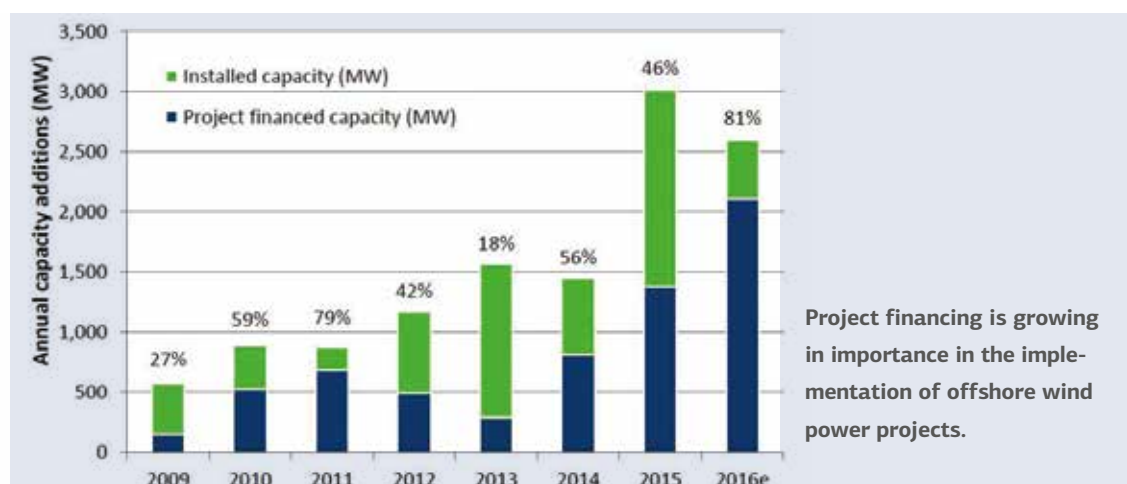


# The wind has changed

The yield from an offshore wind farm is not as high today as it used to be in the early years. The risks, however, have become more manageable. This makes offshore wind power interesting for investors with lower margin expectations.



There were times when it was hard to get the financial means together to build an offshore wind farm. Guaranteed infeed yields may have created certainty on the income side, but the cost sides of the projects were uncertain. Investors shied away from the risks associated with the still new technology in the early years of the industry.

Things are different today. Offshore wind farms have definitely become an interesting investment. Banks are certainly willing to open their coffers if the project planning is sound. Project financing is also making an ever-stronger parallel entrance into the offshore wind power sector. The investors themselves are becoming more diverse too; today they range from large energy companies, independent power producers (IPP) and local utility boards to insurance companies, investment companies and pension funds. Mostly the financing is achieved through a mix of institutional

investors, development banks and commercial banks. One remarkable point to note is the increased interest of Asiatic investors in the European offshore wind power market, mostly supported through a view towards offshore activities in the relevant home market. The Japanese conglomerate Sumitomo, for example, is involved in the Belgian offshore wind farms Belwind, Northwind and Nobelwind. Or take the China Three Gorges Corporation: the Chinese energy company has invested approx. € 1.6 billion in the German offshore wind farm Meerwind Süd|Ost.

## Option for local utilities

The majority of investors still come from Europe, however, although their character has changed in the last few years. In the early days of offshore wind power it was mainly companies expecting high yields which were active, ones which were willing to accept higher risks in return. Nowadays,

companies are increasingly coming into play which are looking for more secure investments, and are thus willing to accept lower margins.

Take local utilities, for example. The communities behind these generally put security above yields. An example of such an investment is the German offshore Trianel wind farm Borkum 2 (TWB 2). The total investment for the 200 MW second expansion phase comes to approx. € 800 million. In with a 37.5 % share of the project expansion is EWE AG, but the local utilities partnership Trianel holds a higher 37.99 % together with 17 other German local utilities. The cooperation partners were able to convince the electricity utility company for the city of Zurich (ewz) to bring in the remaining 24.51 % into the project via a joint venture with the Swiss company Fontavis.

One of the 17 German local utilities involved is the Allgäuer Überlandwerk GmbH from Kempten, Bavaria. "So far we have tried to get to a target 20 % renewable electricity in our portfolio from lots of small projects," says Managing Director Michael Lucke, "but an offshore wind farm is a big gulp in one go, which brings us considerably further than several photovoltaics plants, for example." This not only convinced investors and partners of the local utility, but also its supervisory board. The reason for this is that local utilities see offshore wind power not only as a purely financial investment, but also as a strategic one. They want to generate offshore wind power electricity over the long term. Lucke thus appeals to project developers looking for investors: "Local utilities can also be good partners!"

While TWB 2 is the first offshore participation for Allgäuer Überlandwerk – although it should also not be the last – ewz has already invested in several relevant projects, such as in the wpd wind farm Butendiek. It was also interested in the Danish near-shore tendering, but pulled out of the bidding because Denmark demanded open-ended guarantees for the decommissioning, which ewz was not able to provide like that. However: "We can still take part in the project development phase with a double-digit million euro sum," says Michael Sommer, responsible for Business Development at ewz.

### Pension fund shares the construction risks

The Danish pension fund PKA is also willing to take a share of the construction risks. When PKA first became involved in offshore wind power in 2011 within the framework of

DONG Energy's Anholt offshore wind farm, the company made a good profit as there were only a few financial investors like PKA. As investment competition is now growing and the yields are dropping in turn, PKA is increasingly willing to increase the risks and enter the projects at an earlier stage. According to Managing Director Peter Damgaard Jensen this is the only way to still get "healthy returns". But he expects that a growing number of companies will also be interested in investing in early project stages – which will thus lose their appeal in the long term. Damgaard Jensen is therefore already looking towards the USA and Asia for his business development.

