

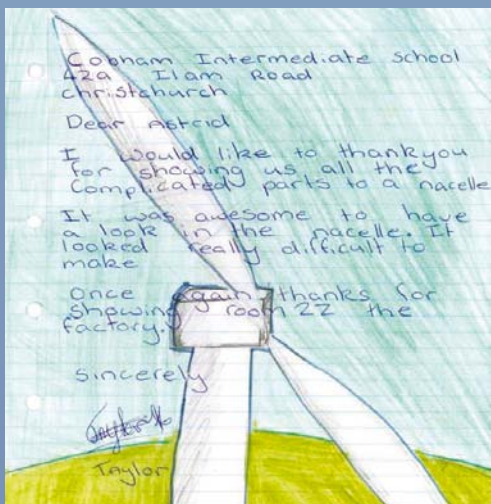
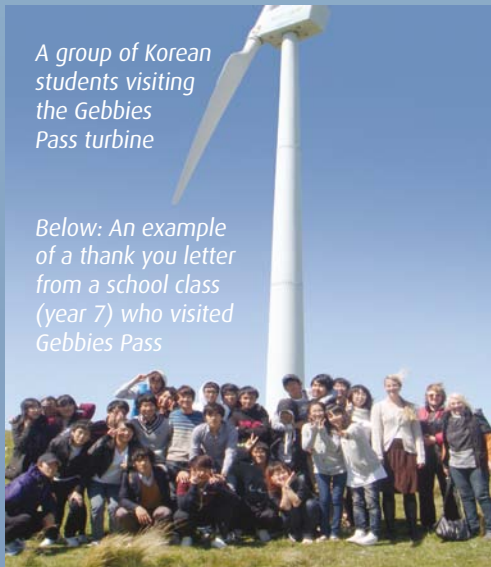
N° 30, December 2010

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A group of Korean students visiting the Gebbies Pass turbine

Below: An example of a thank you letter from a school class (year 7) who visited Gebbies Pass



## CEO Introduction

2010 has been an interesting year for the company with the achievement of some key goals, a few surprises (including the September earthquake) and exciting activity in new markets. We expect 2011 will bring more of the same – but hopefully without another natural disaster!

Completing our International Electrotechnical Certification (IEC) in September was a major highlight. The Windflow 500 fleet now boasts an operational track record of more than 110 turbine-years, and the turbines at Te Rere Hau continue to deliver operating availability around 96%. Both of these factors offer confidence to potential customers and to those financing wind projects.

Construction of the fourth stage of Te Rere Hau started in the spring and is going well. We are aiming to have a further 12 turbines installed and operating by the end of the year, bringing the number of turbines at Te Rere Hau to 77. The remaining 20 turbines will be installed and brought online by midyear.

The recent rights issue raised \$3.3 million, which strengthens our balance sheet and puts the company in a better position to enter the UK market and continue our activities in NZ and in selected export markets. The response from our shareholders was pleasing, and we thank you for your continued support.

The current market for distributed wind generation in the UK is very exciting, thanks to a new law mandating a lucrative feed-in tariff through March 2013 for renewable energy projects under 5 MW. Mid-size turbines such as the Windflow 500 are in high demand in the UK this year, and Windflow's market entry through our distributor VG Energy is well underway.

Early this spring, members of our sales and marketing team participated in two trade shows, where they were virtually swamped by sales leads. I spent some time in England and Scotland myself in September, and was encouraged by the breadth and intensity of the apparent demand for our turbine.

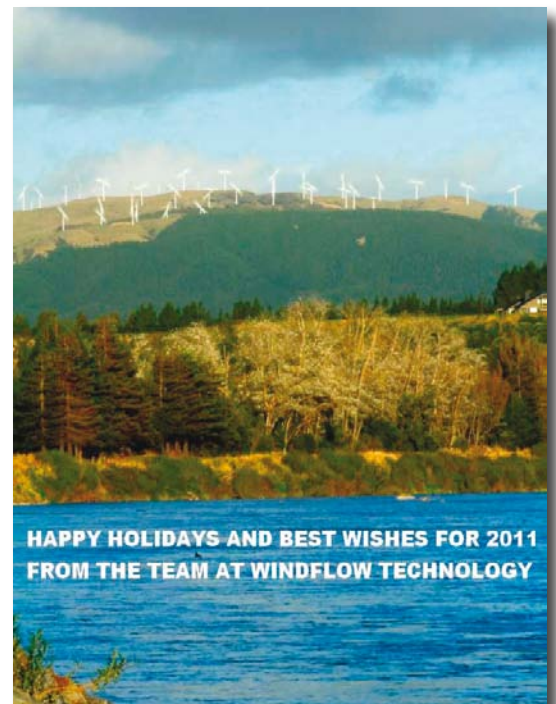
The first planning permission for a single Windflow 500 turbine in Scotland was granted in early December. We look forward to helping VG Energy usher further projects through the planning pipeline, and through the required grid connection agreements so that the projects may turn into our first confirmed export orders.

