



Harness the winds of ch

Offshore wind is the most economically viable form of renewable energy generation. Governments are investing in it to meet energy and carbon emission targets, but the risks need to be considered. By **Gail Gajgor**

After two years in the doldrums the global economy is turning a corner, and sectors that have been tightening their belts for so long can finally see the light at the end of the tunnel. The wind power industry is among them, and it seems well placed to benefit from major government investment across the world.

Driven by a mandatory obligation to source 20 per cent of its energy needs from renewable sources by 2020, the EU is the leading powerhouse for the offshore wind sector. More than 100,000 megawatts (MW) of projects are at various stages of planning and could provide enough electricity to meet 10 per cent of demand by 2020. By 2030, total European offshore wind operating

capacity could be as much as 150,000 MW, up from little over 2,000 MW across 38 offshore wind farms in nine European countries so far. The industry's turnover, €1.5 billion in 2009, is expected to grow exponentially over the next two decades. Elsewhere in the world, the US, Canada, Taiwan, and China are turning to offshore power, and China alone has the potential for up to 750,000 MW.

But while the global opportunity is vast, costs for offshore wind farms have risen in recent years and are now around twice that of their more mature onshore counterparts. Some current offshore plants under construction, or planned, come in at more than €4 million per MW, according to trade journal *Windpower Monthly*.

The risks associated with the fledgling offshore industry are also much greater and financing projects in today's constrained credit market is proving difficult and costly. The lack of precedent for the offshore wind industry is curtailing the banks' appetite for the sector, according to the European Wind Energy Association (EWEA).

Need for risk management

Comprehensive insurance and risk management strategies to guard against the many risks associated with offshore wind top the must-have requirements of most potential financiers. Turbines currently account for around 60 per cent of offshore wind project costs, according to the EWEA, while substructures account for 25 per cent,



Main image: the Burbo Bank offshore wind farm comprises 25 wind turbines, each potentially costing several million to replace. Inset: the rotor of a turbine.

installation 15 per cent, and grid connection 10 per cent.

Should things go wrong, the potential financial losses are high. “It can cost around £60 million for the loss of a substation and £6 million for the loss of a turbine,” says John Stuckey, Partner at Jardine Lloyd Thompson. So with the offshore wind farms already under construction each consisting of anything from six to 140 turbines, getting the right policy in place is critical – particularly for loss limits.

“The biggest factor to consider when placing insurance is the scope of the policy wording,” says Roger Backhouse, Partner at

Jardine Lloyd Thompson. Standard offshore wording for insurance policies does not fit the bill, agrees Fraser McLachlan of underwriters GCube, who warns that companies often just insert the word “wind” into their standard policies. “They are not as bespoke as you would probably want,” he says, adding that it is vital to have an insurer with experience in the sector. “The last thing you want to do is get yourself into a debate with an insurer who does not understand wind energy.”

Clearly, indentifying the risks that need to be covered is paramount. “The offshore wind farm industry is rapidly evolving, with significant upward step-changes in the

generation capacity of offshore wind farms and the size/capacity of individual turbines that generate the electricity,” explains Stuart Whitehouse, Director of Elantis Risk Engineering. “Wind farms are being located further offshore, requiring the installation of offshore substations and complex subsea power distribution networks. The dynamic changes to the offshore wind power industry are challenging existing engineering solutions,” he says.

Lack of experience

There are some similarities between traditional offshore oil and gas exposures and those for offshore wind. “But unlike the mature offshore oil and gas industry, which has 50 years of operational experience, with many advances in engineering design standards and risk-mitigation lessons being learned, the offshore wind farm industry is very young in comparison,” says Whitehouse. He points out that the first UK offshore wind farm began generating electricity less than seven years ago.

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»»» The completion of an insurance-focused risk engineering survey of offshore wind farm project assets at a pre-construction phase, conducted on behalf of wind farm operators, is wise, Whitehouse says. This would “translate a complex offshore wind farm project scope of work into a simple and transparent underwriting report, which can help insurance risk managers decide on the most cost-effective coverage and limits of insurance to procure,” he explains. “It also provides insurance underwriters with a clear understanding of the risks they will be underwriting and hopefully more confidence in the management of the risk through a project’s construction and operational phases.”

