

News release from Vestas Wind Systems A/S

Randers, 30 March 2011
News release No. 9/2011
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Vestas launches next generation offshore turbine

With reference to Vestas Wind Systems A/S' company announcement No. 10/2011 of 30 March 2011, Vestas has earlier today at a press conference in London revealed the details of its next generation dedicated offshore turbine. To ensure the lowest possible cost of energy, this new machine, the V164-7.0 MW, boasts an entire 7.0 MW – and a rotor diameter of 164 metres.

A dedicated offshore turbine – specifically designed for the roughest North Sea conditions

Lowering the cost of energy in relation to offshore wind is essential for the industry. Some of the major stepping stones in achieving this are size and subsequent increased energy capture, which means a need for much bigger turbines that are specifically designed for the challenging offshore environment. With the introduction of the V164-7.0 MW Vestas is taking a major step towards meeting these needs.

CEO Ditlev Engel says of the new turbine: *"We are very pleased to be able to serve the market and show our commitment to the offshore wind industry by introducing our dedicated offshore turbine - the V164-7.0 MW. Seeing the positive indications from governments worldwide, and especially from the UK, to increase the utilisation of wind energy is indeed very promising. We look forward to this new turbine doing its part in making these political targets a reality."*

According to Anders Sørensen, President of Vestas Offshore, the offshore wind market is set to really take off over the coming years, but more so in some parts of the world than in others: *"We expect the major part of offshore wind development to happen in the Northern part of Europe, where the conditions at sea are particularly rough. Based on our broad true offshore experience and our many years as pioneers within the offshore wind industry, we have specifically designed the V164-7.0 MW to provide the highest energy capture and the highest reliability in this rough and challenging environment. This makes our new turbine an obvious and ideal choice for instance for many UK Round 3 projects."*

Based on the potential market size, the V164-7.0 MW business case is based on Europe and primarily the Northern European markets. Should market demand require so, Vestas is however also prepared to take the V164-7.0 MW to other parts of the world in due time

Combining innovation and proven technology to ensure reliability

Having pioneered the offshore wind industry, Vestas has over the years gained extensive experience and knowledge which we continuously use actively in our research and development activities. Vestas works intensively to ensure that lessons learned are combined with new and innovative solutions to eventually provide the highest possible business case certainty for our customers. This newest addition to our offshore product portfolio is no exception.

The innovative part of the new turbine is, along with a wide range of technical features, its size and consequently much increased energy capture whereas the proven technology is represented by, among other things, the medium-speed drive-train solution.

"We actually kept all options open from the start, running two separate parallel R&D development tracks; One focusing on direct drive and one on a geared solution. It soon became clear that if we wanted to meet the customers' expectations about lowest possible cost of energy and high business case certainty we needed a perfect combination of innovation and proven technology and so the choice could only be to go for a medium-speed drive-train solution," says Finn Strøm Madsen, President of Vestas Technology R&D on this particular design choice and concludes: *"Offshore wind customers do not want new and untested solutions. They want reliability and business case certainty – and that is what the V164-7.0 MW gives them."*

To ensure alignment between customer needs and the features of the next generation offshore turbine, a number of experienced offshore customers have been invited to provide their input during the development process – resulting in a match between turbine specifics and customer business cases.

Paving the way for the next generation offshore turbine

Construction of the first V164-7.0 MW prototypes is expected in Q4 2012. Serial production is set to begin in Q1 2015 provided a firm order backlog is in place to justify the substantial investment needed to pave the way for the V164-7.0 MW.

About Vestas Offshore

Vestas has been a pioneer within offshore wind since the birth of the industry and has installed 580 offshore turbines equalling 43 per cent of all offshore turbines in the world. In 2010 alone, Vestas installed a total of 555 MW at the Robin Rigg, Thanet and Bligh Bank offshore wind farms and the overall number of installed capacity has now surpassed 1,400 MW.

In the UK alone, Vestas employs more than 550 people.

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