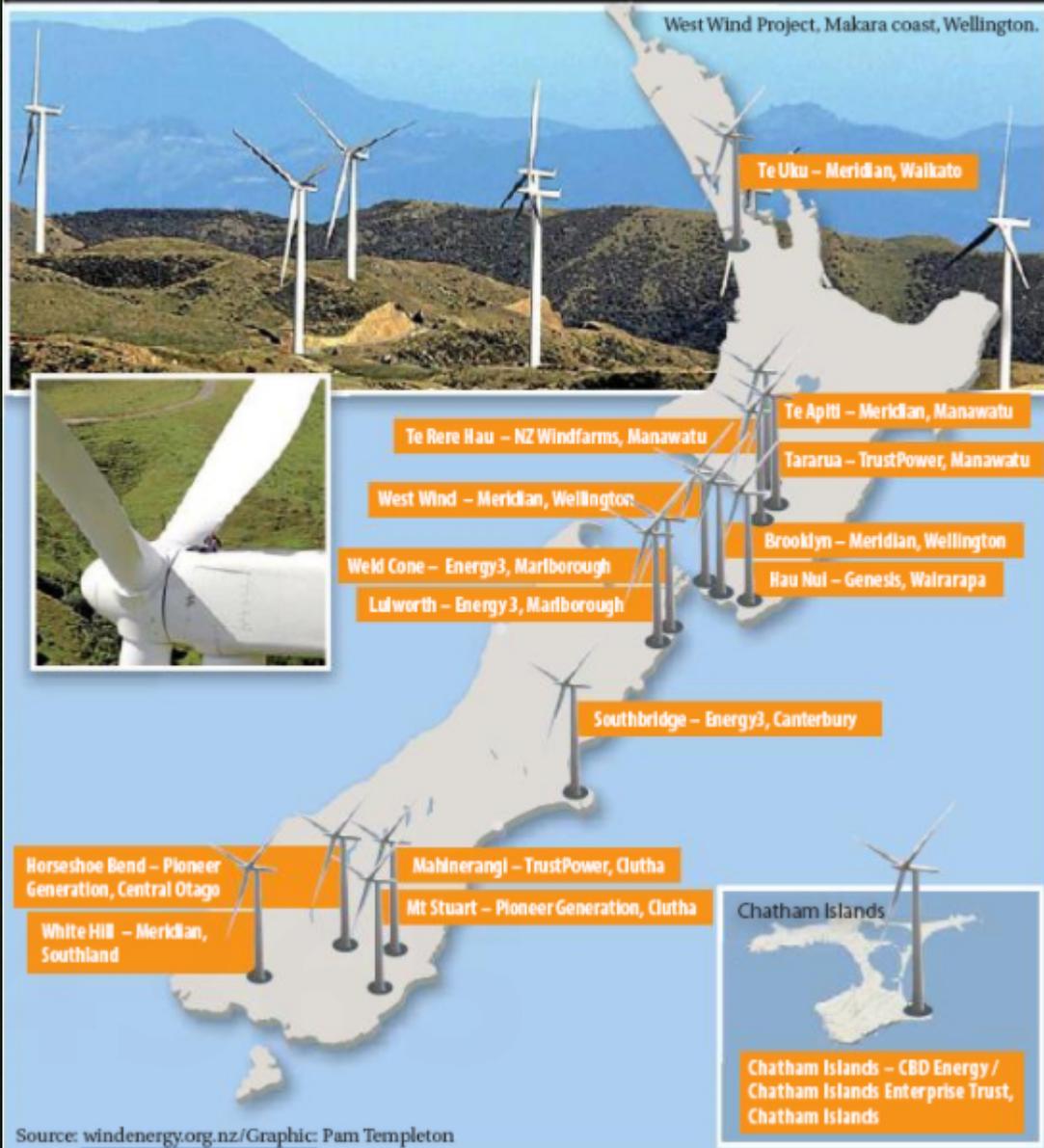


WIND FARMS OPERATING IN NEW ZEALAND



Source: windenergy.org.nz/Graphic; Pam Templeton

WIND FARM ENERGY IN NEW ZEALAND

By Matthew Hill

LARGEST WIND FARMS IN NEW ZEALAND, BY NUMBER OF TURBINES

10. Mahinerangi, 36 MW

9. Mill Creek, 59.8 MW

8. Te Uku, 64.4 MW

7. White Hill, 58 MW

6. Tararua (Stage 3), 93 MW

5. Tararua (Stage 1), 31.7 MW

4. Tararua (Stage 2), 36.3 MW

3. Te Apiti, 90.8 MW

2. West Wind, 142.6 MW

1. Te Rere Hau, 48.5 MW

10. MAHINERANGI

- Commissioned in 2011.
- Initially operated by TrustPower, now Tilt Renewables.
- Located in Clutha, NZ.
- 12, 3 MW turbines capable of generating 36 MW of power.
- Large potential for expansion.





9. MILL CREEK

- Commissioned in 2014.
- Operated by Meridian Energy.
- Located in Wellington, NZ.
- 26, 2.3 MW turbines capable of producing 59.8 MW of power.





8. TE UKU

- Commissioned in 2011.
- Operated by Meridian Energy.
- Located in Waikato, NZ.
- 28, 2.3 MW wind turbines capable of producing up to 64.4 MW of power.
- Great place to see some black faced sheep.



