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'Whittle down foundation options to spur growth'

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Principle Power puts focus on foundations production line

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Time to embrace industrialisation

Industry and government must act now to give the UK first mover advantage, writes Global Energy Group executive director Iain Sinclair. **p6**



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AR5 failure 'raises serious questions for UK energy policy'

The failure of Allocation Round 5 to attract any floating offshore wind bids raises "serious questions" about UK government policy, according to the Scottish Energy Minister.

Gillian Martin told FOW 2023 on Day 1 the result of the auction, including a lack of any fixed-bottom awards, has taken the shine off what has been a major success story for the country.

"There is no denying not securing a single megawatt of offshore wind is a missed opportunity," she said, while pointing out the floating sector has the potential to be a key contributor to net zero.

"This year's auction raises serious questions about the UK government's approach to safeguarding energy security."

Martin said London can be in no doubt about the AR5 failure given the "backlash" from the sector and Scottish government.

"AR6 cannot go the same way," she told delegates in Aberdeen. "It is critical for the government to understand the significant concerns



STRONG MESSAGE: Gillian Martin addresses delegates

Photo: reNEWS

developers have expressed around the increasing pressure on development costs, including inflation."

She added: "We in the Scottish government have spoken to UK government officials to understand how to influence a better outcome for Scottish offshore wind."

"If the UK government is serious about targets it cannot afford to lose any more time and the people in this room cannot afford to lose any more time."

She added a better outcome for Scotland also includes maximising public

benefit from projects. Holyrood is exploring all options to ensure there is economic development on the back of future schemes, she said.

Securing a just transition for oil and gas workers is her number one goal, she added.

Speaking later, the Department of Energy Security and Net Zero offshore wind programme director Nicola Higgins acknowledged the AR5 results were disappointing. However, she added the switch to annual rounds means officials are moving ahead "quickly" with the AR6 auction.

The government will take the learnings of this year's process and plan to open the upcoming tender within six months, she said. Core parameters will be published next month.

Higgins meanwhile said the UK government is committed to the 5GW by 2030 floating offshore wind target. She told delegates for the "avoidance of doubt" London's focus on the sector is "undiminished" following recent net zero policy changes.

THURSDAY'S HIGHLIGHTS

Standard bearer

A panel of big-name speakers discusses the potential of standardisation to secure 'first-mover' advantage and rapidly accelerate the UK lead in floating offshore wind.

Stream A, Conference Suite 1, 1000-1100

Ding, ding Round 5

Get the inside track on the latest developments and hopes for the Crown Estate's Round 5 development rights auction in the Celtic Sea. Featuring contributions from Circo and RWE.

Stream A, Conference Suite 1, 1130-1230

Money talks

In this session, speakers discuss how to build investor confidence in floating offshore wind. What are the key factors valued by private capital backers and how can the sector increase the attractiveness of floating?

Stream A, Conference Suite 1, 1330-1430

Supply chain gain

Various experts discuss how the UK can maximise economic benefits from floating offshore wind and what are the challenges for the local supply chain.

Stream A, Conference Suite 1, 1500-1600

Good night and good luck

RenewableUK head of supply chain Ajai Ahluwalia gives the closing remarks on this year's FOW 2023 in Aberdeen.

Stream A, Conference Suite 1, 1600-1610



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FLOATING OFFSHORE WIND 2023

Day 1 highlights

High note
RenewableUK chief executive Dan McGrail gives the opening Day 2 keynote from FOW 2023.
Stream A, Conference Suite 1, 0930-1000

Anchors away
Speakers from ORE Catapult, SSE Renewables and ARUP contribute to a session on floating offshore wind mooring and anchoring systems.
Deep Dive Sessions, Conference Suite 3, 1000-1230

Silky skills
How can industry ensure that employment opportunities in the sector promote the just transition? Speakers from RUK, BlueFloat and Fugro address the skills conundrum.
Stream B, Conference Suite 2, 1330-1430

Instant connection
Quoceant's Beth Dickens outlines how

quick connection systems have the potential to reduce installation and maintenance costs for floating offshore wind.
SSE Renewables Theatre, Exhibition Hall, 1430-1440

Thank you to our partners



'Whittle down foundation options to spur growth'

The growth of floating offshore wind relies on the sector settling on a small number of foundations to standardise fabrication and drive down costs, FOW 2023 has heard.

