



THE  
CAPITAL  
WIND FARM

infigen

## About Infigen Energy (ASX:IFN)

Infigen Energy (Infigen) is a specialist renewable energy business that owns and operates wind farms in Australia, the US, Germany and France.

Infigen also has a large-scale, diversified pipeline of development opportunities across six Australian states, which strongly positions the company to capitalise on growth opportunities arising from the Federal Government's Renewable Energy Target (RET) legislation and the proposed Carbon Pollution Reduction Scheme.

Infigen listed on the Australian Securities Exchange (ASX) in October 2005 and is currently ranked in the top 150 companies on the ASX. For further information about Infigen Energy please visit our website: [www.infigenenergy.com](http://www.infigenenergy.com)

## The Capital Wind Farm

The Capital wind farm (Capital) site, located near Bungendore in New South Wales, is spread across the Hammonds, Ellendon and Grose Hill ridgelines. While the wind farm covers more than 35 square kilometres, the turbines themselves occupy less than one hectare of land.

The area enjoys an excellent wind resource, as demonstrated by a wind farm capacity factor of 36% and a diurnal profile that is well aligned to typical daily demand.

The Capital wind farm is located in open farming country, allowing for optimum spacing of turbines. There are minimal obstructions in the landscape and smooth topography, which is beneficial to the output of the wind farm.

Construction of Capital began in early 2008, with the wind farm becoming fully operational in October 2009.



## Benefits to the Environment

The wind farm will generate around 450,000 MWh of renewable energy each year, which is equivalent to satisfying the energy needs of approximately 60,000 homes.

This level of renewable energy generation represents a saving of around 400,000 tonnes of greenhouse gases per year; greenhouse gases which would have otherwise been emitted from conventional energy technologies. It is also equivalent to removing over 85,000 cars from Australian roads each year.

## Benefits to the Economy

Capital has provided local employment opportunities and attractive rental income for the landowners. The wind farm employed over 120 people during the construction phase and will employ a further 10 people for ongoing operations and maintenance.

## How the Turbines Work

The wind farm comprises 67 Suzlon S88 2.1MW wind turbines with a total installed capacity of 140.7MW. These turbines have internal controls that monitor the wind direction and speed, with electricity production beginning at winds above 14 km/h (4 m/s).

The amount of electricity produced continues to increase until the turbines reach maximum or 'rated' capacity (2.1MW) at wind speeds of around 40 km/h (11 m/s).

Stronger winds do not make the blades turn faster. The blades rotate at a regular 15-18 revolutions per minute and operate at capacity until the wind speed reaches 90 km/h. The turbines automatically shut down and turn out of the wind when the wind speed goes beyond 90 km/h.

The electricity generated at Capital is fed directly into the TransGrid network via an on-site substation, with the majority of output contracted to supply to the Sydney Desalination Plant.

The Desalination Plant will provide up to 15% of Sydney's water supply, with delivery beginning this summer. It will be 100 per cent powered by renewable energy from the Capital wind farm.



# KEY STATISTICS

## WIND FARM

Total capacity	140.7 MW
Annual Production	Approx. 450,000 MWh/year
Offtake	Renewable energy requirements for Sydney Desalination Plant
Turbine manufacturer	Suzlon Energy Australia Pty Ltd
Grid operator	TransGrid
Grid connection voltage:	330 kV transmission line

## TURBINES

Number of turbines	67
Tower height	80 metres - hub height
Tower material	Steel
Rotor diameter	88 metres
Start-up wind speed	14 km/h (4 m/s)
Maximum power wind speed	40 km/h (11 m/s)
Cut-off wind speed	90 km/h (25 m/s)
Rotor speed	15-18 rpm (one rotation every 3-4 seconds)
Blade length	44 metres
Blade material	Fibreglass/epoxy

## ENVIRONMENT

Equivalent homes supplied	60,000
Greenhouse gas savings	400,000 tonnes p/a

## ECONOMIC DEVELOPMENT

Jobs during construction	120
Ongoing jobs at the wind farm	10

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