His reasons for doing so are good, for PKA's investments in offshore wind power have paid off. In 2013 the pension fund invested in Butendiek, and last year sold its 22.5 percent share to a Japanese consortium led by the trading company Itochu for almost 1 billion Danish kroner (approx. € 135 million). According to PKA this was more than double the investment sum which the pension fund had originally put into the project. *Katharina Garus*

## Key funders in addition to developers

Group	Key players
<b>Owners / equity providers</b>	
<b>Investments / equity / infrastructure funds, institutional investors</b>	Copenhagen Infrastructure Partners, Global Infrastructure Partners, Infrared Capital Partners, Black Rock, Masdar, PGGM, Blackstone, Macquarie, Partners Group, Caisse de dépôt et placement du Québec (CPDQ)
<b>Pension funds</b>	PKA, Pension Denmark, Industriens Pension
<b>OEMs</b>	Siemens, GE, Van Oord, Deme
<b>Corporations with sustainability targets</b>	Lego
<b>General trading corporations</b>	China Three Gorges, Marubeni, Sumitomo
<b>Debt providers / lenders (may or may not also provide equity)</b>	
<b>Institutional lenders / development banks / export credit agencies</b>	EIB, KfW IPEX, GIB, Development Bank of Japan, Eksport Kredit Fonden (the Danish export credit agency), GIEK (the Norwegian export credit agency)
<b>Commercial banks</b>	Commerzbank, BNP Paribas, Rabobank, Dexia, LBBW, SEB, Siemens Bank, Société Générale, Bank of Tokyo-Mitsubishi, ING, Sumitomo Mitsui Banking Corporation, KeyBank

Source: IEA-RETD

# “New technologies promise higher returns”



**OWI talked to Udo Schneider from Green Giraffe about the current appetite for investment in offshore wind power and expected developments here.**

Udo Schneider has 15 years of infrastructure and energy finance experience and joined Green Giraffe in early 2015 to head their German office in Hamburg. He has worked on several onshore and offshore wind projects, advising investors, developers and industry players on multiple renewable energy projects focusing on offshore wind.

**OWI: How has the appetite for investment in offshore wind developed in recent years and what are you forecasting for the future?**

**Udo Schneider:** Most offshore wind parks have performed well to date. Considering such reliable performance in combination with substantial liquidity in capital markets there is great interest in financing offshore wind assets. Certain investors cannot – yet – take construction risks and will only invest following construction completion. The competition amongst investors is more intense for projects with higher feed-in tariffs. This competition also leads to a reduction in required equity returns – which helps to reduce the levelized cost of electricity.

**OWI: How freely (or unfreely) do banks currently use money for offshore wind?**

**Schneider:** Banks still follow a rigorous assessment process for each project. Well-structured projects have little difficulty in finding sufficient credit at attractive terms. The number of banks with experience in offshore wind financing is steadily increasing, as are the amounts they are willing to lend, but there is no “silly money” in the credit market.

**OWI: In the first German call for tenders several projects didn't need support at all. Does this fact already have an impact on the financing of future projects?**

**Schneider:** The “zero bids” by Dong and EnBW imply that these utilities are happy to accept market risk for projects in the future – as they do for their other generating assets. It should be noted that commissioning of the relevant projects is still many years away. Still, it does trigger a new way of thinking for other market participants and banks are challenged to find new solutions. The current German tender rules favor utilities over independent players and financial investors. A stable long-term fixed-price mechanism matching the asset life would provide a much better basis for achieving greater diversity of participants to the industry – which was actually an explicit policy

objective in Germany – at a very low levelized cost of electricity.

**OWI: Large construction projects are currently becoming more expensive than planned.**

**Have you had this experience with offshore wind farms as well?**

**Schneider:** A few pioneering projects experienced cost overruns, but the track record of offshore wind is actually a lot better than other infrastructure sectors, as demonstrated in a recent Ernst & Young report. The complexity of the works undertaken at sea, far from shore, in relatively deep waters and with hostile weather, should never be underestimated, but the lessons have been learnt quickly and we now see multiple projects being completed ahead of schedule and below budget. That is great news for the industry and is also helping cost reduction as investors become comfortable with smaller capital buffers.

**OWI: Why can the offshore wind industry manage this better than other industries?**

**Schneider:** The market is reasonably small, so lessons learnt are shared reasonably quickly. The key players have now also done several projects similar in nature. They know what they are doing and try to actively avoid making the same mistake twice.

**OWI: In an interview, your colleague, Jérôme Guillet, expressed an optimistic attitude towards the marketability and financial viability of floating wind. Do you also see this technology positively, as developed thus far?**

**Schneider:** Sure! Although there is still a huge potential for ground-mounted offshore wind projects in the North Sea and the Baltic, reasonably shallow waters along coastlines are a rare feature in the world. To tap into the substantial offshore wind resource globally, new technical solutions just like floating wind turbines are required. The race for the best approach has started.

**OWI: But why should investors invest in new rather than proven technology?**

**Schneider:** Good question. New technologies promise higher returns or offer solutions that past technology did not, such as building projects in deeper waters. Whether they deliver on that promise in the long run is an open question. Project finance is built on the principle of financing proven technology. This is clearly being challenged with the constant innovations the industry has delivered in recent years. The providers of such technology are asked to “put their money where their mouth is” and offer solid guarantee levels as to the performance of their products to protect investors.

**OWI: Is there a crucial point that makes new technologies interesting for investors?**

**Schneider:** In the new tendering environment, a participant cannot afford to ignore technologies that may lead to a lower levelized cost of electricity. This is not just limited to turbine capacity but involves all aspects of a wind farm, from installation methods, foundation and cable designs to offshore accommodation and turbine access & service options.

*The interview was conducted by Katharina Garus.*