



MEDIA RELEASE

15 September 2010

Windflow marks Major Engineering Achievement

Windflow Technology has achieved a major engineering success with the news today that Lloyd's Register has awarded its Type Approval Certificate to the Windflow 500 turbine. This confirms that the turbine meets Class 1A of the latest International Electrotechnical Commission (IEC) design standard IEC 61400-1 (edition 3).

Class 1A certification attests that the Windflow 500 will operate for more than 20 years in the strongest, most turbulent wind regime in the IEC classification. The Company reports that certification has required years of engineering horsepower and has set a new standard in wind turbine excellence in the medium size 500 kW category.

It gives interested parties and purchasers of the Windflow 500 turbine confidence that the turbine has been rigorously tested to operate in the highest strength winds. During the IEC process 2,800 pages of engineering calculations were scrutinised by Lloyd's Register along with more than 200 drawings and 37 specifications; the prototype turbine at Gebbies Pass (near Christchurch) was put through a regime of safety and mechanical load tests, as well as measuring its acoustics and power output. The blade was tested for its ultimate strength by the University of Canterbury and for its fatigue life at the IRL test hall in Auckland.

According to Chief Executive Officer Geoff Henderson the confirmation of IEC certification is the end of an engineering marathon and a strong kick-start to the international marketing drive that recently gained critical momentum through a policy change in the UK. The company has assembled a team of 20 professional engineers in its Christchurch headquarters supported by the company's commercial team, the skilled tradespeople in its nacelle assembly and blade factories, and the windsmiths in Palmerston North servicing its 66 operating turbines. The company, which is the only utility-scale wind turbine manufacturer in Australasia, currently employs more than 50 people directly and about 400 indirectly throughout New Zealand.

"We are immensely proud of our team's work and despite challenges along the way we always believed that our innovative Windflow 500 would speak for itself and affirm the confidence of our shareholders," said Mr Henderson. "Windflow Technology and the Windflow 500 have set a new wind energy benchmark and one that our supporters can feel very excited about. The turbine is designed for New Zealand's lean and mean economic environment as well as our turbulent high wind sites. Its fundamental economic advantage is that it uses fewer tonnes of materials (typically 50%) for the same output as competing 3-bladers (large or mid-size). The class 1A IEC Type Approval validates this lighter, smarter approach to operating at high wind sites."

Wind turbine certification is an independent determination that provides assurance of a turbine performing for a minimum of 20 years in a specified environment. Because the IEC certification standard prescribes required safety margins for all engineering calculations, compliance provides the statistical backup sought by those who finance and insure wind farms.

Currently 66 Windflow 500 turbines are installed in New Zealand. A full-scale prototype has been operating since 2003 at Gebbies Pass near Christchurch. Five began operation at the Te Rere Hau wind farm on the outskirts of Palmerston North in 2006 with another 60 being installed at Te Rere Hau

Windflow Technology Ltd
42-44 Mandeville St
Riccarton, Christchurch
PO Box 42-125,
Christchurch, New Zealand

T +64 3 365 8960
F +64 3 365 1402
E info@windflow.co.nz
| www.windflow.co.nz

between November 2008 and October 2009. In addition 32 turbines are in production and are planned to be installed at Te Rere Hau by mid-2011.

Background

Windflow Technology was built around the pioneering engineering efforts of Geoff Henderson and his team as they determined designed, built and marketed the breakthrough two-blade wind turbine with innovative design features including a 33 metre diameter teetering rotor, a torque-limiting gearbox and a 30 metre tall tower.

A pre-requisite to the IEC certification was ISO 9001 certification which Windflow Technology achieved in June 2008.