In November, Windflow was named the winner of UK Trade and Investment's market entry competition, which provides support to fast track our efforts there. Nick Bowmar from Windflow's Christchurch base has relocated to Glasgow as UK Business Development Manager to directly assist the distributor and the turbine purchasers.

Our plans to enter the US market also took a step forward in the last few months, through securing a demonstration site for two Windflow 500 turbines in Palm Springs, California. With IEC certification finally completed, we look forward to focusing more of our engineering effort on developing the 60 Hz turbine and our other planned new products and product improvements.

Wishing you a very merry Christmas and a happy and prosperous New Year,

Geoff Henderson  
CEO/Director

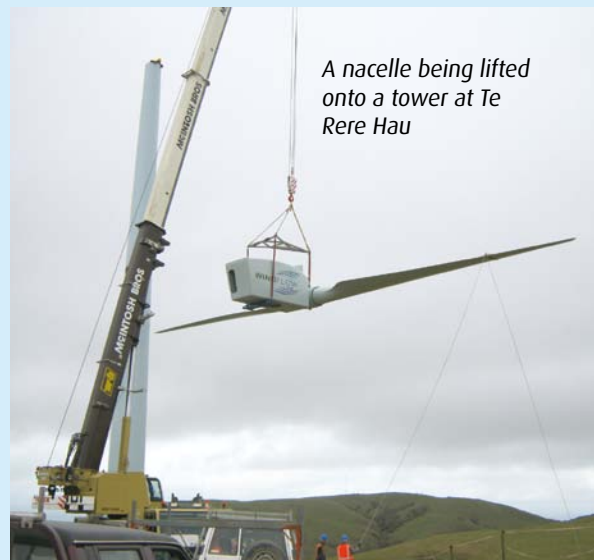


## Te Rere Hau Stage 4 Update

The Te Rere Hau wind farm near Palmerston North is progressing well. Stage four of the wind farm, consisting of 32 turbines, will be situated on the eastern TRH Extension site, where NZ Windfarms has been preparing the civil works and electrical connections before the turbines arrive on site. The first towers for Stage 4 started to be installed in September with nacelles and blades coming out of storage and being delivered to site in October.

Over the last month the construction team have erected two nacelles a week, in effect working at double the standard erection rate. Construction is on track to have 12 nacelles handed over to the commissioning team before Christmas. It is expected all erected turbines will be safely yawing and many turbines doing their 10 day reliability runs over the Christmas period.

The remaining 20 turbines will be installed and commissioned by mid 2011, bringing the total number of Windflow 500's on the Te Rere Hau site to 97.



*A nacelle being lifted onto a tower at Te Rere Hau*

## Rights Issue Raises \$3.3 Million

Windflow Technology Limited's 1 for 2 Renounceable Rights Issue, which closed on Friday 3 December, has raised in excess of \$3.3 million (including \$1 million from the partial underwrite by Aeolian Property Company Limited). This represents more than 60% of the \$5.4 million maximum possible subscription by shareholders.

"We are pleased with the uptake by our shareholders", said Chairman Barrie Leay. "Their loyal support enables us to progress into 2011 with increased confidence."

The funds will primarily be used to support Windflow's entry into the United Kingdom wind turbine market, where the incentive of a Feed-In Tariff recently introduced by the UK Government has created high levels of enquiry for the company's IEC certified 500 kW wind turbine.

## NZ Export Credit Office Confirms Advance Payment Guarantee

In a first for the New Zealand Government, the New Zealand Export Credit Office (NZECO) has offered to cover 100% of Windflow's Advance Payment Guarantee requirements for the first 20 turbines (up to NZ\$11 million). Windflow submitted its business plan to NZECO and its bank, BNZ, in September requesting Advance Payment Guarantees to cover the deposit and first progress payment paid by customers before the turbines are shipped. This will make it easier for the customers to get loans and Letters of Credit from their banks, and therefore be able to place orders for Windflow 500 turbines.