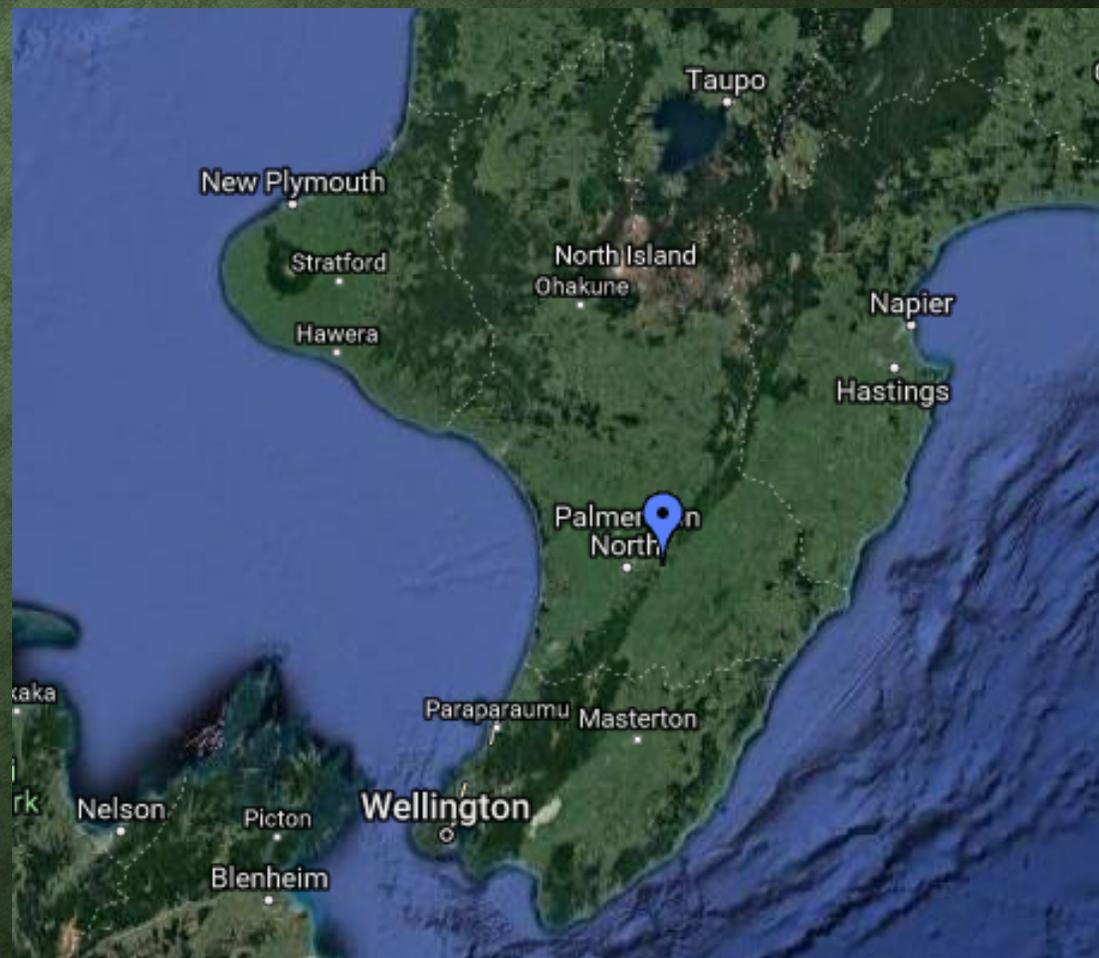
7. WHITE HILL



- Commissioned in 2007.
- Operated by Meridian Energy.
- Located in Southland, NZ.
- 29, 2 MW turbines capable of generating 58 MW of power.

6. TARARUA - STAGE 3

- Commissioned in 2007.
- Operated by TrustPower.
- Located in Manawatu, NZ.
- 31, 3 MW turbines capable of generating 93 MW of power.
- Stage 3 made the farm one of the three farms connected to the energy grid.



5. TARARUA – STAGE 1



- Commissioned in 1999 and operated by TrustPower.
- Located in Manawatu, NZ.
