

KEYNOTE INTERVIEW

The future of offshore wind



The opportunity to invest at scale behind the fastest growing renewable generation technology in the world is proving irresistible for investors, say Glennmont Partners' Joost Bergsma and Ørsted's, Kunal Patel

Q How would you describe investor appetite for the energy transition?

Joost Bergsma: We are seeing a significant increase in appetite for infrastructure generally and for investments driven by the energy transition, in particular. The first reason for that is that there is now a substantial track record of successful energy transition investment, which was not the case when we started out 14 years ago. A heightened focus on sustainability has also emerged since covid. There is a new sense of urgency surrounding the energy transition.

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Kunal Patel: I agree that appetite has increased significantly over the past 12 to 18 months. The conversation has also evolved over that period. The focus used to be almost exclusively on renewable generation. But there is now a far broader agenda and investors are looking to talk to us about a whole host of innovations from hydrogen to e-fuels.

Q What is the appeal of offshore wind, in

particular?

JB: I think the ability to invest at scale is key to the appeal of offshore wind. The size of land-based solar and wind farms is limited in Europe, because of a dense population. But offshore wind is not constrained. I think the second advantage, is that you are dealing with large, listed corporates that are well capitalised and well regulated – the likes of Ørsted and Siemens, for example. Institutional investors like the security that comes with that. It is also remarkable how quickly offshore wind technology and construction has matured. Most institutional investors are still relatively conservative. They want

a balance of risk and return and offshore wind can provide that.

KP: The scale of these offshore wind projects is definitely attractive for investors. I would add that investors are drawn by the visible pipeline that the sector offers. Offshore wind is forecast to be the fastest growing renewable generation technology through to 2035.

Q How is the market developing in different regions around the world?

JB: Europe has the deepest track record and is home to around 80 percent of installed offshore wind today. The North Sea, in particular, offers a very favourable construction environment. It is not very deep and the seabed is homogenous. The UK and Germany are the largest markets. Both will continue to add significant amounts of capacity. France and Benelux are now also active, whilst newer markets to the East, including Poland and the Baltic Sea are starting to emerge.

In the US, Biden clearly has a strong energy transition agenda. The mantra is to do 30GW by 2030 and the offshore wind market is picking up rapidly along the East coast. Development is still at an early stage, however. These projects are likely to become buildable in three to four years' time. Meanwhile, in Asia, China has installed a lot of offshore wind but it is a local-to-local market and much harder to access for institutional investors. Taiwan leads the region in terms of volumes and Japan, Korea and Vietnam are also adding capacity. An awful lot of potential remains in offshore wind.

Floating offshore has also unlocked areas that were not available for fixed bottom-offshore wind, this will allow more MW to be installed.

KP: I would agree that the UK and Germany will remain the biggest offshore wind markets through to 2030 and probably 2035, as well. Meanwhile,

Q What are the links between offshore wind and hydrogen?

KP: It is clear that as renewable penetration increases, we will have to think about the energy system in a more integrated way. The whole industry needs to figure out the best solutions for making that happen. Hydrogen and e-fuels will play an important part in that and have their own cost curve to come down and, of course, electricity is a big part of that cost, so you could argue that wind and solar in jurisdictions with a low cost of electricity are natural homes for those technologies, though there is much still to learn.

We have recently announced H2RES, which will produce renewable hydrogen for road transport in Copenhagen, using two of our offshore wind turbines installed there to power the hydrogen production. We also have SeaH2Land, an ambitious vision linking GW-scale electrolysis to the large industrial demand in the Dutch-Flemish North Sea Port cluster through an envisaged cross-border pipeline, with the green electricity required to produce the renewable hydrogen coming from the build-out of offshore wind. Those are the sorts of visions it will take to really drive that industry forward.

