

Harnessing Wind Energy...

It's a breeze with Hewlett Renewables

We understand the amount of information about wind energy can be a little overwhelming and several questions may come to mind if you have never used wind energy before.

By investing in a small wind system, you can reduce pollution and reduce your exposure to future fuel shortages and price increases. If you have the right set of circumstances, a well-designed wind energy system can provide you with many years of cost-effective, clean and reliable electricity.

The frequently asked questions below will help you determine if a small wind energy system is practical for your needs. If you still want more information then please contact us directly to discuss your requirements.

Why Wind Energy?

Wind energy offers many advantages, which explains why it is the fastest growing energy source in the world.

Power production from wind energy is a clean, affordable alternative to having to use and solely rely on power from the National Grid.

Just like the old windmills, the wind turbines of today work on the same principal. The energy in the wind turns two or three propeller-like blades around a rotor. The rotor is connected to the main shaft, which spins a generator to create electricity.

Wind turbines are mounted on a tower to capture the most energy, and they don't have to be big in size. At just 30 feet (10 meters) or more above ground, they can take advantage of faster and less turbulent wind.

You don't have to live on the top of a hill to harness wind power and installing a small turbine is an easy and affordable option.

Even in a town, by installing a wind turbine on your property you could cut your electricity bill. A well-sited 6kW turbine can generate around 10,000kWh per year:

- 🌿 equivalent to around 5.2 tonnes of carbon dioxide a year
- 🌿 generating income and savings (if eligible for Feed-in-Tariffs) of around £3,200 a year
(source: www.energysavingtrust.org.uk)

What are the benefits of installing a small wind turbine?

Wind turbine installation is fairly simple and can be easily retrofitted to virtually any property without the need to change any wiring or appliances.

Wind power is green renewable energy and doesn't release any harmful carbon dioxide or other pollutants.

Installing a small wind turbine will provide a cushion against electricity price increases.

How much will it cost and how much will I save?

The cost of installing a small wind turbine will depend on the size, installation requirements and electrical system requirements.

Besides the fact that you are saving the environment and the Earth from global warming, you also gain various financial benefits from installing and using a small wind turbine.

We work in partnership with a number of leading turbine manufacturers to ensure your turbine is one of the most efficient small wind turbines available. The turbines have the ability to generate energy at low wind speeds and continue generating at high winds, providing the maximum yield possible; meaning reduced energy bills and carbon footprint, as well as a good return on investment.

The **Feed-in Tariff Scheme** is a UK government initiative to provide incentives to people who use renewable energy to produce electricity. The Feed-in-Tariff (FIT) guarantees you a minimum payment for each unit of electricity you generate from renewable sources.

This means that anybody that wishes to invest in buying and installing eligible technologies can be confident that the cost of their investment will be recovered.

Feed-in-Tariff gives you 3 financial benefits:

- 🌱 you are paid for every kWh of electricity that you produce and use
- 🌱 you are also paid for the amount of electricity that you feed back into the National Grid
- 🌱 you save on your energy bills

More about Hewlett Renewables

- ✿ Hewlett Renewables is a specialist division of Hewlett Civil Engineering – a market leading privately owned Civil Engineering contractor.
- ✿ By developing long-term professional relationships with our clients, we have built a reputation for reliability, integrity and excellence. Our people have been delivering top quality projects for 25 years, and we have a renewables portfolio to be proud of.
- ✿ Our impressive list of industry accreditations means you can be assured our quality, performance and vast experience in the wind energy sector combined with our engineering and construction expertise, offer a sustainable and cost effective supply chain from the design stage through to installation.
- ✿ As members of the REAL Assurance scheme we abide by the Consumer Code designed to ensure high standards of service. The REAL Assurance scheme is part of the Office of Fair Trading (OFT) self-regulation *Consumer Code Approval Scheme*. MCS-certified installers must belong to an OFT backed Code.



Feed-in-Tariff Rates for Small Wind Turbines

Feed-in-Tariff levels vary, depending on the scale of the installation. The tariffs are index-linked which means they will increase or decrease in inflation (RPI Index). The tariffs will be adjusted annually from 2012 to ensure a positive return on investment (ROI) of 8-10%.
(Source: www.realassurance.org.uk).

