanism and CfDs and is currently considering how



**WORKING MODEL:** Other European nations have already shown MPIs can work despite the challenges. System operators Energinet and 50Hertz completed the Kriegers Flak combined grid solution in 2020, connecting the Danish mainland network via the offshore wind farm of the same name (pictured) and the Baltic 1 and Baltic 2 projects to the German grid.

Photo: Vattenfall

best to proceed. It is also considering how MPIs could fit into the UK's Capacity Market mechanism, another potential source of revenue.

Offshore wind developers could also take a dim view on plugging into an interconnector if it limits the volume of energy it can export to the grid.

Under EU rules, a minimum of 70% of interconnector capacity must be available for cross-border trade, leaving just 30% for offshore wind power.

One source argued that to get around the limitation, developers could build bigger cables to increase the volume of capacity moving through the MPI. Another expert said the cross-border trade rule is perhaps the "greatest obstacle" facing the technology.

BEIS has claimed that following Brexit the UK is no

longer bound by the 70% rule though respondents to its consultation are seeking further clarity.

Stakeholders have also expressed concern over differing market arrangements and how they will apply to MPIs.

One respondent to BEIS's consultation said that under the Home Markets model, wind farm operators must forecast the capacity they anticipate generating based on wind speeds.

Underestimating this volume would lead to under-utilisation of the interconnector while over-forecasting could result in "costly remedial action".

BEIS plans to set out its legislation for MPIs "when parliamentary time allows". Ofgem will take further responses on its 'minded-to' positions on the technology in June. ■

## IN BRIEF

■ GE's Grid Solutions business and modules builder HSM Offshore Energy have signed a memorandum of understanding to partner on AC projects in Europe that will support connection of offshore wind farms from compliance studies to final hook-up and commissioning.

■ NKT has commissioned the 220KV HVAC export cable linking the 1.3GW Hornsea 2 wind farm off east England to the national grid.

■ A BEIS and Crown Estate-commissioned study entitled Future Offshore Wind Scenarios has been published detailing the complex factors that must be addressed to deploy up to 140GW in UK waters by 2050.

## Question mark over developers' appetite for change

Experts have speculated how offshore wind developers, traditionally responsible for funding their own transmission infrastructure, could react to MPIs.

The scheme could mean an end to the current OFTO model, in which Ofgem forces developers to hive off cabling and substations to infrastructure funds, a source said.

However, those same investors "already play" in the interconnector market, he said. "What they lose in

volume of OFTOs will be offset by bigger opportunities in MPIs."

While there are obvious capex savings to ending OFTO construction, which has increased to nearly £1bn a pop for the sites farthest from shore, some sources wondered whether developers would want to lose oversight.

"In the UK, offshore wind developers have always built their own export cables but in Germany several projects have been built faster than

the transmission system operator can keep up, which held up commissioning," a source said.

"Although they will want to bring down costs they won't want to give up control of their own grid connections."

Another added: "Assuming wind farms continue to be developed commercially, how will they (the state) incentivise those developers to respect the needs of future wind farms built nearby that want to link up with an interconnector?" ■



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# Two sides to wind finance coin in Europe

Investor confidence in European wind energy remains high despite the sluggish pace of installation, according to a new study from WindEurope. The industry body's annual *Finance and Investment Trends* report shows €41bn was invested in new wind farms in 2021, split €24.8bn for onshore and €16.6bn for offshore.

While more was spent in 2020, falling onshore wind capex costs meant 2021 saw a record 24.6GW financed at an average of €1.3m per megawatt of capacity, the lowest on record. Offshore wind in Europe was financed at an average of €3.5m/MW.

Banks meanwhile extended €25.7bn in non-recourse debt for the construction and refinancing of projects in 2021, representing 26% of all investment in new onshore and 56% of all investment in new offshore wind farms.

The UK, Germany and France stand at the top of the investment table but record amounts were committed in Sweden, Finland, Poland and Lithuania, WindEurope said. Northern and western European countries accounted for around 75% of the investment total while a €3.2bn spend in Spain was the highest since 2009. However, installation is

not keeping pace. EU countries installed 19GW of new wind capacity last year, far below the annual 35GW needed to reach climate targets.

