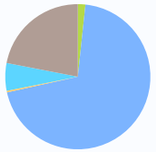
New Zealand • Renewable energy

Gross electricity generation from renewable sources by 2022, TWh (%)



- Bioenergy 0.75 (1.9)
- Hydropower 26.27 (67.9)
- Solar PV energy 0.28 (0.7)
- Wind energy 2.87 (7.4)
- Geothermal energy 8.54 (22.1)

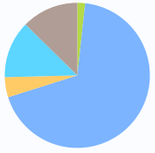
Total: 38.72 (100)

Source: Renewable Energy Statistics 2024 © IRENA

Key landfill gas-to-energy plants:

1. Redvale Energy Park
2. Hampton Downs
3. Greenmount
4. Whitford Energy Park
5. Kate Valley
6. Rosedale
7. Silverstream
8. Awapuni, Palmerston North
9. Southern (Wellington)
10. Omaranui

Total installed renewable energy power capacity by 2023, GW (%)



- Bioenergy 0.15 (1.7)
- Hydropower 5.68 (68.4)
- Solar PV energy 0.37 (4.5)
- Wind energy 1.06 (12.7)
- Geothermal energy 1.05 (12.6)

Total: 8.31 (100)

Source: Renewable capacity statistics 2024 © IRENA

Binary type geothermal power plants over 1.0 MWe, MWe:

1. Ngatamariki, 82.0
2. Ngawha, 25.0
3. Te Huka (Tauhara One), 23.0

Fast pyrolysis plants:

1. Pukekohe, AES Demo
2. Rotorua, Scion Pilot

Double and three flash type geothermal power plants over 1.0 MWe, MWe:

1. Te Mihi, 166.0
2. Nga Awa Purua, 140.0
3. Ohaaki, 65.0

Key biomass power plants over 1.0 MWel, MWel:

1. Kinleith, 40.0
2. Tasman, 27.0
3. Napier, Pan Pac, 12.8

Bioethanol plants:

1. Edgecumbe, Fonterra
2. Reporoa, Fonterra
3. Tirau, Fonterra

Key wind farms over 10.0 MW, MW:

1. *Turitea, 222.0**
2. Tararua, 161.0
3. West Wind, 142.6
4. *Waipipi (Waverley), 133.0**
5. Te Apiti, 90.8
6. Te Uku, 64.4
7. Mill Creek, 59.8
8. White Hill, 58.0
9. Te Rere Hau, 48.5
10. Mahinerangi, 36.0

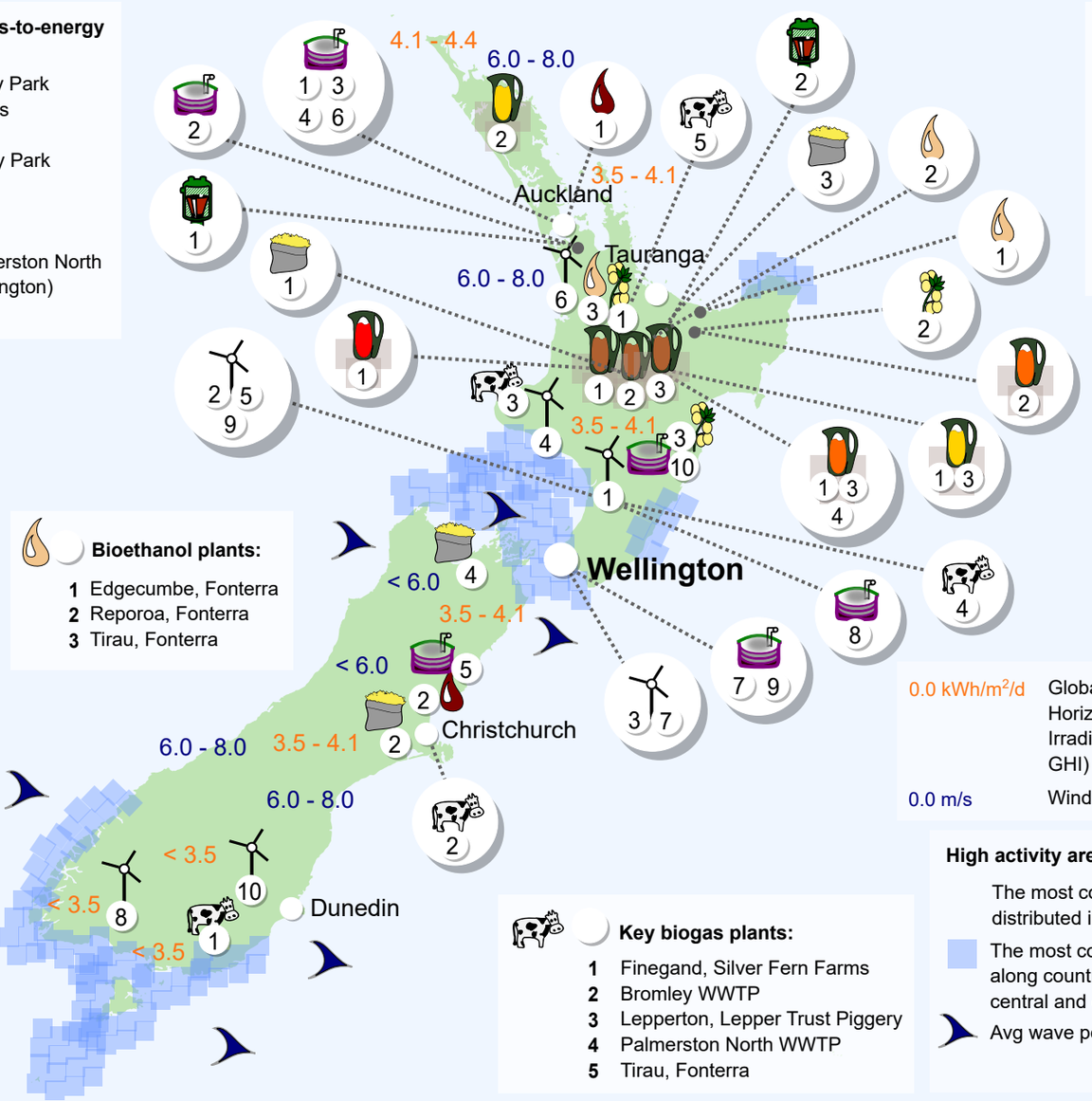
** under construction*

Combinated type geothermal power plants over 1.0 MWe, MWe:

1. Wairakei, 132.0
2. Kawerau, 121.0
3. Mokai, 111.0
4. Rotokawa, 35.0

Key wood pellet plants:

1. Taupo, Nature's Flame
2. Rolleston, Nature's Flame
3. Rotorua, Nature's Flame
4. Nelson, Azwood Energy



0.0 kWh/m²/d — Global Horizontal Irradiation GHI)

0.0 m/s — Wind speed

Key biodiesel plants:

1. Te Kora Hou (Manukau City), Z Bio D
2. Christchurch, Green Fuels

Dry steam type geothermal power plants over 1.0 MWe, MWe:

1. Poihipi Road, 50.0

Key biogas plants:

1. Finegand, Silver Fern Farms
2. Bromley WWTP
3. Lepperton, Lepper Trust Piggery
4. Palmerston North WWTP
5. Tirau, Fonterra

High activity areas:

The most common solar GHI intensity is 4.1 - 4.4 kWh/m² per day, distributed in the northern part of country, in Northland region.

The most common wind speed is over 8.0 m/s at 50 m are distributed along country coastline with the South Pacific Ocean in south, central and east.

Avg wave power potential is over 60 kW/m per year.

Sources: Energydata.info; Wikipedia.