Technology – Wind Power

Scale	Year 01.04.11-31.03.12	Year 01.04.12 – 31.03.13
0 to 1.5kW	34.5	32.6
1.5 – 15kW	26.7	25.5
15-100kW	24.1	23

A full table of eligible technologies and their FIT band is available on the Department of Energy and Climate Change (DECC) website www.decc.gov.uk

If you do not use all the electricity you produce you will also receive 3p for every kW you export back to the grid (the export tariff). It may also be possible for you to negotiate a better export tariff with your electricity supplier, although they may only be interested in larger installations.

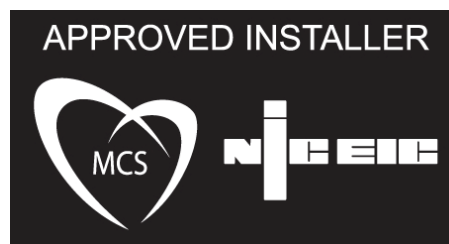
Microgeneration Certificate Scheme (MCS)

The Microgeneration Certificate Scheme (MCS) is an important quality assurance mechanism that sets out both:

- 🌱 standards for **installers** of small-scale heat and power generators; and
- 🌱 standards for small-scale heat and power generating **products**

Hewlett Renewables is certified under the Microgeneration Certification Scheme as an approved installer. This means you will be eligible for the Feed-in-Tariffs which means you can earn money from the electricity generated by your turbine.

Visit www.microgenerationcertification.org for more information.



How long will it take to pay back the turbine investment?

This will depend on several factors:

- 🌿 wind speed will govern how much electricity is generated
- 🌿 how much electricity you generate, buy and export
- 🌿 Feed-in-Tariff support
- 🌿 ROCs (Renewable Obligation Certificates) – how much to sell them for
- 🌿 Tax breaks (capitalisation of your investment)

The length of the payback period (the time before savings resulting from your system equal the cost of the system) depends on the system you choose, the wind resource at your site, electric utility rates in your area and how you use your wind system.

Based on the type of turbine you have installed and your site location, you may achieve a payback period of 9 years and it is conceivable to do better than that.

Is wind power practical for me?

Small wind turbines are ideal for domestic households, schools, higher education sites, community centres, farms and businesses to use for on-site energy generation.

Ultimately your individual site specifics (such as wind speed, location and local landscape) will determine if a wind turbine is viable for you, and if so, what appropriate turbine type and size will meet your needs.

How do I get started?

A small scale wind turbine is not suitable for all sites, so we would be delighted to advise you before you make any decisions.

Our free site assessment summaries key issues and considerations relating to installing a small wind system. The report will give you reliable estimate of the wind speed at the proposed site and is designed to provide sufficient information to justify further investment in the project.

The information provided by the site assessment will allow us to advise you on the type and size of turbine that would be right for your site and more importantly, how much energy it will generate.

How long does it take to install?

Following your free site assessment, the installation process can take just 10 days (dependent on site requirements). Please see our [timeline](#) example for more details.

Will I need planning permission?

Wind turbines usually require planning permission. We can guide you through all the relevant local authority planning and building regulations. We recommend that you discuss your renewable energy investments plans with your neighbours prior to commencing with any planning application. This way you can remove any potential concerns at the early stage of the project.

How do I connect to the National Grid?

In order to take advantage of the Feed-in-Tariffs scheme, the small wind turbine must be at a site where it can be connected to the National Grid. This can be done by simply connecting to your existing distribution board. We will manage this and advise you or act on your behalf in arranging grid connection and notification to the local Distribution Network Operator.

What about maintenance and warranty?

The turbine needs an annual service, which must be done by trained staff. To do this, the tower needs to be lowered to get access to the turbine generator. The servicing is straightforward, requiring general inspection of moving parts, lubrication and slip-ring cleaning. We can offer maintenance packages to suit your needs.

Are wind turbines noisy?

Small wind turbines are designed to be very quiet, a subtle combination of slow rotating speed and a direct drive system which avoids gear box noise and increases efficiency.

The aerodynamic efficiency of the blades means that the turbine is quiet in operation; the wind itself makes more noise than a wind turbine. The noise increases with wind speed, but so does the noise of the wind.

Where can I find more information?

The following links will provide you with further information:

-  www.scottishrenewables.com
-  www.microgenerationcertificate.org
-  www.bwea.com
-  www.enerysaveingtrust.org.uk
-  www.fitarrifs.co.uk
-  www.decc.gov.uk
-  www.realassurance.org.uk

