

OFFSHORE WIND

How a Sector Deal could transform the UK's offshore wind industry

The offshore wind industry is looking to partner with the UK government on a deal to boost the sector and bring an extra £48bn of investment to the country. Marc Height reports.

If you were looking for a UK energy success story you could do worse than to gaze towards the offshore wind turbines that flank the country's east and west coasts.

The UK leads the world in offshore wind, with 33 offshore farms and an installed capacity of over 7 GW. The final turbine has recently been installed in what will become the world's largest offshore wind farm, the 659 MW Walney Extension off the coast of Cumbria, while construction has started on the almost-twice-as-big Hornsea Project One off the coast of Yorkshire.

The favourable conditions of the UK's continental shelf mean there is a lot more potential for development – but how to continue the momentum seen since the UK's first (two turbine) offshore wind farm was installed 18 years ago?

The wind industry is now looking to do this by leveraging the enthusiasm for Britain to tap into export opportunities from some of its most productive industries – in the form of a bespoke Sector Deal for offshore wind.

30 GW by 2030

The UK government's Industrial Strategy, published in November 2017, is underpinned by a plan to create 'Sector Deals' for a number of industries – effectively a partnership between government and industry, inspired by a long-term collaboration between government and the automotive sector through the Automotive Council.

Aside from core deals in life sciences, creative industries, automotive, and construction, the government is in advanced discussions on Sector Deals in a variety of other industries. The government's Clean Growth Strategy, published in October 2017,

talks about developing an 'ambitious Sector Deal for offshore wind', which could see over 10 GW of new capacity built in the 2020s.

Often seen calling for clarity on government policy after 2020, the offshore wind industry is understandably keen to secure such a deal and, through the Offshore Wind Industry Council (OWIC), has made a proposal to do just that.

OWIC's Co-chair, Benj Sykes (also UK Country Manager at Ørsted) tells me that the industry's vision for a Sector Deal is well matured, and 'a very compelling offer to government, and importantly, to the UK.'

This vision is articulated in a prospectus that has gone to government, the headlines from which are: an extra £48bn investment in UK infrastructure by 2030; leading to 27,000 skilled jobs (from 11,000 today); along with a five-fold increase in export value from the sector to £2.6bn a year; delivering savings of £2.4bn in overall electricity system costs. All of this would be underpinned by an increase from the 13 GW of installed, in construction or contracted wind capacity today to 30 GW installed by 2030.

'Of course as an industry our objective is to exploit the opportunity that we and government have together created over the last ten years through good government policy and hard work by the industry,' Sykes tells me.

This consistent policy and the economies of scale brought about by a growing industry has resulted in a strike price for two offshore wind projects in the government's latest Contract for Difference (CfD) round of £57.50 per MWh (in 2012 prices, and for projects to be commissioned in 2022/2023). This was well below expectations – and half the price of the £111.89 per MWh contracts awarded to offshore wind in the

government's first CfD round in 2015.

'What we're saying is we can build another 16.5 GW out by 2030 [from the 13.5 GW built or contracted today]. That is transformative,' says Sykes. 'And I think the important point is that that gives us the scale to maintain the UK's leadership in this technology space.'

UK supply chain

Although it is 'early days in terms of the conversation with government', Sykes says that the Department for Business, Energy and Industrial Strategy (BEIS) has reacted 'very positively' to OWIC's vision for a deal and that both sides are in the process of fleshing out the details.

One of the strong points of the prospectus is the focus on boosting the economy and providing jobs in the north of the UK, says Sykes.

'We can generate tens of thousands of jobs. They're long-term skilled and semi-skilled jobs, and crucially they're in parts of the UK that most need them. Those parts of the UK that perhaps missed out more in the economic story of the last few years... particularly coastal communities.'

Sykes points me to a heat map of areas that will see an increase in productivity under the vision (see **Figure 1**). 'I think we are unique as an industry in that all of the economic activity that we will drive through this Sector Deal is happening outside the South East,' he says.

Partly through a review of the UK offshore wind supply chain, to help boost UK export potential from the sector (currently being carried out for OWIC by ex-McLaren CEO Martin Whitmarsh), OWIC is looking to build up regional clusters of offshore wind expertise in areas like the Humber, the North East, the North West and in Scotland. The



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idea is to bring together expertise in the supply chain, and in innovation and skills, that can then be exported.

'I think it's important to recognise that every country wants to build a supply chain in this industry now because it's taking off,' says Sykes.

