



## **Wind Power (For Electricity) - Factsheet**

### **What Is It?**

- Wind turbines are a technology which provides electricity from the wind. The wind drives the blades of the turbine which in turn drive a generator inside the hub of the unit which creates electricity.

### **How much does it cost?**

- Wind turbines can be relatively good value for money depending on your location and needs. Small turbines can be purchased for mounting on the roof at low cost and for minimal electricity needs. Freesource prefers to recommend free-standing turbines which are mounted on towers and can generate anything from 800w to 10kw. The prices range from £3-6k for the smallest turbines and up to £25 - 30k for a 10kw turbine. The most common enquiry is for a 5kw turbine and this is in the region of £16k installed.

### **What do Wind Turbines give me for my money?**

- It provides you with electricity when the wind blows over 3m/s (below this the turbines do very little)
- It does not supply your heating system unless you have an electrically powered system
- They are relatively maintenance free and have a very small footprint on your land.
- The bigger the turbine (called swept area) the more power you can generate and similarly the more wind and height you can get the better.

### **How do I know if my house is suitable?**

- The best locations are on a hill with a smooth slope facing west. This allows a smooth uninterrupted flow of wind at a sensible height. Coastal regions are good especially.
- The less neighbours the better, avoiding conservation areas also helps – planning authorities require a lot of considerations to be taken into account particularly from a visual perspective.
- Freesource try to avoid roof mounted applications as there is no guarantee these devices will not damage your property through vibration
- If you do not have a good wind speed, are in a built up area, are surrounded with trees, do not have sufficient ability to go high enough, Freesource will advise you to consider other forms of renewable energy

### **How do I connect a Wind Turbine to my electricity supply and can it make me money?**

- Wind Turbines are connected to your house through an inverter which converts the raw energy into that which can be used in your household appliances.
- You can connect your Wind Turbine to the national grid through a meter and grid connection. If you are in a remote location this can be expensive and may be worth considering off-grid connections using battery storage
- If you wish to sell your electricity to the grid you need to register with the grid as a micro generator and then contact an energy provider who is willing to buy your electricity. They will agree a price to buy your electricity from you



- If you are grid connected your system works when the grid works. If the grid goes down, your system will not function. If you wish to use a wind turbine as an independent supply you will need to invest in battery storage.
- One important consideration is the length of your connection. The longer the distance between your turbine and your power requirement the more power you will lose in the cable.

### **What Products do Freesource use?**

- We are a distributor of Fortis wind turbines, manufactured in Holland

### **What do I get for my investment?**

- Freesource will always take time to discuss your needs and plans before specifying a product. Once you are happy to proceed Freesource will send a fully qualified installer to survey your property and specify.
- All Freesource quotes include product costs and installation so you know the total cost of the product. Where VAT applies this will be at a reduced rate of 5%

### **Grants**

- There is a grant of £1,000 per kilowatt available (up to a maximum of £5k) to domestic customers who apply for the Low Carbon Buildings fund, details can be found at <http://www.lowcarbonbuildings.org.uk/home/>.
- No work can be undertaken for grant aided schemes until permission has been given by the grant authority. Grant payments will be paid direct to the customer once the work has been completed.

### **Do I get any warranties?**

- All products used by Freesource have warranties which range from 2-10 years depending on the brand.

### **Do I need planning permission?**

- You will definitely require planning permission. The first step is to let them know your intentions as early as possible. Take photographs of your site and prepare as much detail as possible to support your reasons for investing. Planners will be especially concerned with the visual impact on the area and may have other concerns as well

### **How often should I maintain my system**

- Most systems have little or no problems in their lifetime and require little maintenance. Occasional checks on the wiring and electrical connections are advised.