Hywind Scotland. Scotland Statoil. Photo: Statoil

‘Floating wind is quickly becoming a bankable technology’

FACE TO FACE | Rhodri James, manager at UK low-carbon business development body the Carbon Trust

by **Darius Snieckus in London**

02 November 2017
Updated 02 November 2017

Darius Snieckus speaks with Rhodri James, manager at UK low-carbon business development body the Carbon Trust, about the prospects for floating wind as the world’s first array, the 30MW Hywind Scotland in the UK North Sea, powers up. James co-authored a landmark sector report published in 2015.

How does switch-on of Hywind Scotland – the world’s first floating wind farm – change the investment prospects for industrial-scale development of the sector?

Hywind Scotland is a major milestone for this fledgling sector, which is accelerating towards commercialisation.

World’s first floating wind farm powers up off Scotland

Read more

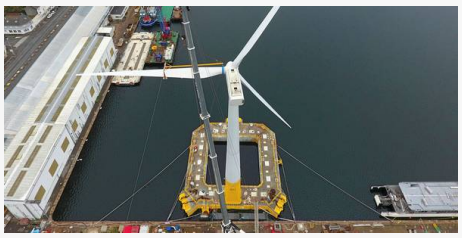
In addition to the increased scale of operations, the project will test a series of novel innovations that will prove the viability of floating wind turbines in array formations. As such, the project will act as a vital stepping stone towards large scale commercial deployments within the next decade, which can open new markets and new investment opportunities for offshore wind on a global scale.

The involvement of Masdar as a project investor is proof that floating wind is quickly becoming a bankable technology and can be an attractive investment opportunity. Hywind Scotland will be an important catalyst in further de-risking the technology for increased levels of investment going forward.

Many analysts are upgrading their market forecasts for floating wind, and Statoil thinks a 12GW fleet will be turning by 2030 at a LCoE of €40-60/MWh. What is the Carbon Trust’s view?

Floating wind offers enormous potential to open new markets for offshore wind, particularly as the industry expands globally. However, it will need to compete on a cost basis with other energy technologies in order to reach its deployment potential.

We believe it can mirror much of the cost reduction seen in fixed-bottom offshore wind and can be competitive in densely populated coastal areas with deep continental shelves, such as Scotland, France, Japan, and the United States. However, further policy support will be needed to bridge the gap from pilot to commercial scale and the next few years will be vital in dictating how quickly this happens.



New global realities mean floating wind will stay the course

Read more

Given typical project development timescales of six to eight years, policy makers need to move now in order to create the necessary conditions to attract investment in commercial projects.

Statoil's projections are ambitious, but are attainable if the right support mechanisms are put in place. Nevertheless, given the importance of political support to accelerate development, we expect anywhere between 3-12 GW by 2030, with scope for considerable build out post-2030, complementing the global expansion of offshore wind as a mainstream energy technology.

We have also seen setbacks for floating wind – Scotland's stalled 50MW Kincardine project and the shelved 10MW Dounreay Tri demonstrator — what does this tells us about where floating wind is as a sector?

As with most new technologies, there will be setbacks along the path to commercialisation. However, the examples of Kincardine and Dounreay highlight the importance of long-term political certainty to de-risk investment in new technologies.

With the right support in place, Scotland has the environmental conditions to attract investment in commercial projects that can exploit the excellent wind resources that exist in its deep-water locations, delivering high volumes of low carbon electricity to UK consumers.

What do you foresee to be the near-term challenges for the floating wind sector in terms of technology development?

Floating wind has been proven at prototype scale and several pilot farms over the next five years will demonstrate its viability in small arrays. However, there remain challenges, particularly at commercial scale. The Carbon Trust has set up a joint industry project between the Scottish government and ten leading international offshore wind developers to investigate the challenges for large scale floating wind farms.

The work undertaken so far suggests that there are no reasons to believe that large scale floating wind farms would not be technically viable, but there are several areas which will require further technology development if costs are to come down to levels seen in fixed-bottom offshore wind.

For example, commercial projects will need high voltage dynamic export cables to transmit power back to shore, optimised mooring system designs and installation methods need to be developed, and we need to identify means of undertaking heavy lift offshore operations cost-effectively.

These are examples of several areas that the JIP intends to investigate further going forward in order to prepare for the first commercial wind farms.