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Low Carbon Buildings Programme



Segen is meeting the need for affordable clean energy.

Segen is committed to the production of clean and affordable energy through the development of sustainable energy generation projects.

Segen is an authorised distributor and installer for the Westwind 20kW turbine which is a very cost effective small wind turbine. The Westwind 20 wind turbine generates exceptional levels of power for its cost.

Segen can supply, install and support the Westwind 20 turbine to power farms, community centres, schools, commercial properties and many more applications.

Segen works in a partnership with site owners, financiers, suppliers and other stakeholders to guide projects through the process until the energy starts to flow and beyond.

Segen also sells the Iskra AT5-1 5kW and Southwest Windpower Whisper 500 3.2kW wind turbines, for smaller, less power hungry applications.



WESTWIND

20kW Small Wind Turbine

HIGHLIGHTS



Overview

A 20kW small wind turbine suitable for powering farms, community centres, schools, commercial properties and many more applications.

The Westwind 20 is a well tried and tested product over many years from Australia and comes with a 2 year warranty.

The Westwind is for serious wind energy generation

Performance

The energy capture of the Westwind 20 turbine is exceptionally good across a wide range of wind speeds, and comes installed on an 18m free-standing tower for maximum energy capture.

Reliability

The Westwind 20 turbine is intended for a range of harsh conditions, especially exposed rural locations. The design life of the machine is 20 years.

Cost

The Westwind 20 is very competitively priced and has been designed for ease of installation to minimise costs.



20kW Westwind Technical Specification

COST EFFECTIVE LIFETIME POWER GENERATION

Efficiency

The efficient three blade configuration drives the permanent magnet rotor.

At rated rpm, the automatic furling mechanism operates and the turbines turns out of the wind to prevent over powering.



Reliability

Westwind have been developing and selling small wind turbines for many years to operate in the harsh Australian climate.

The generator is sealed to stop the ingress of foreign particles. This reduces corrosion (especially in coastal locations) but also stops the magnets attracting airborne particles.

The Westwind 20 is a long established model that has a proven track record with many installations world-wide.

Characteristics

Generator rating	20 kW at 14 m/s
Rotor speed	160 rpm nominal (variable)
Cut-in wind speed	3.0 m/s
Survival wind speed	50 m/s (110 mph)
Rotor diameter	10.4 m
Rotor orientation	Upwind
Number of blades	3
Blade material	Carbon reinforced fibreglass.
Control system	Automatic side furling
Gearbox	None
Brakes	Electro-dynamic
Generator	Permanent magnet alternator
Yaw control	Tail vane
Tower height	18 m
Tower	Free standing.

Performance

At a particular location, the wind speed will vary about an annual mean value. The expected energy yields for the Westwind at various annual mean wind speeds (AMWS) is shown below.

AMWS m/s	Annual MWh	Daily kWh
4	11	30
5	23	63
6	38	104
7	51	140
8	64	175
9	75	205

Note: The annual electricity consumption of a medium size home is in the region of 4 to 6 MWh. This is equivalent to a daily consumption of 11 to 16 kWh.



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