

# Te Uku Wind Farm Dispatch

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The Te Uku wind farm is a 28-turbine farm located in the city of Waikato, and is a project owned by Meridian energy. We visited this wind farm after Raglan and met with a wind technician at the farm who explained the fundamentals that go into the wind resource analysis and the technology. The wind consists of 2.3 MW turbine, totaling 64.4 MW capacity by Siemens Gamesa. The farm is located on a working sheep and cattle farm on the Wharauroa Plateau, which is leased from the farmers/landowners for the project. The area has strong and consistent wind speeds, making it an ideal place for a wind farm. The terrain in parts of the site reach up to 400 m in height above sea level, leading to much higher wind speeds (up to 17m/s), with a cut in wind speed of 4 m/s. The generator converts 690 V AC and feeds out 33 kV back into the grid. The turbines tend to generate reactive power when there is no wind as well. The turbines blades are also connected to a hydraulics system for controlling the pitch, maximizing the energy yield and capacity factor of the turbine.



Meridian energy also build 26 kilometers of road to transport the turbine parts to the farm, where the turbines were manufactured in Korea and Denmark. Furthermore, Meridian built Te Uku in alliance with the local electricity lines company WEL Networks Ltd, which is owned by community trust. WEL Networks owns and manages the electrical lines and substation within the wind farm as well as the high voltage line to connect the wind farm to the grid Involvement of the local community in the development of the wind farm was a high priority for Meridian. Four local schools visited the farm during construction to help educate the benefits of the technology.