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Local content now top priority for UK

Boosting local content returns at UK wind farms should be a key focus for the industry now that prices have fallen to effective subsidy-free rates. **p2**

2030 target puts UK grid regulation in the hot seat

A new integrated grid regime for offshore wind will need to be in place in the next few years to enable the UK to reach its 40GW by 2030 capacity target. **p3**

Designing success for the UK supply chain

Next-generation 20MW turbine designs could both help lower energy costs and lead the way to achieving a 60% UK local content goal, according to initial results of a study by the Offshore Renewable Energy Catapult. **p4**

Offshore resilience and adaptability for all to see

Jim Smith, SSE managing director renewables, says there is more to do but offshore wind has what it takes to drive the green recovery. **p6**

THE INTERVIEW reNEWS

Today Duncan Clark, Orsted head of region UK. **p7**

Next stop for UK 100GW by 2050

The UK's 40GW by 2030 offshore wind capacity target will be just the start with at least 100GW likely by 2050.

Committee on Climate Change chief executive Chris Stark (*right*) told Global Offshore Wind 2020 delegates expansion will be driven by expectations of a much larger electricity system in the future. Demand is forecast to at least double, all of which will need to be met by zero carbon sources.

"The majority of that will be offshore wind is what we think at the moment and that means you need a very large installed capacity," he said. "We think we have policy tools to deliver that and an industry that can also deliver that."

Stark said the CCC, which is soon to be renamed the Climate Change Committee, will publish a report in December outlining more details of what is needed for the UK to transition to net zero by 2050.

The economics of using offshore wind generation is based on high efficiency, he added, so not deploying lots of batteries for storage but using output directly,



Screengrab: renews

for example to power heat pumps and electric vehicles.

Offshore wind is scalable and already cost-competitive with fossil fuel generation, although the investment challenge to build that much capacity is huge, Stark noted.

What is needed to avoid curtailment issues, he added,

Pandemic 'a moving target'

Offshore turbine fabricator MHI Vestas is monitoring changes in coronavirus policies as Europe heads into the traditional flu season.

"The situation is getting more complicated. The first and biggest issue is the free travel of our technicians,"

is not back-up but flexible demand with some medium-term storage alongside.

"We need to get our head around the fact that we need to build flexible demand for all that electricity we will be constructing offshore."

Stark called on the offshore wind industry to take up this mantra.

"The future of your sector rests on building the demand for heat pumps, for electric vehicles onshore and you all have a stake in that," he said.

"It all needs to happen at the same pace as building out these enormous wind farms that we are planning."

Stark said confidence is going to have to be built, too, so there is a solid plan in place to facilitate huge investments in transmission and distribution.

chief executive Philippe Kavafyan told delegates.

"So far the offshore wind industry has remained extremely resilient compared to other areas of our economy and been able to keep construction and field operations going," he added.

TRENDING ON reNEWS.BIZ

Scottish government bumps up offshore wind target to 11GW

The Scottish government has set a new ambition to increase offshore wind installed capacity to 11GW by 2030, up from 8GW, and has also adopted a plan that identifies commercial-scale sites.

[Click here](#)

RWE awards Spanish floater construction contract

Spanish construction company Ferrovial has been selected to manufacture and assemble the SATH floating platform for Saitec Offshore Technologies and RWE Renewables' DemoSATH project.

[Click here](#)

Global offshore pipeline surges despite pandemic

The total pipeline of global offshore wind projects has grown by 47% since January despite the Covid-19 pandemic, according to the latest RenewableUK research.

[Click here](#)

Orsted delays construction of US offshore projects

Danish developer Orsted has confirmed that construction start dates for four of its US offshore projects will be put back a year due to federal permitting delays.

[Click here](#)



Our reNEWS Live @ Global Offshore Wind 2020 sponsor raises the curtain

SSE Renewables is delighted to welcome reNEWS readers and delegates to this year's RenewableUK Global Offshore Wind 2020.

In particular, we are proud to be sponsor of the reNEWS Live @ Global Offshore Wind 2020 special editions, which will provide conference delegates, RenewableUK members and reNEWS readers with all the most important news updates and highlights from the three days of this year's virtual event.

Once again, this year's conference brings together representatives of the leading businesses, organisations, regulatory authorities and policy bodies in the offshore wind industry from around the world to discuss the issues and topics that are driving our sector.

Of course, this year we are meeting in a virtual conference setting rather than face-to-face.

