



**NEWSLETTER N° 3
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“To become the leading
supplier
of wind turbines for
wind power projects in
New Zealand and Australia.”



Welcome to Windflow



Our first wind blade on a truck on its way to Christchurch....

Welcome to our third newsletter as we report on progress with our project.

The official start date for our project was with the allotment of the shares and release of the funds held in trust on 28th September 2001. For our team of 6 hardworking employees (plus directors, advisors and service providers) the last 10 months has fair whizzed around and only seems like yesterday. A lot has been achieved and a lot more is yet to be achieved. The real results of our labours will be known in a very visible and public way prior to Christmas.

What is most pleasing for our team is that at this stage in the project, we are still running very much to time and within budget. Although these words roll out easily they belie the huge amount of effort that has gone in to achieve it.

What is additionally pleasing is the explosion of interest in wind power in New Zealand right now. Genesis Power and Meridian have just announced projects. Several private developers are presently in the market seeking expressions of interest. Almost weekly now we are being approached by investors, commercial consumers and land owners expressing interest in what we are doing and seeking our assistance in a number of different ways. The timing of all of this is absolutely perfect with our plans to roll out our windmill technology in the near future.

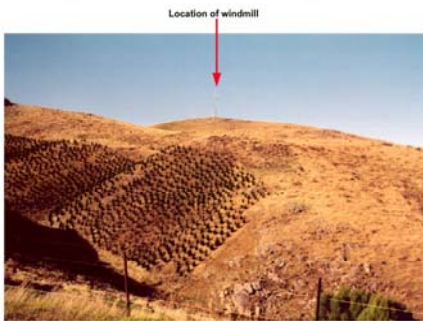
Our future looks bright and windy....

Neil Cherry
Chairman

Site Issues

Resource Consent

The Resource Consent Application for the building of the first windmill at the Gebbies Pass site was lodged with the Banks Peninsula District Council late in June and was publicly notified by the Council on July 20th. The closing date for submissions is 16th August.



View from road - side just south of the top of Gebbies Pass.

We have undertaken considerable consultation with neighbours in the local community and various public interest groups. This started with the Open Day late in April and has continued since. It is most pleasing that, with very few exceptions, the reaction from those we are dealing with has been constructive and in fact supportive. A number of persons within the affected area have already signed consents approving the project.

One of the few areas of concern expressed has been that of the noise arising from the operation of the windmill. We have been undertaking some sound monitoring work in association with local residents and this is helping considerably to define and rationalise the extent of any possible problem.

One significant point in favour of wind power is that when a windmill is operating at maximum power, the wind is blowing strongly which in turn increases the amount of background noise. Thus one typically has to worry about only the relatively infrequent occasions when there is sufficient wind for the windmill to be operating (typically on top of a hill) but it is still quite calm in a nearby valley. Some residents near our site are concerned about this, but their houses are 1 km away so the sound levels are expected to be very low at their properties.

The forward timetable for the Resource Consent Application is that the submissions close on 16th August. The District Council will then convene a hearing for interested parties and this is likely to be in mid-September. They will then issue their determination. All going as planned the Resource Consent will be to hand in October, which is within good time for the remainder of the project.

Ministerial Visit

Minister of Energy, Pete Hodgson took 30 minutes out of his busy election campaign schedule to visit the Farra Castings factory in Dunedin specifically to see progress on the Windflow hub and pitch change components.

Wind Resource

We reported at the March AGM and in Newsletter No 2 that the wind resource at the Gebbies Pass site “appears to be very good”. Unfortunately our optimism was based on bad data as we soon afterwards found a problem with the wind monitoring equipment which was resulting in an overstatement.

All of this has now been corrected and double-checked. On this basis our best estimate of the average wind speeds at 30 metre hub height will be 9 metres per second. This is still very windy by world standards but about 10% less than the 10 metres per second we thought we had (though still considerably better than our first site).

In New Zealand average wind speeds of 10 m/s and better are considered optimum for wind farm development.

What does this mean to the project?? Well it means that the first windmill won't be subjected to average wind speeds as high as we intended and will produce about 15% less electricity than originally projected.

On the first point, Executive Director Geoff Henderson believes that it will amply test the technology and at average wind speeds 50-80% higher than typical in Europe.

On the second point, the first windmill at any speed was not going to be a financial whiz as a wind farm of 20 plus units is needed for viability. The proximity to Christchurch will more than compensate for the reduced revenue by reducing the cost of travel – the first unit is likely to be visited on a daily basis for monitoring or marketing purposes in its first few months. It is highly unlikely that we would find a better site as close to Christchurch.

Engineering Progress

General

Generally speaking the engineering of the various engineering components is progressing well.

AH Gears Ltd of Auckland are making steady progress with the Torque Limiting Gearbox and they already have a large number of components machined and ready for assembly into the gearbox in due course. This gearbox is one of the two “engineering breakthroughs” that are at the heart of the Windflow technology.



Farra Castings of Dunedin are now completing the patterns, which underpin the casting of the blade hub.