Equinor head of floating Steinar Berge told delegates on Day 1 more uniformity is required. He said there are around 150 foundation concepts currently on the table but this will need to narrow.

Berge reckons the first mid to full-size projects will help unlock the right structure choices for developers, which may help aid standardisation.

Speaking on the same panel, Global Energy Group executive director Iain Sinclair said the company, which operates the Port of Nigg, has seen around 50 foundation designs. He believes there is an opportunity for leadership from industry.

"The developer bold enough to throw the dart



STANDARDISATION CALL: On the panel were (from left) Global Energy Group's Iain Sinclair, Guro Høyaas Løken of Aker Solutions, Shell's Denise Neill, Equinor's Steinar Berge, Nicola Higgins from DESNZ and RUK's Dan McGrail Photo: RUK

and land (on a preferred foundation) will win and the rest of the supply chain will follow and align themselves behind that standardised approach," he said.

He added it is vital foundation selections look at the capability of ports as facilities will have a key role in the delivery of the structures.

Sinclair also pointed out every time there is a change in size of turbines by the main manufacturers, this "cascades" down the supply chain.

Shell's Denise Neill, deputy project director on

its ScotWind projects with ScottishPower Renewables, said one way developers are looking at locking in technology options is via the phased building of wind farms.

This would mean delivering chunks of lease areas at different times and solidifying lessons learned on design, fabrication and installation for later phases.

She added cooperation among developers will depend on identifying win-win common goals. "Not every situation is right for collaboration," she said.

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Developers urged to focus on foundation installation

Floating wind developers should put greater focus on installation challenges when designing their projects if they want to avoid construction delays.

Apollo senior naval architect Will Brindley, who is due to speak at FOW 2023 on Day 2, believes more thought must be given to making foundation designs "installation friendly".

He said developers need to think now about investing in R&D to develop technology to quicken up the process as well as issues around vessel selection and availability, and the sourcing of chains and anchors.

They are also being urged

to put greater focus on reducing emissions during the installation phase of floating wind projects.

Project manager at marine energy solutions provider Baseblue Martiens Potgieter said the "time is now" to help boost the sector's ESG profile.

"We need to start considering what type of fuel we will be using in the future including alternatives such as biodiesel or methanol.

Also, if developers choose remote ports to help reduce both sailing distances to installations and emissions, they need to consider what that means to the stability of supplies such as fuel. A balance will need to be found."

ICP mulls first play in floating sector

Recently-established renewables investor ICP Infrastructure is eyeing a first project deal in the next 12 months, including stakes in floating developments.

Offshore wind technical director Magnus Christian Ebbesen said the group is actively looking at sites and talking to developers.

"We focus on investments in offshore wind in general, but with Aker on our side we have a strong in-house competence in floating wind. There are, in our view, still attractive projects in Europe, for example in the UK and

the Nordics," he told reNEWS ahead of his FOW 2023 appearance on Day 2.

"We are looking to enter at pre-FID stage and if needed help shape the project. This means better insight into the project at FID and building vital close ties with the supply chain," he added.

Ebbesen is speaking during a session at 1330 entitled: 'It's all about the money! Building investor confidence in floating offshore wind'.

He said: "We see experienced wind investors are still positive on floating wind despite the challenges such as supply

chain disruptions, the AR5 flop and the increase in interest rates.

"It is now all about selecting the right projects, and if done correctly, we see potential for decent returns driven by government support in selected markets in the short term and by increased cost competitiveness of floating wind in the long term."

He believes the technology could be deployed globally on a broad scale by 2040. "As the industry matures the costs will go down and get closer to bottom-fixed," he said. "That will open up the market."

Port of Aberdeen targets public investment to build infrastructure for ScotWind jobs

The Port of Aberdeen is seeking public investment to build more "targeted infrastructure" and win work from ScotWind floating wind developers.

The port's chief executive Bob Sanguinetti told reNEWS it had submitted a bid to the

Scottish Offshore Wind Energy Council's Strategic Investment Model and is working on one in London's Floating Offshore Wind Manufacturing Investment Scheme.

"We are talking to the Scottish and UK governments

on what extra niche work we need to do to make ourselves even more attractive to developers and the wider supply chain going forward for floating and fixed offshore wind," said Sanguinetti.