In addition, while financing conditions in the medium term should remain favourable, expansion of the sector is being hampered by the fallout from the war in Ukraine and a challenging trading environment.

The Covid-19 pandemic is continuing to disrupt supply chain logistics while inflation has led to rising commodity and transport prices. Auction design continues to drive down the levelised cost of energy, capping revenues, while slow permitting procedures hold up project development and undermine much-needed investment in the supply chain. Europe's five turbine manufacturers are operating at a loss.

These issues need to be tackled to restore the health of the supply chain and ensure wind energy remains an attractive investment, WindEurope said. The group is calling on the EU to continue to improve permitting, support a strong home market, and pursue trade and industrial policies that encourage growth.

## Macron's onshore blind spot

The re-election of Emmanuel Macron as French President is likely to result in more action to speed up renewables permitting but could leave onshore wind in the shade.

Proposals aimed at easing planning bottlenecks will be launched soon alongside a new energy law outlining renewables volumes to be tendered in the next five years, said Alexandre Roesch, chief executive of industry group Syndicat des Energies Renouvelables (SER). Plans to put energy and the ecological transition directly under the office of the Prime Minister are also a "positive development".

Onshore wind strategies are less positive, however. "Macron says... targets for 2030 should be extended until 2050. In the context of the Ukrainian war and energy security, we do not agree with this

approach," Roesch argued. "Onshore wind has become a political tool and we think Macron was forced to send the signal deployment would slow down. On the contrary, we think it needs to accelerate."

Macron defeated far-right candidate Marine Le Pen in the second round of the presidential election. Boosting investments around the ecological transition was a key pillar of his campaign when he outlined plans for 50 offshore wind farms by 2050, a 10-fold increase in solar PV to 100GW, and construction of six new EPR nuclear reactors. Le Pen had promised a moratorium on turbines.

Roesch said while there is "relief" Macron won the election, SER would now lobby his government on boosting its onshore wind ambitions and continuing work to improve public acceptance of the technology.

## IN THE FRAME



**FRENCH FINISHING LINE:** Falck Renewables has completed construction of the 12MW Illois wind farm in northern France's Seine-Maritime department. The last of six Vestas V90-2MW turbines with 80-metre towers went up in mid-April with the testing and commissioning phase now underway. Commercial operations are expected in July.

Photo: Falck Renewables

# EnBW packing its bags at sole Taiwan project

EnBW has confirmed its intent to exit from its sole Taiwanese offshore wind project, the up to 2GW Formosa 3.

The German utility entered the Asian island's market in 2018 by picking up a 25% stake in the development off Changhua County. Project partners Macquarie's Green Investment Group and JERA hold 31.25% and 43.75%, respectively.

EnBW divested its interests in the US offshore wind market just two months ago to refocus on its activities in Europe.

A spokesperson said: "In the course of our focus on the European core markets, we are also likely to withdraw from our project commitments in Taiwan. We

are currently in talks with our partners to co-ordinate the details."

The change of direction follows EnBW's success teaming up with BP to win lease sites off Wales and Scotland in the UK's Round 4 and ScotWind auctions.

Germany's coalition government has also boosted the country's offshore wind capacity target for 2030 by another 10GW to at least 30GW, offering fresh opportunities for the company.

EnBW's declaration has fanned speculation that more European developers could look to withdraw from Taiwan as the government prepares to hold its Round 3 offshore wind auction.

Rystad Energy analyst Petra

Manuel noted that developers hailing from a home market with fully liberalised, appealing offshore wind projects are likely to view the process and conditions set out by Taipei as arduous.

"Site recordation and preliminary environmental impact assessment approval (need) to be in place before bidding... not to mention the 60% local content requirement that adds challenges for developers," he said. Bid capacities are also capped at just 600MW.

Formosa 3 was touted as the largest offshore wind project to have secured EIA approval and is expected to be developed in phases across three sites dubbed Haiding 1, 2 and 3.

