Spinning power for all the city

RACHEL THOMAS

Standing 300-metres above Wellington city, there's nowhere to hide and it's bloody freezing. The merciless gusts bite into ears and faces and the Brooklyn wind turbine turns at full speed.

The voosh, voosh, voosh of the 20m blades is loud and powerful.

Paul Botha, wind technical strategy manager for Meridian Energy, loves days like these. They're an energy jackpot.

The Brooklyn turbine is the poster child for Wellington's turbine network - made up of close to 90 turbines across the region, spread between Makara and Mill Creek in Ohariu Valley.

The wind flows over the blades, which causes them to turn, literally spinning power to the region's homes.

"At about 15km an hour, the rotor will start turning, and it can increase in rotational speed up until about 50-60kmh," he said.

"Power from our wind turbines is connected to the main network and that is connected to our houses."

If Wellington has a day that's light on power, the energy will be exported elsewhere, Botha said.

On very calm days, the turbine will stop, and sometimes do some self-grooming, Botha said.

"The electricity comes from power cables and as the face follows the wind it sometimes generates a twist in those cables. The turbine will monitor the number of twists."

On a calm day, the turbines can be seen unwinding themselves in the opposite direction.

Paul Botha loves Welington's windy days - they are an energy "jackpot".

They're designed to last for about 20 years, Botha said. "Once they get beyond that they either need a major refurbishment or replacement of components."

The former Brooklyn turbine stood for 22 years, but still had some juice left. It was sold to South Island company Energy3 and is living out the rest of its days on a smaller commercial wind farm.

The new turbine's diameter is 44m, so each of the three blade stretch out about 20m. It stands at 67m high, which means civil aviation laws require it to have a red flashing light on at night.

Brooklyn is not the largest of the lot – Makara's are 82m in diameter – but the blades had to be able to squeeze around the sharp narrow bends on the winding road up to the top, Botha said.

The Brooklyn wind turbine alone pumps out enough wind-spun energy to power 480 homes each year. The whole network could power 100,000 houses for a year.