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## Neil Cherry, scientist, teacher, politician, peace worker

### Part 12

#### Wind energy and *Windflow*

*Dorothy - 26/08/03*

**Neil strongly believed in the importance of windpower despite much opposition. He believed that it was important for New Zealand to have windfarms to provide electric power at low cost with minimum effect on the environment. This led to his involvement in Windflow Technology with Geoff Henderson.**

**Neil continued his comments on the impact of "Establishment Science", now looking at attitudes to windpower**

Defending his viewpoint he said,

"I am aware of manipulation happening in many areas. It is a very broad area of spinning the science away from the public health protection, spinning the evidence away from renewable energy. It is said that wind power can't work because wind turbines produce only half a megawatt or one megawatt, and what we need is a 200 megawatt power station. That means that you need a wind farm of 200 one-megawatt turbines. In fact if you are wanting a 200 megawatt hydro dam how many years is it going to take to build it? If you want to establish a wind farm and put in fifty wind turbines a year then you are going to match the load growth much more closely and get the return for your investment much more quickly. I explained this to the Royal Commission on Nuclear Power and to many other people, which is why I am supporting wind power. It is much cheaper than hydro power now, and much cheaper than thermal power even if there is no carbon tax.

"In the mid to late seventies I had a private debate on this subject with Bill Birch who was the Minister of Energy and promoting the Think Big projects which were going to generate 410,000 jobs. I was talking about promoting a wind turbine manufacturing industry in New Zealand because we had the preliminary results of the Wind Survey work. The committee had decided that they would fund the Wind Survey work before they would fund any technology development. I went to Wellington to see the Minister and say, 'You have got this big investment in all these energy projects. Now that we have the preliminary results showing that there are very windy places around New Zealand why don't you put say a quarter of a million dollars into a wind turbine generating industry?' That was my estimate of what it would take for a 450 megawatt wind farm at that time if the turbines were built locally.

"What Mr Birch said at the time was that we have the Clyde high dam proposal which we are about to approve for 152 million dollars for a 450 megawatt generator. I replied that this was why I had costed a windfarm for an output of 450 megawatts, and we now

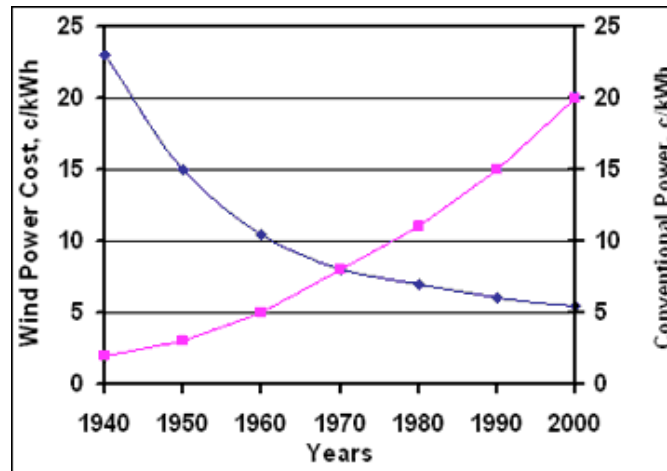
know that it can be done for well within the cost I have estimated. The Clyde Dam cost at least 1.6 billion dollars. That is one of the reasons why wind power is now having the biggest development of any renewable energy source in the world. It has really taken off because it is cheaper.

"The position I take now is quite consistent with the one I have taken for over twenty years. I was at a Sustainable Energy Conference in the early 80s at Waikato, organized by the Sustainable Energy Forum. The Chair of the Forum, a former Parliamentary Commissioner for the Environment, presented a graph which showed the cost of conventional electricity which was rising, and the cost of renewable energy which was falling.

"His view was that about ten years before they cross each other we should invest in renewable energy because then when it comes to the cross point you will have the technology, it will be generating electricity and you will be still going down while it is going up.

"Geoff Henderson and I were at the conference and we looked at each other," Neil recalls, "and said 'Would you like a prediction about when that cross-over point is going to take place?' The Chair replied that it was what they were looking for."