## CTVs swap identities for new career in Changhua

U-Ming Offshore Company is mobilising two recently-acquired crew transfer vessels for work at Copenhagen Infrastructure Partners' Changfang & Xidao (CFXD) wind farm off Changhua County, Taiwan.

The maiden contract will run for less than six months, said the operator, a joint venture of Taiwan's U-Ming Marine Transport and Denmark's World Marine Offshore.

The CTVs, acquired from World Marine, have been reflagged under Taipei's ship registry to comply with localisation requirements in the Asian island's offshore



**SPECIAL DELIVERY:** Heavylift specialist Boskalis's supply vessel Boka Falcon will deliver and install pin piles and carry out other foundation work at CFXD to 30 June, according to a Taiwan marine department notice Photo: Boskalis

wind sector. Their names have been changed from World Mistral and World Scirocco to UMO Mistral and UMO Scirocco, respectively. The CTVs have also secured work on other unnamed Taiwan wind projects, a source said.

U-Ming has two more CTVs under construction in Thailand scheduled to enter operation in the second half

of 2022 that have already been chartered.

■ Vestas expects local partners Tien Li Offshore Wind Technology and CS Wind to produce turbine blades for CIP projects CFXD 2 and Zhongneng. Tien Li produced the first ever blade at its factory in Taiwan last week for CFXD 1.

## IN BRIEF

■ Pin-pile driving in up to 39 metres of water has started at the 91MW Shenquan 1 (phase-two) wind farm off Jieyang city, Guangdong Province, which will employ 13 Shanghai Electric 7MW turbines.

The project is owned by the State Power Investment Corporation, MingYang Smart Energy and Shenzhen Nandian Energy Investment.

■ Construction has now resumed at the 640MW Yunlin wind farm off Taiwan following the winter break. National Petroleum Construction Company and Havfram will provide support on monopile installation.

■ Danish developer Orsted has achieved first power at the 900MW Greater Changhua 1&2a wind farm off Taiwan with the energisation of the initial batch of the project's 111 turbines.

■ The Japanese government has awarded the country's first 'public offering plan certification' for an offshore wind power plant to the Goto floater with construction due to start in September and operations in January 2024.

■ The Aomori Prefectural administration is to apply to Japan's central government for the Aburakawa Wharf area of Aomori port to be designated as a base facility for offshore wind development.

■ Tokyo-based Renova and Petrovietnam Technical Services Corporation have reportedly signed a memorandum of understanding to collaborate on the 1.5GW to 2GW Binh Thanh offshore wind farm in Vietnam.

■ Several businesses including San Miguel Corporation, AC Energy Corporation, Aboitiz Power and Meralco Powergen have signalled their interest in the Philippines' nascent offshore wind sector following the recent publication of the country's World Bank-sponsored sector roadmap.

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## Hibiki fills roster for Japan build

Hibiki Wind Energy, the Japanese consortium planning to build the 220MW Kitakyushu Hibikinada wind farm off the south-west coast of Honshu, has selected its preferred headline suppliers.

Vestas Japan has been signed on for supply and installation of turbines with 9.5MW units likely to be employed.

Penta-Ocean Construction is the preferred bidder on turbine foundation construction and marine civil engineering with support from Nippon Steel Engineering. J-Power Hytec has been tapped for onshore electrical works.

O&M base port construction will be in the hands of a joint venture of Penta-Ocean and Wakachiku Construction while crew transfer vessels will be operated by Tokyo Kisen.

Construction of Kitakyushu Hibikinada is expected to start by March 2023 with commissioning scheduled for March 2026 at the latest.

## Fisheries nod for surveys off Akita

Mitsubishi Corporation Energy Solutions has reached an agreement with the Akita Prefectural Fisheries Co-operative that will allow the Tokyo-based developer to conduct seabed surveys in advance of planned offshore wind construction.

The company leads a consortium pursuing the 479MW Noshiro-Mitane-Oga zone and 819MW Yurihonjo city zone off Akita.

Initial works will involve a month-long investigation of water depth and seabed conditions. A second phase scheduled for next year, expected to take four or five months, will include borehole tests at potential sites for GE Haliade-X 12.6MW turbines.

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