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TUESDAY, SEPT

Board probes air generation Wind power may come to Manawatu

"Evening Standard" reporter

WEATHER



CLOUDY

HOME

TO midnight tomorrow: Moderate west or north-west winds. Cloud increasing and some drizzle patches likely. Cool.
Outlook: Mainly cloudy.

Inside

Old wounds opened up - 20

- STATE and Roman Catholic school integration is a myth, according to Massey professor Ivan Snook. It's opened up all the old anti-Catholic wounds.

Cash-stuff envelopes - 3

- THEY had a habit of finding their way to President Johnson's desk, says an article in Atlantic Monthly.

A dirty word - 14

- FROM next month the term 'divorce' will disappear from New Zealand, and with it may go much of the public agony associated with marital breakdowns.

PRELIMINARY investigations into wind power in the Manawatu are being looked at by the Manawatu Oroua Electric Power Board. Yesterday, the board took the first step toward investigations by deciding to check out what wind conditions are like in the region.

After that has been done the economics of the proposal will be studied.

However, it seems until wind generating units can be mass produced, wind generating still might be years away from being an economic alternative in New Zealand.

Board engineer-manager Mr Murray Macphee recently looked into wind turbine generators while visiting Hawaii and California.

He said his board only has fairly limited opportunity for hydro development schemes, but "the Manawatu is reasonably well-known for its winds."

He said the board is keen to look at any means of power generation, particularly with renewable resources.

Mr Macphee told the board the weather office was recording wind velocities in a number of areas, including on Wharite Peak.

There, recordings have been taken for the past two years and indicate that at 122m above ground level the mean speed of the wind is 28 knots, and at roof level 18 knots.

At Saddle Road, the reading is about 15 to 16 knots.

Mr Macphee said, as an example, the weather office had estimated that a unit erected near Wellington and designed for a wind velocity of 22 knots would give full power 60 percent of the time.

He said the Southern California Edison Company's three megawatt unit at Palm Springs is designed for 33 knots and is

estimated to give 26 percent average output annually.

However, at the moment the cost of a prototype generator is \$5 million although if mass produced the cost could be reduced to around \$2 million.

Mr Macphee estimated that to supply sufficient power to run Palmerston North, the city would need about 10 of the \$5 million generators.

Another consideration is the kilowatt cost of producing the power.

At the moment the board buys its electricity at an average cost of 3.2c - in Hawaii, with the high cost of oil generating, power costs 11c a unit. In Hawaii wind generation could be produced for about 5c a unit.

Mr Macphee said today the wind checks would prove helpful to the board in any investigations it might make, but he wondered whether Wharite would be the best site for a generator.

The peak is covered in snow during Winter, which could affect generation.

He said New Zealand would have to look at nothing more than about four to six cents a unit if wind generation was to be considered a viable alternative.

The units being considered overseas involve single propeller blades which stand 120ft to the centre of the rotor, requiring blades of 240ft diameter.

However, in the early stages the board would look at possible sites and then try and pick out two to three spots where there is reasonably constant winds.

Dunedin and 1

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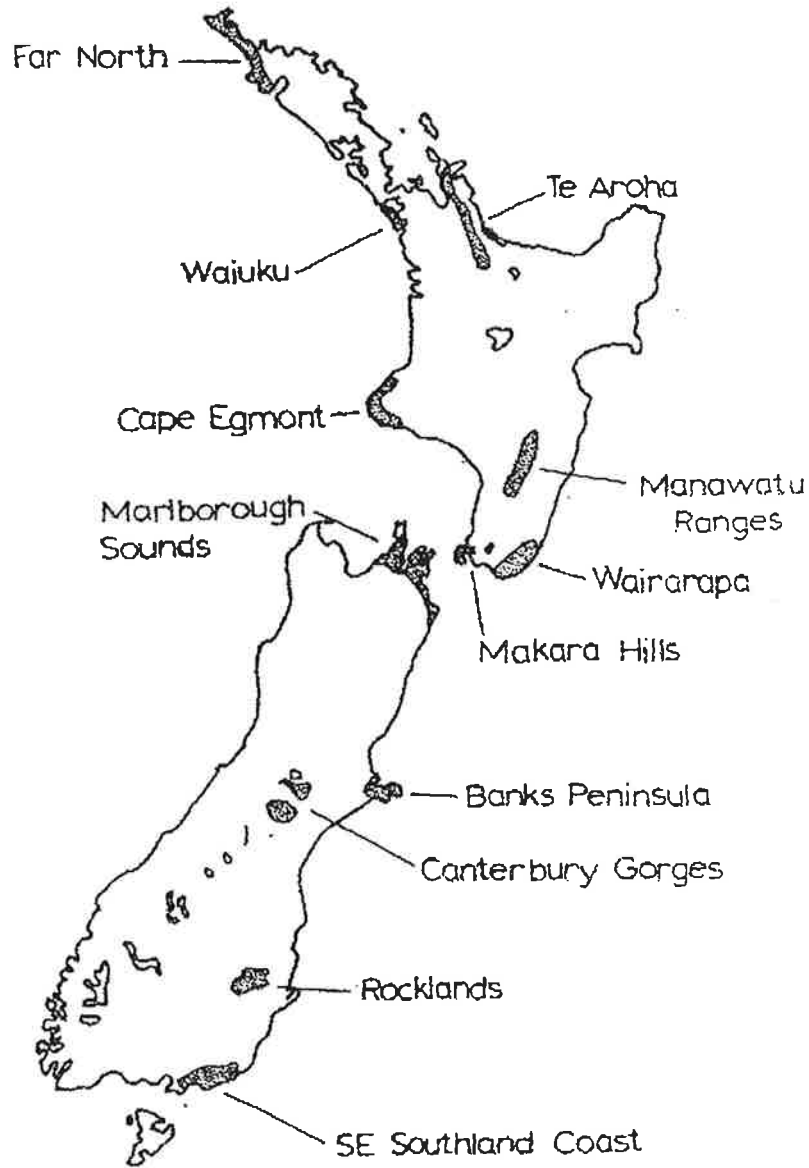


Fig. 29: Candidate wind farm sites in New Zealand.

9. WIND CHARACTERISTICS AT CANDIDATE SITES

9.1 Elevated and lowland site characteristics

There are generally distinctly different characteristic seasonal and diurnal mean wind speed patterns at elevated sites compared with lowland sites. Fig. 30 shows the surface and 900 mb mean wind speed for monthly and diurnal patterns and the nearby elevated sites where one is available.

WIND ENERGY RESOURCE SURVEY
OF NEW ZEALAND

National Resource Assessment

Final Report

Neil Cherry

Lincoln College

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