- 48, 0.66 MW turbines capable of generating 31.7 MW of power.
- Could look into updating their equipment, but have taken a better step.

4. TARARUA – STAGE 2

- Commissioned in 2004.
- Operated by TrustPower.
- Located in Manawatu, NZ.
- 55, 0.66 MW turbines capable of producing 36.3 MW of power.



3. TE APITI

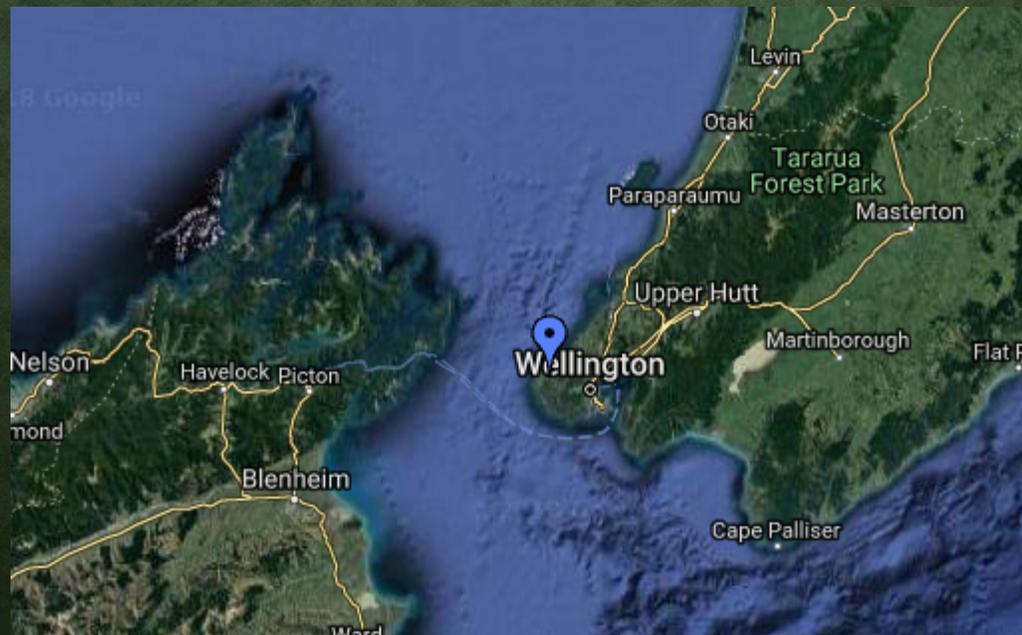


- Commissioned in 2004.
- Operated by Meridian Energy.
- Located in Manawatu, NZ.
- 55, 1.65 MW turbines capable of producing 90.8 MW of power.
- Another farm that has grid connection.