## UK Pipeline Progresses

Windflow's distributor VG Energy (formerly Ventus Green Energy) was granted planning permission for the first Windflow 500 turbine in South Lanarkshire last week. This is great news, and the landowner is now awaiting the result of the electrical line survey (which provides capacity availability and connection costs) before an order can be forthcoming.

VG Energy have a further 15 turbines awaiting the results of planning permission applications and line surveys, each of which takes at least three months to process, possibly longer as a backlog is expected to develop due to the high number of wind turbine applications around the country.

VG Energy has received over 370 expressions of interest from Scottish farmers wanting information about the Windflow 500. 29 of these landowners have paid Ventus Green Energy to apply for the appropriate planning consent to install a Windflow 500 in Scotland. VG Energy is actively conducting more site surveys and feasibility studies, and planning approval is being sought for suitable turbine sites as part of the process of turning enquiries into firm orders.

In the beginning of December, Windflow's Nick Bowmar was promoted to Business Development Manager UK and relocated with his wife and five children from New Zealand to Scotland.

Nick is already busy helping VG Energy with Windflow 500 enquiries and promotional activities, and is also meeting representatives of UK banks in order to start getting the turbine 'pre-qualified' for financing. Two renewable energy events scheduled for December in Scotland have been postponed until January due to the heavy snow.



*Nick Bowmar in front of Dean Castle in Scotland. VG Energy's head office is in this old converted farm house*



## US Demonstration Site

Windflow Technology and Dutch Energy Corporation (DEC) have signed a Memorandum of Understanding that will allow the installation of two Windflow 500 wind turbines into a site on DEC's wind farm in Palm Springs, California once formal agreements between the two companies have been completed. DEC have power purchase agreements and consents to operate 33 500 kW 2-bladed turbines, and currently operate turbines on 31 of the 33 consented sites.

According to Windflow CTO John Arimond, a US emigrant who joined the Company in 2006, "We see a US market entry opportunity in repowering the older wind farms in southern California. 20 years ago, Californians were already operating nearly 1200 MW of small and mid-sized wind turbines, 60% of the world's capacity at the time. Many of California's older turbines are reaching the end of their serviceable lives. The logistics of repowering favour our mid-sized turbine, as the location of each new turbine needs to respect the required setbacks from existing turbines, roads, transmission lines and other obstacles."

Dutch Energy Vice President Herman Drees adds "Since 1994, we have owned and operated 500 kW 2-bladed turbines in Palm Springs from the Dutch manufacturer NedWind, who ceased manufacturing in 1997. I am impressed by Windflow's more modern and innovative 2-bladed design and their growing track record in New Zealand, and I look forward to seeing their turbines perform on US soil."

## Windflow 500 wins NZ Timber Design Award

The Windflow 500 was entered in a NZ Timber Design Award and was a joint winner of the Clever Wood Solutions Award and was also highly commended in the Outdoor Infrastructure category. The awards were presented at a gala evening at Te Papa in Wellington in October.

The blades of the Windflow 500 are made of laminated NZ Pinus Radiata. Other wind turbine manufacturers use various components for wind turbine blades, usually a composite. The turbine received the Clever Wood Solutions Award due to its solution to the common difficulty with laminated timber construction being attached to other solid structures.

The innovative steel connection at the blade root has been tested many times during Windflow's IEC Certification process and has proved abundantly strong in this critical area.



*Left: Windflow's Design Manager Richard Trudgian (right) receives the award*

*Below: The clever wood solution that won the joint award prize*



## Windflow CEO Judging Wild Energy Competition

Windflow CEO/Director Geoff Henderson is one of the judges of Wild Energy - a green energy design competition. The competition is an invitation to the designers and inventors of this world to share their ideas about green energy, so that we in New Zealand, and others facing similar energy demand issues world-wide, can face this challenge from a fresh, inspired perspective.

Co-organiser Charlotte Squire says Wild Energy came about in response to plans to flood some of New Zealand's most pristine and wild rivers and valleys to create hydro-power dams.

The other judges on the panel are: Jeanette Fitzsimons, Tim Wigmore (a Wellington based designer), Steve Goldthorpe (a Waipu based energy analyst) Chris Heaslip (an Invercargill based engineer), National MP Nicky Wagner, Labour MP Charles Chauvel and Green Party MP Kevin Hague.