JB: Part of the reason that hydrogen is so important is that clean energy, including offshore wind, is intermittent and can't be stored. And, of course, if hydrogen is not powered by green electrons, that defeats the purpose of the exercise. Green hydrogen is a must. Offshore wind can offer that green angle. However, at the stage the two-step process of renewable energy into hydrogen and then hydrogen into electricity not very energy efficient. We see the one-step approach as described by Kunal more interesting. We have recently published white paper on this topic I recommend everyone to read.



we see increased opportunities in France, the Netherlands, Poland and Denmark, all of which have provided updated targets and insight into how those GWs are going to be awarded over the coming years. We believe those markets will remain dominant

given the wind resources in both the North and Baltic Seas. We also expect to see more build out in Belgium and potentially Ireland, as well as Sweden and Norway. We are yet to see any tangible moves in markets such as Spain, Greece and Italy, although we know it

is part of the political discussion there as well.

Our core markets in APAC are Taiwan, Vietnam, South Korea and Japan. Those are the markets that have provided concrete guidance on their ambitions to develop and build offshore wind and, as Joost says, offshore wind in the US has been evolving extremely quickly over the past 24 to 36 months as well. Lots of developers and investors have been waiting to see when that market would really kick off, and now it certainly has. We have a significant pipeline of around 5.5GW that we are due to build by 2030 so far. States up and down the East and West Coast are starting to announce ever more ambitious targets.

Q What are some of the challenges that this sector faces and how can those be overcome?

KP: Vessel capacity is an issue. Inflation and commodity prices are also causing some concern. But we are relatively comfortable, as an organisation, that those issues can be managed. It comes down to having a coherent strategy for ensuring you have as robust a supply chain as possible.

JB: It is also important to keep ESG impacts in mind and to ensure that the environment is properly protected. Significant advances have been made in terms of drilling, for example, but when you are talking about offshore wind it is essential to consider fisheries, particularly as you start to scale up. We are also seeing the impact of trade blocks on the offshore wind sector with the US preferring to source equipment only from the US and China only from China. This is a global industry and is important to keep trade borders as open as possible.

Wind performance is also an area of improvement in particular how neighbouring wind farms can impact on the respective wind yields.

Q How would you describe competitive dynamics and how is that impacting returns?

JB: We have reached a point with offshore wind where we have a deep installed base and that means there are a wide range of investment opportunities right across the spectrum from the development phase that commands higher returns due to the binary risk involved; to the build phase where you are taking construction risk and then to the reservoir of operating assets that exist today, offering cash yield. And whilst there is certainly more capital flowing into the sector, we also shouldn't underestimate the scale of the investment opportunity that is yet to come.

Q What potential does floating offshore wind present?

KP: We have recently announced the win of a Scottish floating wind tender which will be our first commercial scale floating project under development and we certainly think the sector holds a lot of promise. There is a lot of work still to do in terms of the sheer number

“There is a new sense of urgency surrounding the energy transition”

JOOST BERGSMMA

of engineering hours required to develop the foundation technologies, and indeed the turbines, to a maturity level that will lead to the cost trajectory that we all hope for. But we shouldn't shy away from that. There is enough market potential there that if we can get the technology to come down the cost curve, we should start to see significant build out post 2030, if not before.

JB: The market potential for floating offshore wind is really significant when compared to its fixed bottom equivalent. In Europe, we are very lucky with the environmental conditions of the seabed, but that isn't the case in Japan, for example, or the West Coast of the US. Those are large economic areas which need significant amounts of clean energy and the only way to supply that quickly is through floating offshore wind. Investors are willing to put capital to work in this sector because they see that there is no reason, from an engineering perspective, that it can't be done. It is going to be a very important contributor to the energy transition.

Q What does the future hold for offshore wind?

KP: The build out of offshore wind will continue at pace and in increasingly diverse geographies. The revenue models attached to offshore wind will also be increasingly diverse, whether that means corporate PPAs or other offtake models, or even revenue models linked to hydrogen or other storage solutions. I think those changes in revenue models will be one of the most important evolutions going forward.

JB: Appetite from investors looking to invest behind the energy transition and offshore wind specifically is growing. At the same time, the opportunity remains enormous. Build out is only accelerating which makes this an extremely exciting sector. ■

Joost Bergma is CEO of Glennmont Partners; Kunal Patel is head of portfolio development and strategy at Ørsted.