IEC Milestones

ISO 9001	June 2008
Design approval	
Nacelle	May 2010
Rotor assembly	May 2010
Tower	September 2010
Type testing	August 2010
Manufacturing evaluation	August 2010
Type Approval	September 2010

Windflow Technology: Business Milestones

- **September 2001:** Initial public offering raises \$2.6 million. This provides the funds to commence developing the prototype and seek a Resource Consent for the first site at Gebbies Pass on Banks Peninsula, near Christchurch.
- **July 2003:** Installation and start up of the prototype turbine at Gebbies Pass.
- **September 2003:** A 1 for 2 Rights Issue raises just under \$5 million. This provides funds to continue development of the turbine and the Te Rere Hau wind farm site.
- **November 2003:** Windflow Technology is one of “the first fifteen” companies listed on the NZAX market when it opens.
- **December 2003:** Granting of 519,000 tonnes of carbon credits to NZ Windfarms, then a wholly owned subsidiary of Windflow Technology, for the development of the Te Rere Hau wind farm near Palmerston North.
- **February 2005:** Granting of a Resource Consent to NZ Windfarms to develop the 97 turbine Te Rere Hau wind farm.
- **June 2005:** Windflow Technology raises \$3.3 million by way of a further Rights issue.
- **December 2005:** An initial public offering by NZ Windfarms raises \$4 million followed by listing on the NZAX. Windflow Technology’s stake is accordingly reduced from full ownership to a 43% shareholding.
- **August 2006:** A consortium of Babcock & Brown and NP Power enter into a 50-50 joint venture arrangement with NZ Windfarms for the development of Te Rere Hau wind farm plus possible other sites.
- **September 2006:** Installation and start up of the first five turbines (of 97 in total) on the Te Rere Hau wind farm. The farm is opened by the Prime Minister, Rt. Hon. Helen Clark.
- **October 2006:** Exercise of options by NZ Windfarms shareholders raises a further \$4 million, diluting Windflow Technology’s shareholding in NZ Windfarms to 27%.
- **May 2007:** A subsequent public offering by NZ Windfarms raises \$75 million including Vector Limited taking a cornerstone stake of 19.9%. Windflow Technology’s shareholding in NZ Windfarms dilutes to 3%.
- **September 2007:** Windflow Technology establishes its own nacelle assembly factory in Riccarton, Christchurch and moves to adjoining offices.
- **January 2007 - October 2008:** The Te Rere Hau joint venture orders further 92 Windflow 500 turbines to be installed at Te Rere Hau.
- **October 2007:** Windflow Technology wins the Sustainable Business Network’s Sustainable Design and Innovation Award and the Energy Efficiency and Conservation Authority’s Product Innovation Award for its Windflow 500 turbine.

- **November 2007:** Windflow Technology raises \$5 million in a fully-subscribed Rights issue.
- **December 2007:** Windflow Technology acquires remaining 50% of Wind Blades Ltd (its blade manufacturing operation in Pakuranga, Auckland).
- **April 2008:** Windflow Technology staff numbers 50, a major increase from 15 in April 2007.
- **June 2008:** Windflow Technology forms a Joint Venture with AH Gears (its gearbox manufacturer in Auckland), called Wind Gears Ltd.
- **June 2008:** Windflow Technology gains ISO 9001 certification.
- **June/October 2008:** The company announced on 30 June 2008 an agreement with State Owned Enterprise electricity generator and retailer Mighty River Power under which Windflow Technology will construct a wind farm (Long Gully) for Mighty River Power using Windflow 500 turbines. State Owned Enterprise electricity generator and retailer Mighty River Power buys a 19.95% cornerstone shareholding in Windflow Technology.
- **September/October 2008:** Windflow Technology raised \$10.3 million through the September options exercise, private placements, and the Mighty River Power share purchase.
- **November 2009:** 65 turbines operating at Te Rere Hau wind farm.
- **March 2010:** NZ Windfarms receives consent for an additional 56 Windflow 500 turbines at Te Rere Hau wind farm on an eastern extension.
- **May 2010:** NZ Windfarms raises \$31.4 million to complete Te Rere Hau wind farm.
- **June 2010:** Long Gully wind farm south-west of Wellington receives consent for 25 Windflow 500 turbines, clear of appeals.
- **August 2010:** Windflow Technology signs UK Distributor Agreement with Ventus Green Energy to maximise the wind energy opportunities for 500 kW turbines under the UK government's feed-in tariff scheme.
- **September 2010:** Windflow 500 receives IEC Type Approval Certificate from Lloyd's Register.