Potential for exports

As well as a lot of activity in Germany, outside of Europe markets are developing in Taiwan and the US. '[Offshore wind] is going global, and that's on the back of the cost reduction that has been driven not least by UK activity,' says Sykes. 'And we need to make sure that this doesn't result in backsliding on the UK's capability in the supply chain... we want to maintain our leadership in that space.'

Exports are about much more than bits of kit, like 80 m long turbine blades, which are inefficient to ship around the world. It's about goods and services, and capabilities in engineering and robotics.

The former Minister of State for Energy Michael Fallon has recently called for a target of 60% of UK offshore wind farms to be made up of 'UK content' – a term that includes things like planning, construction and operating – by 2025. The industry is currently at around 48%, according to the trade body RenewableUK.



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Baroness Brown of Cambridge

Sykes thinks that, while he's confident the UK can get to well above 50%, it's important that an increase in this level is due to a wider objective – the 'big game' to win exports and to become a globally competitive supply chain.

'It should be a result of building the best supply chain, the most competitive technology,' he says. 'What we mustn't do is create a sort of protectionist approach where we say we want a certain number of pounds spent in the UK, irrespective of whether that's good for cost and consumers, and whether that's good for quality.'

The big offshore wind developers and a lot of the large OEMs are not UK-based companies, though they have made big UK investments and support a lot of UK-based jobs. But a Sector Deal would provide 'huge opportunities' for other innovative companies in the UK, Baroness Brown of Cambridge, who is championing the offshore wind industry's bid to government, tells me.

'I am very keen that we really do exploit technology... and make sure [UK companies] have the opportunity to export, and not just supply the delivery of this industry in the UK. It's about making sure we're exploiting that fantastic opportunity of early experience of this industry, to sell those skills

overseas,' she says.

In the future it could be companies not currently in the offshore wind industry that could offer services to the sector. It's important that the UK is 'demonstrating this opportunity through the innovation centres, through things like the Offshore Renewable Energy Catapult, through bringing universities in to collaborate,' says Baroness Brown. 'That will bring up some really exciting things – some of which we haven't yet thought of.'

Clinching the deal

There are, of course, other industries looking for a Sector Deal. In terms of timing, the offshore wind industry is hoping to finalise the deal with government this summer.

The industry has shown what it can offer to government, and in return it is asking for more clarity on the timing of future CfD auction rounds, as well as for a review of the future regime for and planning of the offshore electricity transmission system.

'We want to make sure that the UK looks like the most attractive market. That's two things: volume, but also visibility of the project pipeline. The supply chain has always needed visibility of more than just a couple of projects,' says Sykes. He talks about government



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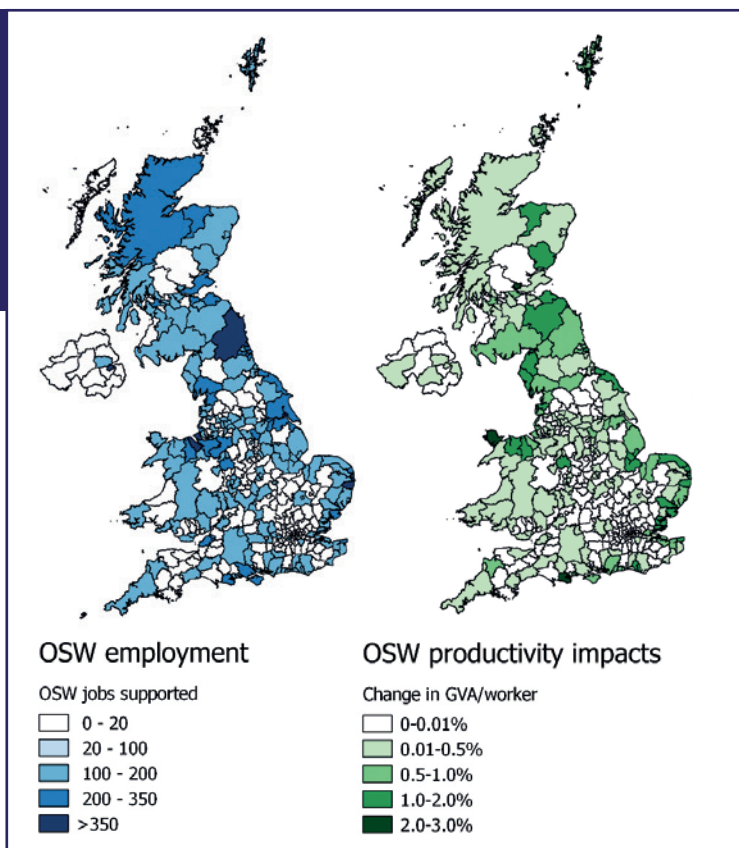
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Coming soon