Evaluation of bids for the building and erection of the nacelle and tower are presently being undertaken and contracts will be let on these shortly.

The erection and commissioning of the windmill should be complete by the end of the year.



Wind Blade Test

Even though we only need two blades for the first windmill it was always intended to build three, the first of which would be used for extensive testing. Because of the importance of the blade to the operation and safety of the windmill and because blades had never before been built out of radiata pine, it was considered prudent to perform these tests.

The first blade was completed mid-July. This is a major milestone - it is probably the **first sizable wind turbine blade built in the Southern Hemisphere!** After being transported from Auckland to Christchurch, the blade was tested at the University of Canterbury.

Three tests were performed. The first was a proof test whereby the blade was subjected to loads simulating 1.5 times the worst stationary load case (in a high, storm-wind condition with the turbine shut down). The second was also a proof test and this time the blade was subjected to loads simulating 1.5 times the worst operating load case.

Finally, there was a destructive test using the operating load distribution but continuing past the proof load until the blade broke. Although some might wonder why the destructive test is required Executive Director, Geoff Henderson points out that the stresses to which the blade was subjected in the proof tests may have weakened the blade. And when you consider that each blade is 16 metres long and is rotating at 50 rpm 30 metres above the ground you can't afford the risk of a weakened blade. Therefore it makes sense to break the test blade to provide final confirmation of the design and manufacturing.

Tim Barnett (MP for Christchurch Central), shareholders and other interested people were invited to view the final test, which took place on Wednesday, August 7th. About 250 people including students crowded onto the mezzanine floor of the Structures Laboratory for the occasion. Before the destructive test Geoff Henderson made a brief presentation which he concluded by commenting that:

“Many times over the last 8 months, I have marvelled at the depth of expertise in composite building and timber engineering we have in this country. Over the last 12 years I have said many times that we have the best boat-builders in the world here in New Zealand, which makes windmill blade manufacturing a natural for us to take on. The last 8 months have really vindicated that and we are about to witness the fruits of that expertise.”

In the event the failure load was at the predicted level and the location of the failure point was within 0.5 metres of the predicted location, a very pleasing result!





NZWEA Conference

Stage 2 Capital Raising

Annual General Meeting

We have scheduled the Annual General Meeting for the company for 7.00pm Thursday 31st October in Christchurch. The Annual Accounts for the first year's operation (through to 30th June 2002) will be available mid-October.

Share Sales

Two parcels of Windflow shares have now been traded:

<u>Date</u>	<u>Number</u>	<u>Price (NZ\$)</u>
13/4/02	2011	\$1.85
28/5/02	2000	\$2.10

This Newsletter is produced by Windflow Technology Limited for the information of its shareholders and other interested persons. It will be posted on our web-site.

Have we got your correct address details, including current e-mail address? If not, let us know.

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Executive Director, Geoff Henderson and Mechanical Engineer, Warwick Payne attended the New Zealand Wind Energy Association Conference in Wellington 19th-21st July. Geoff presented two papers:

- a Windflow progress report, and
- one on "referred generator inertia (RGI)", which was recently drawn to his attention by gearbox designer, Ray Hicks. Both Ray and Geoff believe RGI causes many of the gearbox failures being experienced by competing wind turbines and that the Torque Limiting Gearbox has a major advantage as a result.

Warwick presented a paper on the manufacture of the wind blades. Both technical papers are now on the Windflow web-site. The conference was attended by over 150 persons and continues to go from strength to strength.

Windflow had a display booth as part of the associated trade exhibition and produced a new brochure for the occasion. This is also on the web-site.

Staffing

Francis Jackson, our at times very colourful sky-diving Assistant Mechanical Engineer has now returned as scheduled to Toronto to complete his University studies.

Francis did some great work for the project and we are sure that we will see some more of him.

Shareholders will be aware that the capital raised in 2001 for Stage 1 needs to be supplemented by more capital for Stage 2. This was set out in the Prospectus and Investment Statement.

Your directors have recently commenced planning for Stage 2. After considerable discussion and advice they have decided to develop a slightly different capital structure to that originally planned. Rather than Windflow Technology Ltd raising all the capital and then investing in a wind farm, we would now prefer to raise:

- Some of the capital in a new, wind farm company (and this would focus solely on building and operating wind farms), and
- The remainder of the capital in Windflow (which will become the technology developer and windmill manufacturer).

There are a number of advantages in this revised structure in that each company can concentrate on one core business as well as giving investors the ability to balance their portfolio between a green electricity company (the wind farm company) and a windmill technology/manufacturing company (Windflow). This structure also gives a better long-term path.

Although a lot of work has yet to be done, the Directors believe that they will be ready by the AGM (Thursday, 31st October) to put to Shareholders the necessary resolutions for Stage 2 to proceed. They would like to have the Offer Documents ready for circulation about the same time as the first windmill is commissioned (pre-Christmas). The subscription closing date would be around 1 March 2003.