So this year's reNEWS Live @ Global Offshore Wind 2020 special editions will be even

more keenly watched and read. This year will see a particular focus and emphasis on the theme of recovery.

At SSE Renewables, we are for building a greener future with renewable energy at the heart of that recovery.

As the UK and Ireland's leading developer, owner and operator of renewable energy, we are committed to investing in

the delivery of new renewable energy infrastructure that will drive our green recovery.

And we are doing all this with world-leading partners in the global offshore wind energy supply chain.

By building and developing new world-leading offshore wind farms we are driving our green recovery and putting the UK and Ireland on course to meet the new, ambitious offshore wind energy targets set for 2030.

We are looking forward to connecting with you virtually and wish everyone a successful Global Offshore Wind 2020.



Local content now top priority for UK

Boosting local content returns at UK wind farms should be a key focus for the industry now that prices have fallen to effective subsidy-free rates, Global Offshore Wind 2020 has heard.

SSE Renewables managing director Jim Smith told delegates the sector has "clearly won the argument" on cost and attention should now turn to maximising the economic benefits from the government's increased 40GW by 2030 ambition.

"Nobody can say we are very expensive and heavily subsidised but local supply chain is the next big argument we need to win," he added.

Smith said the £160m recently allocated by the government to upgrade ports and infrastructure in northern England, Scotland and Wales is "an important step" in helping developers capture a

greater portion of their capex spend locally.

GE Renewable Energy sales director Anne-Marie Coyle said the UK supply chain needs to attract fabricators of "turbine components including towers, foundations and HVDC cables" to beef up its offering to developers.

In addition to investment, there needs to be a stable project pipeline of projects to support supply chain growth.

MHI Vestas chief executive Philippe Kavafyan said Contracts

for Difference auctions provide one of the "world's most stable frameworks" for supporting offshore wind.

However, SSE's Smith said the consenting processes may need reform to ensure the mechanism can back a continuous stream of projects.

"We need to take steps to improve the planning system; 10 years between starting planning to financial close is too long for any industry, not just this one," he added.

Dogger Bank go-aheads soon

SSE Renewables and Equinor are on track to take a final investment decision at the 1.2GW Dogger Bank A and 1.2GW Dogger Bank B developments in the next two months.

A sanction decision for the 1.2GW Dogger Bank C will

arrive "hot on its heels" and is expected in 2021.

"Our timelines for FID have not been affected by Covid-19 and it shows what can be achieved by teams working remotely," said SSE Renewables managing director Jim Smith.



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Day 2 highlights

The global race to net zero and making net zero a reality
Two expert panels give external and industry perspectives of how the energy transition is touching on our day to day lives.
09:00-10:30

Innovation Theatre
MHI Vestas Offshore Wind
Do not miss the opening session conversation with Mary Thorogood, senior specialist development at MHI Vestas Offshore Wind.
10:30-15:45

Global Markets Theatre
GWEC, DIT & CRRG Yongji Electric
Access essential business intelligence and key market updates from China, South Korea, Vietnam, India, Japan and Turkey.
10:30-16:00

Supply Chain Theatre
Do not miss the *RWE: Working with the Supply Chain* session featuring GE's Grid Solutions and the *East Anglia HUB - Supply Chain Opportunities* with ScottishPower Renewables.
10:45-15:25

2030 target puts UK grid regulation in the hot seat

A new integrated grid regime for offshore wind will need to be in place in the next few years to enable the UK to reach its 40GW by 2030 capacity target, Global Offshore Wind 2020 heard.

RWE Renewables senior regulatory affairs manager Nicola Percival told delegates 2023 is when developers with projects expected to go online by the end of the decade will start to seek planning approval.

"At that point people are spending money and to change things around not only costs time but also money," she said.

Percival added it is also crucial to consider how an integrated offshore network would co-ordinate with the onshore grid. "The focus should not solely be on co-ordinating offshore," she said.

"The regulatory environment must ensure there is anticipatory investment in

the onshore network for the offshore wind farms that we know will come." That investment needs to start now to deliver 40GW by 2030.

Percival said the regulatory tools are in place but need to be applied in the right way.

A joint Ofgem-BEIS work-stream called Pathfinder is looking at early opportunities for co-ordination to deliver in the medium-term for the 2025 to 2030 period, she said.

Projects that are eligible for this time frame, either having or expecting to have grid connection agreements, have been asked to self-identify how they might be able to co-ordinate and what the barriers might be.