"We already have a future-

proofed deep South Harbour for bigger ships, but we are looking at the possibility of dredging further in specific areas of the port and at one or two berths. It is more targeted capabilities to help us bid for work from ScotWind

developers." The port's new South Harbour was officially opened last month. It can accommodate vessels up to 300 metres in length, with port users benefiting from an additional 1.5km of deep-water berths.

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THE INTERVIEW reNEWS



RWE Celtic Sea project lead **Philippa Powell** (left) explains how the company has big plans in the floating wind sector – as long as London provides more certainty for investors

Q What is your main message at FOW 2023 this week?

A Floating offshore wind is the next frontier in the evolution of the wind industry, bringing significant new opportunities. If the UK government wants to maximise these areas for the country, it needs to act now to ensure associated hurdles and barriers to success are addressed.

RWE continues to strengthen its floating wind capability and is ready to play a leading role in the deployment of commercial-scale developments in UK waters.

To gain early experience, RWE is actively participating in two high-profile demonstration projects in Norway and Spain. In 2022 we secured a commercial-scale seabed lease for a 1.6GW floater off the California coast.

In addition, we have pre-qualified to bid in two floating wind auctions in France and are participating with our partners, in the Utsira Nord auction in Norway. RWE is also exploring further opportunities in Asia-Pacific, Europe and America.

Q What is your reaction to the AR5 results for the sector?

A They were disappointing; a real missed opportunity to bring forward early test and demonstration projects.

The UK government needs to acknowledge facilitating the development of floating wind in our interests when it comes to the country's energy security and decarbonisation, but costs have risen over the last 18 months as a result of global trends and inflation.

Because of this, there is a clear need for appropriate backing from the CfD scheme.

In the wider context of no offshore wind bidding for contracts, London's 50GW target for the sector by 2030, including 5GW of floaters, is at serious risk. Reform ahead of next year's auction is essential if the country is to remain on track.

The 5GW goal was already extremely ambitious, but also necessary. While we were confident the industry could meet this challenge, with the caveat having all projects operational by 2030 would be a stretch, AR5's failure has further reduced the likelihood of this being achieved.

Q What needs to change in AR6 to support the industry?

A We welcome the inclusion of floating wind within the CfD regime, which RWE continues to support.

The system itself is not broken, however, the parameters by which these contracts are defined and allocated need to reflect the realities around delivering a nationally significant infrastructure project, including cost and programme, especially in the context of a new

technology with no established supply chain or ports to deploy from. For the CfDs generally, government needs to set a long-term procurement framework which outlines how it will support floating wind to 2030 and beyond.

This includes setting capacity targets that match net zero goals, and a clear pipeline of where seabed leasing will be enabled.

Q What is RWE's plan for the Round 5 Celtic Sea lease auction?

A RWE has set out its ambition to compete in the upcoming Crown Estate's UK Round 5 seabed auction. Commercial-scale floating wind leasing offers the potential for multi-billion pound investment into the region.

Q Is the 5GW by 2030 sector target still achievable?

A It can be done. The benchmark is levelled at 'in development' or 'in-construction' but needs a real concerted effort from UK and devolved governments, the Crown Estate, wider regulators and industry.

The process of leasing, grid connection reform and supply chain development all need to be accelerated.

RWE has major plans for floating wind globally, and is ready and willing to invest in the UK, but more certainty is needed.



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Principle Power puts focus on production line for foundations

Principle Power has completed an 18-month internal review as part of an industrialisation programme aimed at installing 300 of its WindFloat foundations around the world by 2030.

The floating wind technology group, which last month unveiled its WindFloat F product to join its existing WindFloat T offering, said it reviewed "everything we have done in our history, identifying where the bottlenecks are and how to address and remove each one" as part of its global growth ambitions.

It is launching a four-point roadmap at the FOW Aberdeen conference to enable an industrialised supply chain ecosystem.

"We wanted to create a very solid base for scaling the floating offshore industry into the 2030s. This isn't just about building individual projects

but building an industry," said chief commercial officer Aaron Smith. "Building up the supply chains in the regions that are expected to be the first movers in floating offshore wind such as the west coast of the US, Scotland, Portugal and Korea has to happen in parallel. It will require a significant investment in new capacity, a more efficient use of existing capacity and clearer project timelines."

