



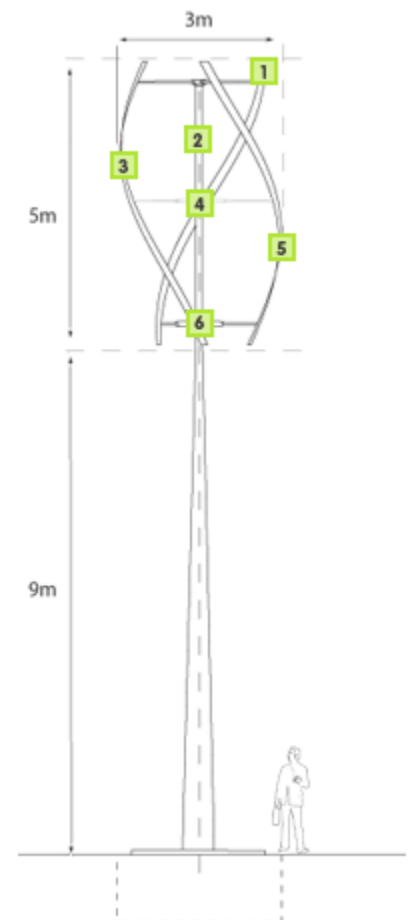
QUIET REVOLUTION TURBINE

The quietrevolution (QR) was designed in response to increasing demand for wind turbines that work well in the urban environment, where wind speeds are lower and wind directions change frequently.

The elegant helical (twisted) design of QR ensures a robust performance even in turbulent winds. It is also responsible for virtually eliminating all noise and vibration.

At five metres high and three metres in diameter, it is compact and easy to integrate, and with just one moving part, maintenance can be limited to an annual inspection.

Pre-launch clients include architects, developers and local councils, all of whom share a common vision of renewable energy with sophisticated design.



Features:

- ✚ Three 'S' shaped blades are tapered to shed noise
- ✚ The vertical axis is easy to integrate with existing masts and buildings
- ✚ The helical (twisted) design captures turbulent winds and eliminates vibration
- ✚ Central compression spar, dependent on conditions
- ✚ The blades, spars and torque tube are made of robust carbon fibre, and all moving parts are sealed to minimise maintenance
- ✚ The direct drive in-line generator has auto-shutdown and peak power tracking and is incorporated into the mast

Specifications:

Physical dimensions	16.4 ft. high x 10.2 ft. in diameter
Generator	Direct drive, mechanically integrated, weather sealed 6kW permanent magnet generator
Power control	Peak power tracking constantly optimises turbine output for all sites and windspeeds
Operation mode	Max wind speed: 36 mph; Min wind speed: 9 mph
Design life	25 years (annual inspections recommended)
Rotor construction	Carbon fibre and epoxy resin blades and connection arms
Brake and shutdown	Overspeed braking above 31.3 mph wind speed, auto shutdown in high wind speeds (above 36m/s)
Roof mounting	Minimum recommended height above buildings: 10 ft.
Tower mounting	Minimum mast height: 30 ft. to bottom of blades. Demountable models are also available for temporary installations
Remote monitoring	Event log can be accessed via PC. Remote monitoring stores operation and kW hours of electricity generated
Warranty	Two years on components



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Illustrative Payback Period:

Average Wind Speed	5.8m/s
Annual energy generated (kWh)	10,000
Price for energy offset	8p
Price for ROCs	4.7p
Inflation in energy prices	5%
Annual value generated	£1,827
QR price	£25,000
Installation cost	£5,000
Total cost	£30,000
Payback period	15 years

Assumptions:
5.8m/s - On medium rise building tops or exposed sites
10,000 - (XC02 calculations)
8p - Average green energy price
4.7p - Today's value from Platts ROC Marker
5% - Predicted energy price increases
Source: DTI and UBS
£1,827 - Energy offset & ROCs incl. forecast inflation
£25,000 - Single 6kW turbine, 5m high x3.1m diameter
£5,000 - Estimate only, including mounting

Carbon Saving - Quietrevolution will also save around .42kg of carbon dioxide per kilowatt hour of energy generated. In the example above this would equate to 4,200kg per year or 105,000kg over the design life of the turbine.