"Even though we are in the early stages of this, the key thing here is that this absolutely cannot delay grid connections because of the 40GW by 2030 target," Percival said.



Blyth Harbour Commission in north-east England has appointed Paul Hardisty, former executive director at Royal IHC, and Richard Turner (above), a non-executive director of the Offshore Wind Growth Partnership, to its non-executive board to drive forward its offshore renewables strategy. Departing commissioner Alan Lowdon has completed his term of office.

Photo: Port of Blyth

Investors are hungry for a piece of pie

Investors are ready to back global offshore wind growth, according to HSBC head of industrials research Sean McLoughlin, who told delegates that by the mid-2020s as many capex dollars will be invested in the sector as onshore.

Institutional players want to gain exposure to an industry with expected double-digit growth over the next decade, he added. "So they are investing in supply chain, turbines, cables, foundations, installers, as well as developers and generators. This has driven sector share prices to near all-time highs.

"The Covid recovery is increasing market euphoria around offshore wind," McLoughlin added, which should continue as long as the policy support is there.

"There is plenty of debt and equity available for offshore wind and lots of potential new corporate buyers of offshore wind power to drive continued growth."

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By constructing the world-leading Dogger Bank and Seagreen wind farms and pursuing new seabed opportunities we're driving the green recovery, putting the UK on course for 40GW of offshore wind energy by 2030.

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The 3.6GW Dogger Bank Wind Farm is a joint venture with Equinor. The 1,075MW Seagreen Offshore Wind Farm is a joint venture with Total.



For a better world of energy



Day 3 highlights



VIRTUAL 128 - 30 October 2020

Ministerial keynote and RenewableUK CEO questions

Hear from the Rt Hon Kwasi Kwarteng MP, Minister of State for Business, Energy and Clean Growth and RenewableUK chief executive Hugh McNeal.

09:00-09:45

Innovation Theatre MHI Vestas Offshore Wind

Catch the opening session conversation with Julian Brown, VP and UK country manager at MHI Vestas Offshore Wind.

10:30-13:10

Global Markets Theatre GWEC, DIT & CRRC Yongji Electric

Access essential business intelligence and key market updates from Belgium, Germany, France, Ireland, Poland, The Netherlands and the USA.

10:15 - 14:25

Supply Chain Theatre

Catch Ocean Winds discussing the UK offshore wind market and supply chain.

10:30-13:40

Items being launched or profiled at the event

- RenewableUK Project Intelligence: Offshore Wind Special
- RenewableUK Offshore Wind Timelines
- RenewableUK Members Values Charter
- RenewableUK 2020-21 Member Directory

Side events

LOC Renewables chat and live technical sessions

LOC Renewables booth

28-30 October, 10:00-17:00

Fugro live presentations

Fugro booth

28-30 October, 10:20-13:45

Designing success for the UK

Next-generation 20MW turbine designs could both help lower energy costs and lead the way to achieving a 60% UK local content goal.

Success would be aided by using alternative materials and adopting faster manufacturing processes, according to the initial results of a study by the Offshore Renewable Energy Catapult.

More sustainable and lower-mass designs crucial for floating offshore wind



could also be created, according to Thomas Wildsmith (left), a business development proposals manager at the innovation organisation.

Wildsmith, who is presenting at Global Offshore Wind 2020, said a prototype that meets these goals could be built by 2025. Companies not currently in offshore could make up 80% of the 60% UK target, he believes.

Alternative composite materials from UK companies, such as those that have developed advanced airplane wings, could play a large role. Around 30 suppliers

Turbine innovation key to cutting energy costs and boosting local content, writes Elaine Maslin

have been identified by the study. This capability could be applied right across the turbine, including the tower, hub, drive train elements, bearing casing and main shaft, said Wildsmith.

There are challenges, such as how to join components together that might currently be bolted or welded, but the study has assumed assembly would be done onshore, as well as using more-easily recycled composites than used today.

While there is a trade-off between the increased cost of manufacturing some of these materials and reduced mass, Wildsmith said LCOE comes out roughly the same and, with optimisation, could be reduced. However, more than just organic growth will be required.

"There needs to be a shift" in terms of technology and also manufacturing processes, especially if the UK is to meet capacity requirements for building towers and blades.

He said some of that is about design, such as high tip speed blades, but it is

also about adapting and automating manufacturing processes.

A second phase of the project, due to start next April subject to funding, will focus on technology gaps and talking to industries already doing large-scale manufacturing.

