enviko
renewable energy solutions

Farmers' Wind Information Pack

Wind Energy - helping farmers diversify

As work on the land has become increasingly difficult over recent years, many farmers are looking to diversify. By diversifying into wind energy and installing wind turbines farmers are in a unique position to benefit from the growth in the wind industry. To tap into this market farmers have the option to lease their land to wind farm developers with no additional labour or expense required or they may wish to use the wind to generate power for their farms, or become wind power producers themselves. Enviko can provide advisory services and conduct the full project development for you whether it being setting up initial feasibility studies and wind speed assessments in order to maximize your land's leasing potential right the way through to gaining planning consent and managing the installation of the turbines on site.

Depending on the size of turbine and the wind speed, farmers can earn £2,000 – £4,000 per annum for each turbine, which typically uses less than one acre of land, when taking into account the foundations, cables and access roads. This is in line with the NFU guidelines. Local communities also benefit greatly from wind farm projects. Potentially millions of pounds will be spent over the life of the project, creating jobs in the local area. There are also opportunities for the farmers, members of the community and local organisations to invest in their own green energy project.

Benefits of installing a wind turbine at your farm include:

- Income for up to 30 years.
- Rental incomes in excess of £2,000 per turbine.
- No Labour or expense when working with a developer.
- Benefits for community and environment.
- Renewable energy combats global warming.
- Government Policy.
- Sustainable and diverse energy supply.
- Green electricity for local consumption.

Enviko is involved in careful site selection, optimised site layouts and widespread consultation. We will completely prepare and progress the planning application, taking care of all aspects of the development process, from commissioning environmental studies to liasing with the local community, all at no cost to the landowner. Our flexible structure allows landowners to participate as much or as they would like.

We pride ourselves on the strong relationships that are formed with landowners. Working closely with them, we will see a project right through to the end, even if it means taking a planning decision to appeal.

Why Wind Power?

The use of wind energy is dramatically increasing in the UK due to fears of fossil fuel shortages, evidence that fossil fuels are creating climate change and the concerns about nuclear power. By 2020, the UK will need to source 15 per cent of its energy from renewable sources and, with renewable energy currently accounting for just 2 per cent of domestic energy use, wind power will be essential. With an estimated £100 billion in capital investment expected over the next 12 years, farmers will be at the head of the queue to cash in as Government policies promote green energy. Wind power is a renewable energy source, as it does not produce greenhouse gases or hazardous waste. The naturally blowing wind is harnessed to produce electricity for local consumption, whilst offering a clean, safe, diverse and seure energy source.

Typically, a wind farm with 10 turbines will generate enough electricity for 8,000-10,000 homes, and will save approximately 35,000 tonnes of harmful greenhouse gas emissions. Other sources of renewable energy can be used to reduce greenhouse gas emissions, however wind energy is by far the lowest cost source. Wind farms offer substantial investment into local communities, giving farmers and local industry an opportunity to diversify.

On a smaller scale installing an individual or pack of wind turbines can also bring many befits to farm owners. Benefits include saving the purchase cost of the energy that you generate for yourself and when you export your surplus energy back to the grid, having power from the wind even when your grid connection has failed, or where there is no grid and supplementing the power from the grid when your needs are greater than your connection capacity.

Working with Wind Developers

One of the easiest and most attractive ways for farmers to benefit from wind power is to allow developers to install large wind turbines on their land. The royalties are typically around £2,000 to £4,000 per year for each turbine, depending on its size. These payments can provide a stable supplement to a farmer's income, helping to counteract swings in commodity prices.

Wind developers may offer landowners a fixed annual lease payment, a single up-front payment, a share of revenues from a wind project, or some combination of these. Although fixed payments may be lower than a share of revenues, they offer less risk to the landowner. Up-front payments may be attractive too, but if the property is sold within the timeframe of the contract, it could

complicate the sale. A new landowner who doesn't receive any income from the wind turbines may want to pay a lower price for the property. Also, up-front payments are often structured so that the developer receives a perpetual lease to the wind resource rights on the property. This can be a disadvantage, as the value of wind power is expected to increase over time. Basing the lease on a share of revenues is likely to be the best option for capturing future increases in the value of wind power.

Owning a Turbine

Farmers can generate their own power from the wind, small wind generators, ranging from 5 kilowatts to 40 kilowatts or more, can meet the needs of an entire farm or can be targeted to specific applications.

"Net metering" enables farmers to get the most out of their wind turbines. When a turbine produces more power than the farm needs at that moment, the extra power flows back into the electricity system for others to use, turning the electric meter backwards. When the turbine produces less than the farm is using, the meter spins forward, as it normally does. At the end of the month or year, the farmer pays for the net consumption or the electric company pays for the net production.

The Farmer as Wind Developer

A third opportunity for a farmer or group of farmers is to become a wind developer who produces power to sell to others. Electric companies increasingly buy their power from independent power producers rather than generating it themselves. They are also increasingly offering "green" or environmentally friendly power products and may be looking for suppliers of wind power. Becoming a wind power developer has some important challenges, however. Purchasing one or more large wind turbines can be a substantial

investment for even a large farm operation. Green markets are creating a place for niche products, the market for green power is still young and profit margins are may be considerable in the coming years as utility prices increase.

Farmers willing to take the risk could become wind investors as well. Pooling resources with other farmers can be an attractive option for reducing risk and lowering costs. Cooperative ownership of one or more turbines is common in Europe and is starting to take hold in the UK.

Typical Expenses for a Wind Turbine

The economics of owning a turbine depend on many factors, including wind speeds, the size and cost of the wind turbine, interest rates, taxes, and electricity prices. One key issue is how much of the power the farm uses and how much is sold back to the utility. A recent study found that a wind turbine investment pays for itself most quickly when most or all of the power is used on the farm, since the farmer is saving power at the retail price, rather than selling it at a wholesale price.

With smaller wind turbines, most farm operations can use all of the power. But the cost per unit of electricity generated from smaller turbines is higher than that from larger turbines, so the payback period is longer. Since a well-maintained wind turbine can last 30 years, it can be a profitable investment. Like any other long-term investment, a thorough engineering and financial analysis is important before making the investment. In general prices are in the range of £1,500 - £3,000 per kW installed.

Output Ranges

The main factor affecting the output of wind turbines is the average wind speed. This varies for different areas of the UK but increases with the height of the turbine above ground level. Local topography can significantly impact upon local wind speeds. A small difference in wind speed will make a large difference to output.

Maintenance

Turbines can have a life of up to 20 years but require service checks every few years to ensure they work efficiently. For battery storage systems, typical battery life is around 6-10 years, depending on the type, so batteries may have to be replaced at some point in the system's life.

Finance

Government grants and interest free loans are available to help cash flow. Getting the right deal with your electricity company means they'll pay you for excess electricity at the rate you buy it at. ROCs (another government subsidy) mean that you'll be paid for all the electricity you generate. It all adds up so a turbine makes sense for people with open land.

Enviko is able to offer with a partner, project and capital finance for a variety of wind turbine installations both domestic and commercial. Please get in contact if you would like more information.

Call us now on 0845 189 9894 to discuss your requirements.

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