Risk survey reports also help identify potential areas for offshore wind farm operators to mitigate property damage, business interruption and liability risks, Whitehouse says. In turn, this can help offshore wind companies avoid paying punitive prices for their risk policies in the first place and save on long-term running costs.

Business interruption

According to GCube’s McLachlan the major losses incurred in offshore wind to date relate to the high-voltage cables that carry the electricity to shore. This is an exposure with which the traditional offshore oil and gas sector has long been familiar, typically in the construction phase, and one the wind industry has had to get to grips with.

Going forward, business interruption risks could be key. “What I see as a bigger risk in offshore wind is loss of income or delay in income due to business interruption,” says Jardine Lloyd Thompson’s Backhouse. “Delay in start-up will quite possibly be the biggest issue for some companies, and larger turbines potentially mean greater business interruption delays. Series losses are going to be the eye-catcher.” Underwriters can be reluctant to provide extensive series loss cover, especially in relation to new technology. As a



Vessels that can service offshore turbines are at a premium, and lack of availability should be covered

CHRISTOPHER FURLONG/GETTY IMAGES

consequence project owners could have less risk to face, as they can pass much of the risk to the contractors, says Jardine Lloyd Thompson Partner, Stuckey.

The exposures are not just related to turbines, adds Backhouse. “A lack of specialist vessels for the installation of turbines will be a key issue.” In the operation phase, too, availability of specialist vessels will be a serious exposure. “Maintenance is a huge job for offshore wind and underwriters do focus on these things,” he says. At present, there are just a handful of suitable vessels for offshore wind turbine installation and the industry acknowledges the need for more. Some offshore wind owners, such as Dong Energy, are investing in their own vessels, but other companies will find themselves competing for a limited supply for the next few years at least, so a missed timetable for vessel use could cost.

Another issue, says Backhouse, is damage to vessels. “There will be two insurable interests at this point,” he says, referring to the owner of the vessel and the wind farm contractor or owner. “It is one of the biggest risks.” McLachlan adds: “You can insure against lost time, delays and vessel costs for when you have booked a vessel but have to cancel, for example.”

Whether you are focusing on risk to vessels, cables or any other piece of

equipment or specialist staff, Stuckey warns: “Get a contingency plan in place, make sure you have spares and be creative on your business interruption model.” And while specialist insurers are continually working with the sector to improve and develop new policies to meet the needs of the industry, he adds: “Make sure your insurance product suits you, as every wind farm is different.”

Claims success

Jonathan Haysom, Claims Specialist at Jardine Lloyd Thompson, points out that the more information an insurer has about exposures from the outset, the more chance of success for settling any claim. Often, confidentiality restrictions imposed by other interested parties can prevent insurers from having access to potentially critical information and possibly hamper the process of providing suitable cover or proceeding effectively with a claim efficiently. “The insured has a part to play in having such restrictions lifted for the benefit of information flowing to insurers,” he says. “At the outset, all parties should discuss the need for having sight of and releasing such information, with a view to establishing the protocol for defining what is confidential and then how requests will be handled.”

In the meantime, appointing someone to a central coordinating role to liaise with insurers and cover the requests is “key to satisfying the needs and desires of both insured and insurer”, Haysom says. Such an appointment should “reduce the workload and impact on the insured significantly and make the process more rapid,” he says.

The industry relies on relatively new technology, situated in hazardous and remote places, facing endless changing variables. Getting to grips with the risk will be challenging but essential. Owners and developers must tailor their insurance protection to the risks they face in the construction and operation of wind farms. However, the rewards available for those who are in a position to profit from this market, which is worth €1.5 billion in Europe alone – and doubling every year – make it a challenge worth rising to. **RS**

i James.Green@jltgroup.com

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Gail Gajgor was Senior Editor of *Windpower Monthly*, and writes for *Inside Energy*.