Wildsmith said operator and manufacturer involvement will be critical although infiltrating the incumbent supply chain could be a challenge.

ORE Catapult estimates that future 20MW turbines could have 122-metre-long blades, a swept area of 50,000 square metres and 290 metres total height with 65% capacity factor. "We estimate a 20MW nacelle will weigh 900 tonnes. As we move towards more floating offshore wind that mass is a critical element."

The BEIS-funded Joule Challenge study, run in partnership with the National Composites Centre, has already assessed how to make larger turbines for floating offshore wind with more UK content. ■

Work on next-gen drive train and gearbox systems is gathering pace. GreenSpur is developing rare-earth-free permanent magnet generators that it claimed could support 20MW turbines within three years.

Magnamatic is focusing on a drive train and drive shaft for larger turbines.

Major manufacturers are also active. MHI Vestas chief executive Philippe Kavafyan said his design teams are working on a "significantly" larger model.

The company's technology boss Torben Larsen has said there is no technical limit on turbine size although "at a certain point there will be limits maybe to installation, to logistics, to transport".

The US National Renewable Energy Laboratory recently released a turbine design with a 15MW nameplate capacity while the EU FP7-supported INNWIND project is aimed at enabling cost-effective 10MW to 20MW units.

Germany's Fraunhofer Institute for Wind Energy Systems is also developing a mobile grid simulator able to test systems up to 20MW. ■

Thomas Wildsmith will present 'Developing next-generation wind turbines — 20MW and above' on Friday at 13.00 in the Innovation Theatre session.

Thank you to the GOW2020 sponsors



 GE Renewable Energy

Haliade-X

GE Renewable Energy has developed the Haliade-X 12 MW, the world's most powerful offshore wind turbine currently in operation, that set a new world record by being the first wind turbine ever to generate 262 MWh of clean energy in 24 hours.

GE Renewable Energy has announced the launch of the updated Haliade-X 13 MW, that will equip UK's Dogger Bank wind farm.

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Resilience and adaptability for all to see

This Global Offshore Wind 2020 there will be no handshakes, no face to face conversations over shared coffees to discuss, negotiate, pitch and connect as an industry collective. Instead, like so many other events in 2020, we will gather from our homes or remote locations to log on for this year's virtual conference.

For me, the resilience and

Jim Smith, SSE Renewables managing director, says there is more to do but offshore wind has what it takes to drive the green recovery



adaptability of the industry was clearly demonstrated earlier this year when we at SSE Renewables achieved financial close on our £3bn Seagreen project, alongside the introduction of our new project partners at Total, while all working remotely.

It is a credit to everyone involved, including funders and advisors, employees and supply chain partners, and it gives me confidence to know our industry has the strength and resolve to succeed, no matter what challenge is thrown at us.

As we gather virtually for this year's conference, much of the talk will be about the green recovery.

Indeed, this morning I participated in a conversation on what the offshore wind sector needs in order to be able to drive that

recovery both in the UK and internationally.

In these conversations it is important to remember the contribution offshore wind energy is already making to the UK. Over the last 20 years we have reached over 10GW of operational offshore wind in UK waters. This is an outstanding achievement.

By the middle of the decade we will have achieved around another 8GW more, over half of which will be delivered by SSE Renewables with our JV partners Equinor and Total through the construction of the 3.6GW Dogger Bank and 1.1GW Seagreen wind farms.

As these projects progress into construction, the jobs and opportunities flow through too. Just a few weeks ago Dogger Bank and GE Renewable Energy said that Able Seaton Port in Hartlepool

will be the marshalling base for phases A and B, creating 120 new construction jobs, in addition to 120 full-time based operational jobs at the Port of Tyne.

Earlier this month the UK Prime Minister put offshore wind at the heart of government policy. Some might say this confirmation of an increased 40GW target of offshore wind by 2030 was not 'new news'.

However, it does show government has understood the important strategic role it needs to play in securing investment in to the UK's offshore wind supply chain.

The £160m earmarked to upgrade the UK's port infrastructure is a vital step because it will help future-proof some ports for evolving technology and attract

co-located manufacturing facilities.

While there is more to do on the supply chain, we need to also address other barriers to achieving 40GW, including enabling timely grid connections, making sure we have a skilled workforce, developing a smooth and predictable planning process, and creating a sustainable long-term market design for investment.

