



WORLD'S FIRST INTEGRATED WIND TURBINES INAUGURATED IN BAHRAIN ***Bahrain World Trade Center leads the way in environmental architecture***

Manama, 8th April, - The Bahrain World Trade Center (BWTC) made history today as its pioneering wind turbines turned together for the first time. The three 29m-diameter turbine blades on Bahrain's iconic landmark are the world's first to be integrated into a commercial development, and are forecast to provide the equivalent of 11-15% of the power for the two towers when fully operational.

The successful installation of the turbines involved collaboration between Atkins Architects and Engineers and Norwin turbine specialists, who were in Bahrain for the inaugural turning and presentation to media. As well as the twin office towers the BWTC incorporates a high end boutique shopping centre, MODA Mall, along with a five-star Sheraton Hotel.

Mr. Ole Sangill, Managing Partner of turbine specialists Norwin who have been involved with the project from conception, was present throughout the installation process and at the inauguration, and commented: "This was of course a first for Norwin as it was for the real estate world, and we truly have pushed the boundaries of environmental architecture with this project. It is a testament to Bahrain that private developers are investing in sustainability and pioneering design, which is certainly the future of architecture as it shapes the planet in years to come."

Speaking at the event, Mr. Simha LytheRao Atkins Project Manager explained that the use of established technologies, including type-tested turbines with minimal modifications ensured that the additional cost incurred by incorporating turbines into the project was reduced to around 3.5% of the overall project value, making it not only an environmentally responsible but also a financially viable venture. He also explained how the elliptical shaped towers act as aerofoils, funneling and accelerating the wind velocity between them, and exploiting the unobstructed prevailing onshore breeze from the adjacent Gulf coast to provide a renewable source of energy for the building.

The incorporation of large-scale turbines onto a building is a world first. During the proceeding months the turbines will therefore undergo detailed analysis and optimization by Norwin to determine their actual electricity generation potential. The turbines are expected to operate approximately 50% of the time.

The project has also been the recipient of international acclaim for its commitment to sustainable development, being awarded LEAF Awards 2006 for 'Best Use of Technology within a Large Scheme' and recently the Arab Construction World 'Sustainable Design Award'. These accolades recognise the achievements of developments whose raison d'être is environmental protection and improvement, and provide public recognition for the individuals and companies who have attained the highest standards within the design and construction industry.

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About Bahrain World Trade Center

Situated on the Manama waterfront and in the heart of the region's leading financial and business hub, the Bahrain World Trade Center (BWTC) project comprises the two 50-storey sail shaped twin office towers, the five-star Sheraton Hotel as well as MODA Mall, Bahrain's only ultra high-end shopping destination, featuring some 160 luxury retail outlets as well as a host of modern cafes and exciting fine dining eateries.

The BWTC provides leading regional and international organizations with a world-class business address. The buildings are highly advanced in design and operation and are the Kingdom's first intelligent offices, employing the latest SMART systems capable of delivering unsurpassed security and maximum competitive advantages and efficiency in office management. In addition, they are the first of their kind in the world, using wind energy to provide 11 – 15% of the electricity needs of the office towers.

Other benefits enjoyed by local and international businesses occupying space at the development is membership to the World Trade Centers Association (WTCA). Locating at the BWTC offers an exceptional opportunity for connectivity with the global business community. With more than 300 centers in 100 countries, WTCA has a membership of approximately 750,000 commercial enterprises worldwide.

About Atkins

Atkins (www.atkinsglobal.com) plans, designs and enables the delivery of complex capital programmes for clients in the public and private sectors across the globe. Atkins is the largest multidisciplinary consultancy in Europe; the largest engineering consultancy in the UK; and the world's fifth largest design firm.

Atkins current projects include:

Major infrastructure works, including the Olympic Park for the London 2012 Olympics

Design and programme management of the civil works for the Dubai Metro red and green lines

High profile resort developments, such as Durrat Al Bahrain, a spectacular 20 sq km seaside city resort on the south coast of Bahrain comprising 13 man-made islands

Award-winning architectural landmarks such as the Bahrain World Trade Center

Ground breaking industry enterprises such as Manama's Tabreed Cooling Plant

Atkins was named among the "20 Best Big Companies to Work For 2008' by The Sunday Times; no. 1 in Building Magazine's top 250 consultants survey 2007.

About Norwin

Norwin is a wind turbine technology company with a high profile within new technology, research and development; with a strong home base in Denmark able to supply high quality products to specific markets; and with a few selected strong partners located in the global wind centers like China and India.

The company was founded in January 1992 as an engineering company by engineers from the former wind turbine company Danwin. The rights to the 225 kW turbine was taken over and the development of a larger 600 kW turbine was initiated, and completed in 1995. This turbine was as the first in the world featuring Active Stall Regulation – ASR – a system that later on was used by other major wind turbine manufactures. In the period 1992 – 1997 both turbines were manufactured in Germany on a license agreement.

Between 1996 – 2000 the 600 kW turbine was upgraded and approved for installation in Denmark and introduced in a range between 599-750 kW for this market.

From 2001 the activities on the **North American market** was accelerated for building up network activities within sale, distribution, promotion and O&M partners focusing on distributed energy and small wind farms. In 2007 the first two wind turbines have been sold to be installed in 2008.

In 2004 **Norwin** started a new line called "special projects" where the advanced knowledge and experience possessed by the company engineers was put into **building integrated wind turbines** i.e. the Bahrain World Trade Center. **Norwin** has the ambition to be a technology leader within land based turbines and special applications like building integrated wind technology.

All through 2003 to 2006 two of the most potential markets in the world – **India and China** – was under development and finally in 2007 Norwin entered into an agreement for manufacture of wind turbines in partnership with large privately owned companies in both regions.

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