

quietrevolution vertical axis wind turbine

Media Information

The quietrevolution vertical axis wind turbine has been developed wholly in the UK by XCO2 and represents an opportunity for Britain to lead the world in urban wind generation. Unlike 'traditional' wind generating schemes, quietrevolution is specifically designed for the urban environment, where its unique and innovative design makes more efficient use of wind conditions found near buildings, where wind directions frequently varies from minute to minute. quietrevolution is ideally suited for use on larger buildings, offices, residential blocks, schools, and other similar scale developments. Its elegant "triple helix" form and vertical axis of rotation also virtually eliminate noise and vibration, critical for use in towns and cities.

At just five metres high and three metres in diameter, it is compact and allows for easy integration into existing buildings and offices. A smaller 2.5kW model is also in development, which is aimed at domestic scale installations.

The quietrevolution turbine normally sits on a three metre mast when it is roof mounted and on a nine or fifteen metre mast when ground mounted. Just one moving part and sealed bearings, ensure maintenance can be limited to an annual inspection.

Quietrevolution is a 100% British innovation and has been designed and developed with the support of two grants from the Department of Trade and Industry. The turbines are manufactured in Berkshire by a specialist company that also makes lightweight aircraft and marine tidal turbines using high tech composite materials.

The first commercial installation will be on London Road in the London Borough of Croydon (see below), where planning approval for a single test turbine was granted on June 1st 2006. The developers, Fairview New Homes, plan to install seven turbines in order to achieve the required 10% of their energy requirements from a renewable source on site. Additional sites that already have planning approval include a listed building in Southwark, a private residence near Bath and a city centre roundabout in Bristol. More than twenty sites are awaiting planning decisions and include schools, local council buildings and the headquarters of several FTSE100 companies

Quietrevolution is leading the way in urban energy, harnessing urban wind. City dwellers and businesses are the biggest users of energy, but ironically the impact of wind generation has been traditionally focused on rural areas – the area where least energy is consumed. At Quietrevolution we hope that this new and innovative design will draw the debate on wind generation directly into the cities. We also strongly believe that carbon should be seen as a currency. In the same way that people who have water meters in their homes intuitively feel closer to water conservation, we believe that when people see wind turbines it makes them think more about energy consumption

Key product benefits

Quietrevolution's aesthetics are striking. Omni-directional, elegant, and sculptural, the turbine has three tapered 'S' shaped blades that spiral round a central mast making it more compact than traditional turbines and easier to integrate into existing and new building designs.

The turbine is virtually silent and vibration free – critical for use on or near buildings

Dependent on windspeed, the quietrevolution will generate around 10,000kWhrs a year - enough to power the lighting, computers, phones, faxes, printers and servers of a twenty person office, or the electrical energy requirement of around five energy efficient homes.

Each quietrevolution will save .42kg of carbon dioxide per kilowatt hour of energy generated – on a site with an average windspeed of 5.8m/s that would add up to 4.2 tonnes of carbon dioxide a year that does not go into the atmosphere because a wind turbine is being used in place of fossil fuels.

The quietrevolution turbine also comes in a display model capable of creating striking visual display that is part artwork, part renewable energy device, part communications media.

As the turbine spins, it uses a proportion of the energy it generates to power light emitting diodes (LED's) embedded in the blades to paint a video screen which appears to hang in the air. This full colour and motion image is clearly visible day and night, and offers the opportunity for communities to display art or promote environmental issues, and businesses to integrate their corporate branding in a more sympathetic and sustainable way that traditional corporate signage such as neon.

Specification:

Physical Dimensions:	5m high x 3.1m diameter
Generator:	Direct drive, mechanically integrated weather sealed 6kw permanent magnet generator.
Operational mode:	Max wind speed: 16m/s. Minimum wind speed 4m/s.
Design life:	25 years. (Annual inspections recommended)
Rotor construction:	Carbon fibre and epoxy resin blades and connection arms
Cost of turbine:	£25,000
Installation cost:	Approx £5,000
Warranty:	Two years on components

Endorsements:

"Croydon Council is committed to promoting and developing sustainable and renewable energy solutions. The quietrevolution wind turbine is a particularly visually attractive technology, and we are keen to support its development and evaluate its success."

Eddy Taylor, Environment and Sustainability Manager, Croydon Council

" Fairview New Homes Limited were delighted to be introduced to the quietrevolution wind turbine as an elegant source of renewable energy for a residential conversion of an existing office tower block. We welcome the opportunity to support British innovation with the first London installation and subsequent array on the fully refurbished block."

Richard Lotherington, Technical Director, Fairview New Homes Limited.

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