

Earthmill Ltd - Media Pack

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Summary

Earthmill Ltd is the leading farm-scale wind turbine supplier and specialist in the UK. Its aim is to make wind power a viable source of clean, renewable energy available to farmers and landowners across the agricultural industry.

Onshore generation of electricity from wind power can represent a significant business opportunity, reducing costs from rising oil and gas prices, minimising carbon emissions and ensuring an additional income from a profitable but low-carbon investment.

Based in Wetherby, West Yorkshire, Earthmill employs 36 people and is the UK's leading supplier of 50-500 kW wind turbines. The company sets itself apart from other wind turbine suppliers by specialising in the agricultural sector and handling every stage, from planning and supply, through to installation and maintenance.

The company is the biggest Endurance distributor globally, and has installed and maintains a fleet of their own turbines as an investment.

Key facts

- There are currently incentives available in the form of Government's Feed-in Tariff or FiTs.
- Turbines do not frighten livestock. For that reason wind farming is very popular with the agricultural industry because land can continue to be used for growing crops or grazing livestock.

- A turbine will produce power down to a light breeze, which is a wind speed of 3.5 metres per second.

- Guidelines recommend there should be a minimum distance of 175 metres from neighbours and 60 metres from hedgerows. Each turbine must be connected to the National Grid via local power lines. A landowner can request a complimentary site assessment from Earthmill to find out if a site is suitable for a turbine.

- Either the landowner buys the turbine or Earthmill rents the land that a turbine stands on for a period of 20 years. The company is financially responsible for planning, buying, installing and maintaining the turbine which belongs them.

- Agricultural wind turbines are a lot smaller than the giants constructed for onshore and offshore windfarms. These smaller turbines generate the same amount of noise up close as a flowing stream around 50 to 100 metres away. Often the noise of the wind itself is louder.

- Earthmill recently acquired the wind energy division of Bristol-based TGC Renewables. Earthmill's managing director Steve Milner described the acquisition as cementing the company's position as the number one choice for farm-scale wind turbines across the UK.

- Earthmill are operating over 200 turbines across the UK.

Incentives

A major incentive for installing green energy devices such as wind turbines is the Government's Feed-in Tariff initiative (FiTs). This is a reward scheme whereby a farmer will be awarded a financial reward for every unit of clean energy produced; it doesn't matter whether the farmer uses the energy or sells it back to the National Grid, the farmer will still receive the FiTs.

The current rate for <100kW wind turbine is 16.00 pence per kWh (Feb 2015). So for example, an agricultural turbine should generate in the region of 200,000 units annually providing a FiT income of up to £32,000 as well as potential energy savings of over £20,000 per year. FiTs are index linked and payable for the next 20 years at the rate which was in effect when the farmer registered.

FiTs will not, however, last forever. The rate will continue to drop incrementally at the beginning of April and October every year following a review. Obtaining planning permission for a wind turbine can be a lengthy process, especially if the appeals process is involved.

Those who have planning permission and grid connection offer from the distribution network before the New Year can pre-register with Ofgem to receive the current level of FiTs. If the deadline is missed then the turbine must physically go in the ground, be commissioned and registered before April in order to qualify for the current FiT rate.

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- **Land rental** – earn between £3,000 and £20,000 a year with access to power at up to 50 per cent less than commercial rates. Zero financial investment.

- **Outright purchase** – full access to free power from the turbine. Additional income from FiTs and Export. Return on investment possible within four to eight years.

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Case Study:

Dave Morgan, who farms near Driffield, East Riding of Yorkshire, bought the property, without livestock on it, in 1996. Within 10 years he had grown the farm to 600 pigs and today the 50-acre site is home to 1,600 pigs with ever rising energy costs.

In an effort to combat the burgeoning power bills, Mr Morgan decided to investigate the possibility of generating renewable energy. He looked at wind energy first because the average wind speed over the farm is 6.2m/s, considered ideal for a small wind turbine.

He purchased his E-3120 50kW wind turbine through Earthmill and it was installed in October 2011. Now, in addition to reducing his reliance on fossil fuels and cutting his energy bills, Mr Morgan is now benefiting from the Government's Feed-in Tariff (FiT) scheme that pays a fee for every unit of renewable electricity that's generated by the turbine.

The turbine cost £250,000 to install and, thanks to FiT payments, Mr Morgan expects a seven-year payback on the project.

Further case studies available on request – call Paul or Sarah on 01423 56 99 99

Earthmill – Key facts and stats

General UK farming stats:

- Over 300,000 farms with an average size of 50 Hectares (ha)
- Scotland farms average over 100 ha; England 50 ha; Wales 40 ha
- Estimated that only 5% of UK farmers have installed turbines
- Average farm business income predicted for farms in UK 2013 (Source: Defra)
    - Cropping/cereal farms - £90,000 per annum (-11%)
    - Dairy farms - £50,000 per annum (-42%)
    - Grazing farms - £18,000 per annum (-44%)
    - Lowland grazing farms - £14,000 per annum (-52%)
    - Specialist pig farms - £19,000 per annum (-50%)
    - Poultry farms - £41,000 per annum (unchanged)
- Average farm electricity usage (units per ha) by type in 2011/2012 (Source: Defra)
    - Lowland grazing farms 67 units/ha
    - Cropping/cereal farms 116 units/ha
    - Dairy farms 512 units/ha
    - Specialist pig farms 822 units/ha
    - Poultry farms 2,194 units/ha
- Percentage of energy usage as electricity by farm type 2011/2012 (Source: Defra)
    - Poultry 56% of energy used
    - Pigs 55% of energy used
    - Dairy 44% of energy used
    - Grazing 20% of energy used
    - Cereals 18% of energy used

