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PRESS RELEASE

Aerogenerator X launched by Wind Power Limited
26.07.10

FOR IMMEDIATE RELEASE

British company Wind Power Limited has unveiled the new embodiment of its innovative Aerogenerator project visualised by leading international architects Grimshaw. The Aerogenerator X is twice the power and half the weight of Wind Power's original Aerogenerator design.

The Aerogenerator X is considered one of the only real alternative solutions available to help deliver the UK's offshore wind strategy in a reliable and cost effective manner. It does not have the same weight constraints as a normal wind turbine and the blades do not suffer weight-induced fatigue. This new design is half the height of an equivalent horizontal-axis turbine and its weight is concentrated at the base of the structure.

The Aerogenerator X is the conclusion of an 18-month feasibility study called the NOVA project undertaken by Cranfield University, QinetiQ, Strathclyde University, Sheffield University and Wind Power Limited supported by consultant engineers and project managers. The NOVA feasibility project was funded by the Energy Technologies Institute, a public private partnership comprising BP, Caterpillar, EDF, E.ON, Rolls-Royce, Shell, BP, EDF, EON, Caterpillar, the UK Government and Wind Power Limited.

Wind Power Limited is also delighted to announce that it is in the process of entering a Memorandum of Understanding with Arup to help successfully continue project development.

Speaking at the unveiling of Aerogenerator X John Roberts, Head of Energy at Arup, said: 'Despite the installation of a number of large wind turbines offshore, the problems of increasing capital cost for deeper water remains unsolved as does the issue of safe operability in the marine environment. There is a tremendous opportunity for new ideas to make a difference to the commercial viability and operability of offshore wind power. More cost-effective solutions will be essential if offshore wind power is to make the 'hoped for' contribution to the UK's GHG emission reduction targets.'

Professor Feargal Brennan, Head of Offshore, Process and Energy Engineering at Cranfield University, said: 'Upsizing conventional onshore wind turbine technology to overcome cost barriers has significant challenges, not least the weight of the blades, which experience a fully reversed fatigue cycle on each rotation. As the blades turn, their weight always pulls downwards, putting a changing stress on the structure, in a cycle that repeats with every rotation – up to 20 times a minute.

'In order to reduce the fatigue stress, the blade sections and thicknesses are increased which further increases the blade self-weight. These issues continue throughout the device. Drive-train mountings must be stiff enough to support the heavier components inside the nacelle on top of the tower, otherwise the systems can become misaligned and the support structure is also exposed to extremely large dynamic thrust and bending stresses, which are amplified significantly with any increase in water depth.'

Theo Bird of Wind Power Limited said: 'Offshore is the ideal place for wind power but is also an extremely tough environment. The US wind researchers who worked on vertical axis projects have always regarded the technology as great to work with at sea because it can be big, tough and easily managed. We are extremely grateful to the ETI who had the vision to help us pick up from where the US left off. By facilitating projects like ours they continue the heritage of great engineering in Britain.'

Neven Sidor, Partner at Grimshaw, said: 'The Aerogenerator X embodies the best in innovative engineering in Britain, and continues an illustrious tradition. Grimshaw has great regard for this engineering tradition, and is delighted to help in its realisation.'

ENDS

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1. For further details or interview opportunities please contact Wind Power Limited at windpower@me.com, 07711 747334.

2. The image of the Aerogenerator is copyright of Wind Power Limited and must contain the following text: "10MW Aerogenerator X ©2010 Wind Power Limited and Grimshaw".

3. Aerogenerator X was launched at an event held at Grimshaw's London office called 'Wind and Light' and sponsored by Suffolk based Aspall Cyder. The event included a talk by Bella Bathurst, author of *The Lighthouse Stevensons* and *Love & Souplesse: A Biography of Bicycling*, to be published next year by HarperCollins. The talks will be available from Wind Power's Vimeo page in the near future.

4. Wind Power Limited's Aerogenerator project:

Wind Power's Aerogenerator project was originally developed in 2005 and was supported by a number of consultant engineers including BWEA founder member David Sharpe and Neil Thomas of Atelier 1. In 2008 the Aerogenerator project won a Shell Springboard Award and in the same year was shortlisted to compete for funding in the ETI Offshore Wind Program, which it secured as part of the NOVA Feasibility Project. For further details visit www.windpower.ltd.uk

5. About the ETI:

- The Energy Technologies Institute is a UK based company formed from global industries and the UK Government. The ETI brings together projects and partnerships that create affordable, reliable, clean energy for heat, power, transport and associated infrastructure. For more information, please go to www.energytechnologies.co.uk

- The ETI's six private sector members are BP, Caterpillar, EDF Energy, E.ON, Rolls-Royce and Shell. The UK Government has committed to match support from four further Members. The ETI's public funds are received from the Department for Business Innovation and Skills through the Technology Strategy Board and the Engineering and Physical Sciences Research Council (EPSRC). These organisations, together with the Department for Energy and Climate Change (DECC), are engaged directly in the ETI's strategy and programme development.

- The ETI will accelerate the deployment of affordable, secure low-carbon energy systems from 2020 to 2050 by demonstrating technologies, developing knowledge, skills and supply-chains and informing the development of regulation, standards and policy.

6. Aspall:

Aspall was established in Suffolk in the mid-18th century. It is a founder member of the influential Soil Association (1946). In addition to cyder, Aspall also makes apple juice and a variety of vinegars.