Neil's comment now is that the conference was over ten years ago and we had already passed that cross-over point about ten years prior to the conference.



**Figure 1:** Schematic Graph to illustrate the rising cost of conventional power (pink), now primarily thermal power stations, and the falling cost of wind power (blue), with a cross-over point in 1970.

"For wind power we are over the cross-over point, but for solar electric power we are still heading towards that line. The figure for passive solar home heating is well below the line because it would now cost less than 8 to 10% increase in a house building price. The pay back time is around three years."

### The beginning of Windflow Technology

In 2001 an article about [Windflow](#) was published in NZine in which the following statement appeared.

"For Windflow Technology Ltd to succeed it needed a mechanical engineer highly skilled in the design of the machinery involved, and a scientist skilled in meteorology and knowledgeable about wind energy resources."

Fortunately in 1985 two people with these specialisations met when working in the United States - Geoff Henderson engineer, and Neil Cherry meteorologist.

Neil's enthusiasm for the development of wind energy in New Zealand was concisely described by Geoff Henderson, Managing Director of Windflow Technology, at the service held to honour Neil's life and work on May 30 2003.

### Geoff Henderson's eulogy

"I first met Neil and Gae in 1984, when Jenny and I were living in California and Neil was on sabbatical at the University of California

at Davis. Those were the wind rush years in California, and Neil naturally wanted to visit the wind farms at Altamont Pass. When people told him there was a Kiwi engineer working on the wind farms, he made sure he contacted me.

"Of course I knew Neil by reputation. He had had a leading role in the wind resource surveys carried out by the NZ Energy Research and Development Committee in the 1970s. And I subsequently learned he had been contracted by the US Department of Energy to do a wind resource survey of the world. So it was an honour to meet him then, have Neil and Gae around for a meal, and show them the wind farms where I worked.

"It was several years before we met again, when Jenny and I returned to NZ in 1991. Neil and I were members of a committee which ECNZ convened for a few months to review their proposed research direction.

"From that time on, Neil became a consistent supporter of the Windflow project, speaking publicly at wind energy conferences on the merits of local manufacturing, and on the difficulties that a Kiwi with overseas experience can have in being ranked alongside the *overseas experts* we instinctively doff our hats to. Yes, Neil certainly spoke from experience there.

"But it was some years before I approached Neil to become a director of Windflow. My hesitation was largely because I did not want to compromise his neutrality both as a local body politician and as a respected wind energy scientist. Neil's reactions to these concerns was typical of the man. He took about one minute to consider his reply, dismissing the political issue on the grounds that regional councils are not likely to be involved in wind turbine consents (there being no air or water discharges involved), and that should any matter arise at the Regional Council which created a conflict, he would simply declare and withdraw if necessary. 'Plenty of regional councillors have directorships', he advised.

"But most importantly," he went on, "it was a case for him of standing up for something he believed in."



Neil with the model of the Windflow windmill which sat on his desk

#### **Neil with the model of the Windflow windmill which sat on his desk**

#### **Successes of the Windflow project - important stages in the fulfilment of Neil's dream**

Windflow Technology now has a windmill set up in Gebbies Pass on Banks Peninsula. It has been built to the design developed by Geoff Henderson who believes that his windmill design is superior to others because he is the only person who has solved the problems involved in designing a gearbox for windmills.

With the help of his wife Gae and friends one week before his death Neil was able to be taken to the site in Gebbies Pass to fulfil his dream of seeing one of Windflow's windmills erected. The name plate on the windmill reads *Neil*.

On May 31, the day after the funeral, Gae, the family and close friends returned to the site to see blades turning in test runs.

Then on June 9 the 500kW turbine at Gebbies Pass was officially launched by the Energy Minister, Hon. Pete Hodgson, and the turbine began contributing 100kW an hour into the national



**Neil and Gae at the Gebbies Pass windmill site on May 17**

[Click here for a larger version](#)

grid enough to power the Christchurch City Council's main office in Tuam Street.

This was an important stage in the fulfilment of Neil's dream.

*For more information about Neil Cherry's scientific research go to his website [www.neilcherry.com](http://www.neilcherry.com)*

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