You can read more about the competition here:

<http://happyzine.co.nz/2010/10/18/happyzine-announces-the-launch-of-wild-energy-the-green-energy-design-competition/>

## Windflow Wins UK Market Entry Competition

Windflow was pleased to win the UK Expansion category (for companies with an annual revenue exceeding \$2 million dollars) of the UK Market Entry (UK-ME) business competition, an achievement that further endorses the significance and timing for the Windflow 500 in the UK. Eligibility to enter into this category included confirming an intention to have a physical presence in the UK within 18 months.

Windflow CEO Geoff Henderson said, "Winning the competition and having the company's business case for UK scrutinized by business professionals reinforced that the company's export strategy and focus on UK was right on target."

The prize is a business support package worth up to \$50,000. The package includes complimentary UK return airfares, meetings with potential business partners, contacts and networks, free Company, PAYE, VAT registration and immigration advice and UKTI & NZTE support.



*British High Commissioner Vicki Treadell and Geoff Henderson inside a nacelle*

## Blade Test to Destruction and IEC Celebration



The blade back on the test rig at IRL



The Windflow 500 blade passed its International Electrotechnical Certification (IEC) fatigue test in May 2009 after 5.8 million cycles of 'flapping' on the test rig at Industrial Research Limited's facilities in Auckland. The blade was certified by Lloyd's Register as meeting the requirements of IEC Technical Specification TS61400-23 for a design life of twenty years in high wind and high turbulence conditions.

The engineers at Windflow wanted to test the blade to destruction in order to see how long the blade would actually last and also to confirm the accuracy of previous timber coupon testing. That meant 'flapping' the blade at 1.2 metres at the tip (2.5 times more than the fatigue test) to speed up the process.

The blade finally failed at almost 6 million cycles (only 118,437 of the big flaps) which is equivalent of 4,250 years of use. At the point of failure it has several big cracks in the wood.

Windflow took the opportunity to celebrate the IEC Certification at the same time as the blade visit and about 40 people including suppliers, representatives from the electricity companies and politicians (including Russell Norman, co-leader of Green Party) joined in celebrating Windflow's achievements.

## Gebbies Pass Open Day

Sunday 6 February from 3-5pm.

Meeting point and car parking: Wheatsheaf Tavern in Teddington

A bus will leave at 3pm, 3.30pm, 4pm and 4.30pm to transport you to the Windflow 500 turbine

Bring warm, wind-proof clothes and good shoes

In case of cancellation due to bad weather on the day, please check: [www.windflow.co.nz](http://www.windflow.co.nz) or ring Sheralee on 021-946-333. Anyone is welcome, it is free, and if you know of someone who might be interested, please tell them about it.

## Welcome New Staff

### Andrew Yearsley - Control Systems Engineer

Andrew has worked for Windflow since September whilst being based in Auckland, his hometown, but Andrew is moving down to Christchurch over Christmas with his wife and baby daughter. Andrew has a Bachelor of Engineering (Mechatronics) Degree and previously worked as Controls/Automation Engineer at System Controls Ltd. Much of his work was with airport baggage handling and automated concrete batching systems. As a part of that Andrew also spent five months in Santiago Airport (Chile). Andrew is looking forward to spending time tramping in the Southern Alps.

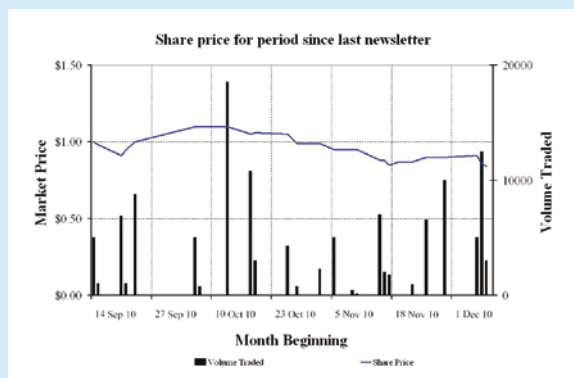


### Nick Merrett - Windsmith

Nick also joined Windflow in September but in Palmerston North with the Te Rere Hau team. Nick has a mechanical background and the last couple of years he worked in Australia in a mine and at a train yard. Prior to that Nick was in the NZ Navy. Nick is originally from Waihi Beach and likes classic cars and he owns a '67 Mustang.



## Share Graph



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