

Badgingarra Wind Farm

Badgingarra Wind Farm is located just to the north of APA's existing Emu Downs Wind and Solar Farms. The 130-megawatt project comprises 37 Siemens SWT-3.6-130 wind turbine generators (each with 3.6-megawatt generating capacity) installed with a hub height of 85 metres and a tip height of 150 metres.

Commissioned in early 2019, construction of the project took approximately 16 months. The ~\$315 million APA development is underpinned by an agreement with Alinta Energy for the purchase of all the energy, and the Large Scale Renewable Generation Certificates generated by the wind farm through to December 2035. The wind farm is operated by APA with site based services provided under a long term service agreement with Siemens Wind Power.

The potential energy output from Badgingarra Wind Farm is equivalent to the power required for more than 115,000 Western Australian homes. In addition to this, the wind farm saves more than 420,000 tonnes of greenhouse gas emissions annually.

Turbine technical specifications

Operating data

Rated power	3.6 megawatts
Cut-in wind speed	3-5 metres/second
Cut-out wind speed	25 metres/second
Nominal speed	12.2 rpm
Operating speed range	6.5-12.8 rpm

Rotor

Diameter	130 metres
Swept area	13,300 square metres
Blade length	63 metres

Generator

Type	Synchronous, permanent magnet generator
Cooling system	Air cooled
Voltage	690 volts
Frequency	50 hertz

Blades with a twist

The turbines at Badgingarra Wind Farm have uniquely curved, aeroelastic blades. This design allows the blades to bend and twist in order to reduce the structural load that the wind places on the turbine, thus providing an aerodynamic advantage.



Project statistics

- 230,000 site worker hours.
- Peak of 150 workers on site.
- No lost time incidents.
- 40,000 tonnes of concrete poured.
- 42 kilometres of roads constructed.
- 45 kilometres of HV cable installed.
- 45 kilometres of fibre optic cable installed.

Badgingarra Wind Farm in the community

As part of the Badgingarra Wind Farm Project's commitment to the community, 10 tonnes of recyclable materials were donated to the Men's Shed community in Jurien Bay. This organisation focuses on promoting men's physical and mental health in a friendly environment.

"On behalf of the JBCMS I wish to express our appreciation to for the donation of recyclable timber material from the Badgingarra Wind Farm project."

*Bob Hendry,
President — Jurien Bay Community Men's Shed*