To be clear, this is not just about the UK delivering benefits for projects in its own waters. It is about ensuring a UK-based supply chain that is globally competitive and available to service an increasingly global offshore wind sector as well as its home market.

If these are the conversations we take away from this year's conference we will have set ourselves on the pathway to achieve our ambitious climate action targets while building the recovery that will deliver our new green economy. ■



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THE INTERVIEW reNEWS



Setting the scene at GOW20, senior industry figures talk to reNEWS about the vital issues shaping the sector. Today it's the turn of Duncan Clark, Orsted head of region UK (left)

Q What is your view on the attitude and approach of policymakers in Europe to offshore wind and its role in the Covid recovery?

A It has been encouraging to hear the determination from governments in the UK and across the world to maintain their climate ambitions and the understanding that accelerating the transition to a low-carbon economy can both drive our economic recovery and build resilience for the future. We believe that the offshore wind sector can play a prominent role in this future and we are confident that through continued collaboration across government, industry and a wide range of businesses we can deliver environmental and economic benefits for generations to come.

Q What are the key challenges to hitting the targets being set by the EU and national governments for offshore wind by 2030, 2040 and beyond?

A With the dramatic advances in scalability of offshore wind, and a drop in cost, a green transformation of our energy system is possible. The industry has the technology and is certainly capable of delivering on government ambitions for offshore wind. However, there is a pressing

need to address some regulatory and technical barriers to achieve an accelerated level of deployment. Through collaborative working, we believe the industry can deliver 40GW of offshore wind here by 2030, and 75GW or more by 2050, in a sensitive and environmentally responsible way.

Q What does the offshore wind sector need from governments to play a key role in the recovery?

A The UK was the first major economy to legislate for its net zero targets and in order to meet these legally binding commitments we need to deploy significant volumes of low carbon energy generation. As highlighted in the recent Committee on Climate Change report, it is important that any recovery plans are closely aligned with these aims and that there is strong co-ordination across government departments. The success of the offshore wind industry has been driven by ensuring that developers, supply chain companies and the financial sector have had the confidence to invest. It is important that this continues and that innovation in the sector is supported and encouraged, as project delays or cancellations would create uncertainty in the supply chain and discourage the critical investment needed.

Q What role can offshore wind realistically play in creating jobs after the pandemic?

A Green energy has already delivered thousands of long-term, high-skilled jobs and will continue to do so in line with the Sector Deal target of 27,000 jobs by 2030. There is also the wider supply chain to consider, with a ripple effect capable of creating further opportunities for contractors, from catering to fuel suppliers, extending throughout the UK economy.

Q What are your thoughts on the supply chain and whether it is equipped to deal with the pace of growth coming?

A By the end of 2021, Orsted will have invested over £13bn in the UK. This investment in renewables, through projects like Hornsea 1 and 2, is helping to drive the continuing growth of a world class UK supply chain. Bigger projects like Hornsea 3 and 4 will enable further investment and job creation well into the 2040s. As the industry continues to flourish, we are seeing many new markets emerge globally. The UK is often referenced as a template for what can be achieved and with that comes the opportunity to export services, skills and knowledge around the world. Photo: Orsted



power for good



RES and Rix Renewables sign new strategic offshore alliance

RES has signed a strategic alliance agreement with Rix Renewables to jointly seek opportunities in the offshore wind market.

For more information get in touch info@res-group.com



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renewableUK | UPCOMING EVENTS | KNOWLEDGE & NETWORKING

2020

- Onshore Wind Energy | Conference & exhibition | 03 November | Virtual
- UK Wind Week | Week-long range of events | 23 – 27 November | Hybrid
- Cables | Workshop | 24 November | Virtual
- Smart Energy NI | Workshop | 26 November | Virtual

2021

- Cables/Vessels | Conference & exhibition | Spring/Summer | London
- Wind Europe Electric City | UK Pavilion | 27 – 29 April | Copenhagen
- Onshore Wind Energy | Conference & exhibition | Summer | London
- IPF 2021 | UK Pavilion | August | Virginia, USA
- Wind & Aviation | Conference | September | London
- Floating Offshore Wind | Conference & exhibition | 15-16 Sept | Aberdeen
- Global Offshore Wind | Conference & exhibition | 29 – 30 Sept | ExCel London
- Offshore Wind Week | Week-long range of events | Autumn | UK
- COP 26 Related Events | Range of events | 1 – 12 November | UK

2022

- Global Offshore Wind | Conference & exhibition | 21 – 22 June | Manchester

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