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The four-point programme includes the industrialisation of its products. "This is the first time we have expanded to a second product," Principle

Power said. "The new WindFloat F and the original WindFloat T have been updated to accommodate serial production." It has also placed a "laser focus" on finding solutions to reduce schedules without, it hopes, compromising reliability or performance. "When we are looking at designing execution plans for the projects, how do we maximise automation and minimise the schedule to improve the throughput and reduce levelised energy costs?" Smith added.

"Industrialisation program analysis already shows an

expected 40% reduction in fabrication schedule versus the Kincardine offshore site."

At the project 15km off the coast of Aberdeen five WindFloat units host Vestas 9.5MW turbines. In total, Principle Power has eight of its foundations deployed, with the remaining three off Portugal.

The company also wants more flexibility in the supply chain through modularity. "It's breaking the design process into separate models - decoupling subcomponent production - so you can build independently before final assembly," Smith said.

Principle Power meanwhile wants to develop "productive collaboration" with the supply chain including automated hubs in the future.

"These are facilities we are developing with several different players in the fabrication supply chain," said Smith. "They can

be built anywhere as long as there are good conditions like a good, flat quayside. We are going to need substantial new investment in facilities so you might as well make them purpose-built."

The vision also calls on industry to "prioritise realistic project schedules, costs and execution plans" and to choose proven technologies and experienced contractors.

"Floating offshore wind is a good candidate for any coastal nation. What these markets really lack are the roadmaps that are going to get us from demonstration to large projects," Smith added.

"If a market does not have site control awarded to developers by the end of 2024 there is likely not going to be the capacity built. Governments need to commit to putting policies in place to make these projects happen." ■




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- Ongoing collaborative investigation to study cost of energy, feasibility, wider system benefits, economic impact and supply chain synergies.

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To the casual industry observer, it would be all too easy to conclude the last 12 months have hardly moved the dial in terms of “on field activity” for floating offshore wind.

Enquire a little bit deeper, however, and for those of us immersed in the sector, the last 12 months have unquestionably seen great progress aligning theoretical principles with that of the UK’s core supply chain capability and the investment needed to derive real market value.

A prime example of this progress is the publishing of the Floating Offshore Wind Task Force 2040 Roadmap, which recommended a strong and early focus on ports infrastructure. The study came out in March and stated the need for up to five Scottish facilities to be transformed into industrial centres as soon as possible, and at least four more requiring strategic development for manufacturing.

Global Energy Group owns and operates the Port of Nigg at the mouth of the Cromarty Firth. We have developed a five-point plan to make it a floating offshore “super hub”,

Time to embrace industrialisation



Industry and government must act now to give the UK first mover advantage in the floating offshore wind sector, writes Global Energy Group executive director **Iain Sinclair** (left)

a strategic outlook that can be accelerated as one of Scotland’s Green Freeports. The site has natural harbour characteristics and the growth enablers are based on these attributes, as well as GEG’s core skills in land development, fabrication, assembly, manufacturing, and O&M.

However, there are many challenges to overcome in converting theory into reality within the sector but pipeline certainty and the need for standardisation stand out.

While conferences and task forces have critical roles in market development, effective government and industry leadership are vital to streamline processes, reduce project bias and eliminate

political obstacles. Port infrastructure and land development require substantial time and investment.

It is time to move beyond discussions and implement supportive policies to initiate critical infrastructure projects. While standardisation has been widely discussed, the question of who leads this remains a subject of debate.

Should it be in the hands of developers who control a project’s progress and capital expenditures, or should it be entrusted to manufacturers who can remove constraints from business cases and instil certainty throughout the supply chain? This presents a significant opportunity

to demonstrate authentic industry leadership and gain first mover advantage.

Even in the supercharged technological era of 5G networks, advanced AI and electron beam welding, it is worth remembering true industrialisation requires a period of social and economic transition, involving the reorganisation of an economy for the purpose of manufacturing at scale. It is against this backdrop we should benchmark progress, not one of unrealistic ambition that comes without an execution strategy.

The UK has a remarkable history of turning opportunities into reality. It’s not just a one-time

feat in transitioning from agriculture to an industrial powerhouse, nor a two-time accomplishment with the harnessing of electricity and the construction of canals, railways, and power lines. The UK has succeeded three times over in the North Sea, with oil and gas exploration and the establishment of intricate and robust supply chains.

So, our discussion should shift from merely saying fortune favours the bold to understanding there is nothing more costly than a missed opportunity. It’s time to take action and seize it. ■

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