Figure 1. How offshore wind jobs and gross value added (GVA) to the UK would increase from today to 2030 under OWIC's vision

Source: Vivid Economics, based on GVA and employment data from the UK Office of National Statistics and firm location data provided by RenewableUK



providing industry with a timeline of the next three CfD auctions to create more certainty, even if the last round saw projects come in at around the cost of a conventional gas-fired power station.

Even with costs this low, a 'market stabilisation CfD' to help de-risk projects that require a lot of up-front capital is appropriate, thinks Sykes, to help continue to lower costs for consumers.

Other energy industries looking to government for a deal are the nuclear sector, and the North Sea oil and gas industry.

But Baroness Brown, who is also the UK's Low Carbon Business Advisor and Vice Chair of the Committee on Climate Change (CCC), thinks that securing a strong future for offshore wind is critical to

continue to reduce the UK's carbon emissions.

'One of our recent great successes has been our decarbonisation of power, which is going very well,' she tells me. 'But the biggest contribution to that to date of course has been coal coming off the system.'

'We've got to maintain the impetus of decarbonising our power system... one of the big successes in the last ten years has been the development of the offshore wind industry, and indeed the delivery of cost reduction in offshore wind.'

When developing the UK's fifth carbon budget in 2015, the CCC assumed that offshore wind would be costing around £100 per MWh in the mid-2020s. 'We're well ahead of the cost curve,' she points out.

A continued drop in the carbon intensity of the UK's electricity is essential to reach future carbon budgets, particularly as electricity moves to supply the UK's heating and transport sectors. And, in terms of large-scale sources of low carbon electricity, offshore wind is a sector that's performing. Due to scale, wind speed and larger capacity factors than onshore turbines, offshore wind can continue to be a fundamental source of the UK's low carbon electricity needs.

'[The CCC has] a low nuclear scenario and a low carbon capture and storage scenario. Back in 2015 we thought there was quite a lot of risk in both those areas,' says Baroness Brown. 'I think that risk is evident – the nuclear programme is moving more slowly. We haven't really got carbon capture and storage underway, but what we have seen is this great, impressive surge, combined with cost reduction, for offshore wind.'

A good story

At the time of writing a meeting was scheduled at the end of May for the industry to continue discussions with government on the deal.

With an expanding offshore wind industry worldwide, the offshore wind Sector Deal's advocates are keen to continue the successes this industry has had in the UK's surrounding seas, both in terms of the opportunities for UK companies, but also in terms of attracting global investment to the UK, in what will increasingly become a global market.

'It's a very, very good story,' says Baroness Brown. 'Not only does it deliver on the Industrial Strategy, but of course it delivers on meeting our carbon budgets. Not many of the areas do that as effectively as this.'

'So I think it has real potential, and I'm very excited about it.' ●

Reducing costs of the wider electricity system

Part of the offshore wind industry's prospectus talks about a reduction in UK electricity system costs of £2.4bn per year compared to business as usual – another sweetener for policymakers. But how can the offshore wind industry do this?

'Our job is to deliver low cost megawatts into the system,' says Sykes. 'But as part of the Sector Deal proposal we're talking about a whole series of initiatives that will help accelerate new solutions to system integration.'

This is not just about building a low

carbon system that improves offshore wind. 'We're not about creating a solution that disproportionately benefits our technology. We don't want to skew the playing field,' he says.

Whether the wider system technologies come in the form of electricity storage, demand-side balancing, or new kinds of technology on wind farms, 'we're not being specific at this stage,' says Sykes. 'We're expecting the innovation community to come up with the goods on that. What we're saying is we will drive that process using

Industrial Strategy Challenge Fund and industry money together to bring forward some of these ideas.'

'I think it's a delicate line we're walking here because it's not our industry's job to manage the optimisation of the electricity system,' says Sykes. 'However, we're saying we can be 50% of UK generation by 2050, and in that world it's incumbent on us to do our bit to help find new, creative solutions... in the technology or regulatory space, to enable offshore wind to play the lowest-cost possible role in the energy mix.'