Farm-scale turbine facts:

- 20,000 small turbines in use in the UK (farms, industrial, schools etc.)
- Farm scale turbines cost between £270,000 (50 kW) to £600,000 (225kW) installed
- Farm scale turbines are typically 100ft – 160ft in height
- Payback period for turbines (as at November 2013) circa 5 – 8 years, dependant on wind speed and grid connection costs.

Earthmill FAQ's

What are Feed-in Tariffs?

FiTs, or Feed in Tariffs, are a financial reward issued by the Government for generating clean, renewable energy. For every kwh of energy your turbine produces (whether you use it yourself or sell it back to the national grid) you will receive payment. The money you receive is paid to you by the electricity companies (E-ON, Npower, British Gas etc). You can find out more about current rates on our wind Feed in Tariff page

Can you get a grant?

Grants were replaced in 2010 with the Feed-in Tariff scheme. Click here for the latest information

What VAT rate applies?

For businesses, the standard rate of 20% applies. For domestic purchases, VAT of 5% is applied.

Is there a warranty for the turbine?

Yes. Manufacturers' warranties cover the controls and wind turbine for 5 years. Additional warranties are available to cover years 6-10, please contact us for further details.

How much maintenance is required?

Depending on the type of turbine either a 6monthly service or a service after 5000hrs of operation is required. The service and maintenance schedule isn't dissimilar to the MOT and Service your car requires.

How much space is required for a turbine?

Once installed turbines take up very little ground space ranging from 6m x6m to 12m x 12m. During construction a wider area is needed for the various delivery vehicles and cranes.

How long does it take to install?

The first stage is to obtain planning permission and apply for a new grid connection. It normally takes 15 weeks for this to be completed. From product order to commissioning, this can take a further 4 – 6 weeks. For larger turbines the manufacturer's lead time is up to 4 months.

What happens if there is a power cut?

If there is a power cut your turbine is automatically switched off. This is a safety measure to stop electricity leaking on to the National Grid and to protect individuals working to restore the power supply.

What happens to the electricity I don't use?

Any electricity that you do not use is sent back to the grid, a meter measures how many Kwh are exported and you are paid for this.

What if lightning strikes?

Nothing too exciting! The turbine blades and tower are lightening protected as are the electrical circuits. In the event of a lightning strike the turbine will shut down for safety reasons and will require an engineer visit to re-start it and check the systems. Typically we experience a lightning strike about once a month!

Do turbines frighten livestock?

We have over 200 wind turbines many of which are on livestock farms. Our clients continue to graze their animals in the field where the turbine is located without any problems at all. Many clients choose to put a post and rail fence around the turbine to prevent cattle using it as a scratching post!

What if there is no wind?

Wind turbines start to produce electricity in wind speeds of 3m/s and above. No meaningful power is generated in any less than this and will only put additional wear and tear on its components. On days when there is no wind you will draw electricity from the national grid so you won't be without!

Do turbines cope in high winds?

Wind turbines are designed to operate in windy areas, however, when the wind speed exceeds the operating limits of the turbine it will shut down to prevent any damage occurring. There are a number of ways in which a turbine does this and depending on the model can involve blade tip brakes to slow the speed at which it turns before a main brake is applied. Turbines re-start themselves automatically once the wind has died down.

Is turbine noise harmful?

Because agricultural turbines are relatively small, they do not generate the low frequency noises sometimes associated with the larger scale wind farm turbines. We site turbines well way from buildings to reduce turbulence and wind friction so you probably won't even hear your turbine at all.

Are turbines noisy?

The sound of a wind turbine is likely to be about the same level as the noise from a flowing stream about 50-100 metres away. Often the noise of the wind itself is louder.

Is my site windy enough for a turbine?

We have access to a number of complex wind speed databases that will give an indication of the wind speed at your site. You can use our site assessment tool to request a desktop assessment of your site, which is conducted by one of our in-house specialists. Site assessments are complimentary and don't obligate you to take your enquiry further.

Do I need planning permission?

Yes, planning consent is required for structures over 4m high. We have an experienced team of in-house planning consultants who understand the complex guidelines and policies that need to be adhered to to ensure a successful application.

What is the life span of a turbine?

A turbine will last for 25 years plus as long as it has been correctly sited and well maintained. Its life span is increased if regularly serviced and maintained.

How does a turbine work?

The energy in the wind turns the blades around the rotor. The rotor is connected to the main shaft, which spins a generator to create electricity.

For further information about Earthmill please contact:

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Please take a look at the attached sheet of photography. If you would like to receive any of these images please email: paul@appealpr.com ; sarah@appealpr.com

Image contact sheet

Earthmill 1

Earthmill 2

Earthmill 3

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