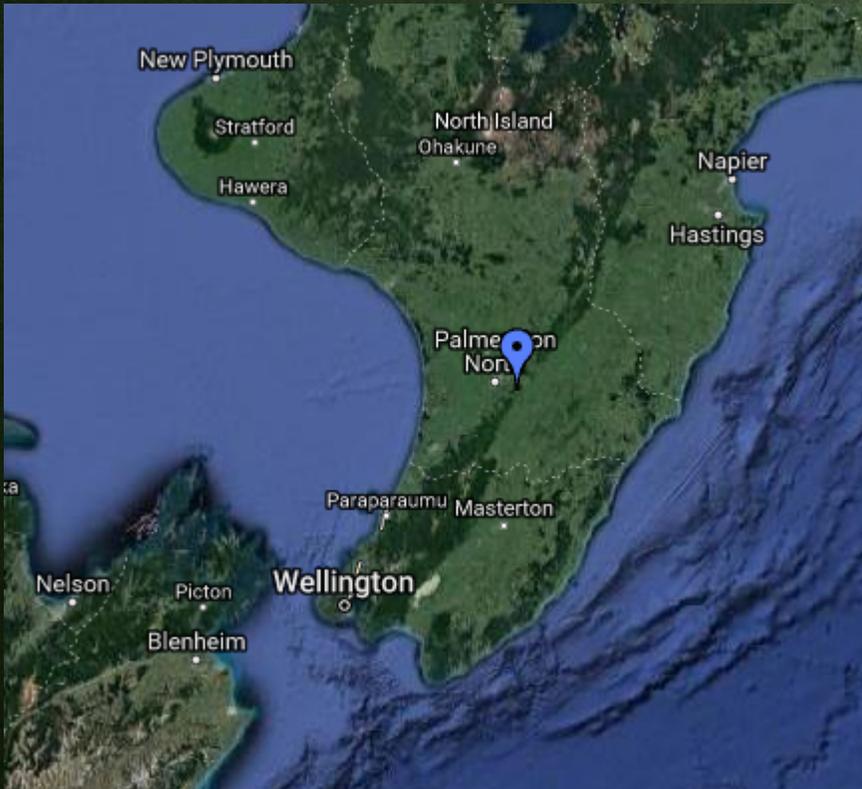
2. WEST WIND

- Commissioned in 2009 and operated by Meridian Power
- Located in Wellington, NZ
- 62, 2.3 MW turbines capable of producing 142.6 MW of power
- Is connected to the energy grid.



1. TE RERE HAU

- Commissioned from 2006 - 2011
- Operated by NZ Windfarms
- Located in Manawatu,
- 97, 0.5 MW turbines capable of producing 48.5 MW of power.



CONCLUSION AND POTENTIAL FUTURE FARMS

- There are a number of wind farms that implement outdated equipment.
- White Hill and Te Rere Hau are two that could stand to implement better technology.
- Another alternative may be to apply for consent to expand and add new technology, as done at the Tararua wind farm.

Site	Developer	Region	Capacity (MW)	RMA Application publicly notified
<u>Waverley</u>	Tilt Renewables	South Taranaki	130	July 2017
<u>Castle Hill</u>	Genesis Energy	Northern Wairarapa	800	August 2011
<u>Mahinerangi</u> (stage 2)	Tilt Renewables	Clutha	160	November 2009

QUESTIONS AND COMMENTS