

CASE STUDY

Canunda Wind Farm



KEY FACTS



Up to 46MW of power generated



Providing power for 30,000 typical homes



Saving 135,000 tonnes of carbon dioxide emissions each year

Canunda Wind Farm, located on the banks of Lake Bonney in the south east corner of South Australia, is a prime example of the way Wind Prospect builds lasting relationships with commercial partners in the wind energy industry.

Initially developed by Wind Prospect in 2001/02, rights to the wind farm site were transferred to International Power, a UK based owner and operator of over 16,000MW of generation assets. In early 2004, International Power awarded a turnkey contract for the design and construction of the windfarm to Vestas Australian Wind Technology Pty Ltd.

International Power retained Wind Prospect to undertake the role of Owner's Engineer during the construction phases of the project. With a full time presence to oversee the quality and progress of construction activities, International Power had peace of mind that their interests were comprehensively represented on site. The project was completed within budget and ahead of schedule. Wind Prospect has continuing involvement in the commissioned wind farm by acting as Operations Advisors.

The Wind Farm

The wind farm consists of twenty-three 2MW Vestas V80 wind turbines and associated infrastructure. The turbine hub height is 67m and blade radius is 40m, giving a tip height of 107m. Power from the wind farm is exported 13km to the Snuggery Substation (adjacent to International Power's 63MW Snuggery Power Station) via a double circuit 33kV overhead line. The facility will yield about 135,000MWh per annum providing sufficient clean electricity to power 30,000 households and displace approximately 135,000 tonnes of carbon dioxide per year.

International Power has negotiated a long term power purchase agreement with the Australian Gas Light Company (AGL) to buy all the power from the wind farm.

Construction

Construction began in June 2004. Despite the wet and windy weather experienced over the winter of 2004, access tracks and cable installation progressed smoothly. The reinforced concrete 'gravity' foundations each contained 320 m³ of concrete and 30 tonnes of reinforcing steel.



Erection

There were five heavy lifts to complete the erection of each turbine – three tower sections (up to 45 tonne per section), the nacelle (61 tonne) and the rotor (34 tonne) consisting of three blades and a hub. KR Wind was the erection subcontractors and the workhorse of the KR Wind fleet was a 600 tonne crane, the biggest truck mounted crane in Australia.

The erection of the first turbine on the 30th September marked a new era in wind energy – these were the first 2 MW turbines installed in the southern hemisphere.

Operation

Wind Prospect continues to add value to International Power's renewable energy asset by proactively monitoring all data from the wind farm on International Power's behalf. The primary objective is to improve availability and production through analysis of all data emanating from the wind farm. Wind Prospect can demonstrate that this service will more than pay for itself through increased production for most wind farms, even while a manufacturer's warranty is still in place.



Adelaide (Main office)

Wind Prospect Pty Ltd, PO Box 389, Level 1, 20 Beach Road, Christies Beach, South Australia 5165
T +61 (0)8 8384 7755 F +61 (0)8 8384 7722 E adelaide@windprospect.com.au

Brisbane (Commercial office) T +61 (0)7 3396 4500 F +61 (0)7 3396 4700

Nelson (New Zealand) T +64 (0)3 545 8120 F +64 (0)3 545 8121

www.windprospect.com.au



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