



## Providing a better alternative in supplying green power to a Midlands arable farm

Rufford Forest Farm is an agricultural business near Newark in Nottinghamshire. It is owned by the King family, who started farming there in 1969. Today it is run by Tom and Kathy King, who took over from Tom's father a number of years ago. Among other things, the Kings use their 650-acre land to grow rye for Ryvita Crispbread.

The farm has an annual electricity usage in excess of 220MWh and it needs approximately 48,000 litres of diesel to generate electricity for farm machinery. The Kings invest in wind energy because they are keen for their farm to operate more sustainably, partly by becoming less reliant on fossil fuels. They are taking steps to offset the farm's carbon footprint of approximately 250 tonnes CO<sub>2</sub> per annum, which is based on energy consumption and fertiliser usage, with a view to becoming carbon neutral in the future.

Wind energy is not new to the Kings. A different brand of wind turbine was developed previously on their land but unfortunately disappointed in power output due to availability issues. It was then decided to replace the failing machine by a state-of-the-art EWT DW54-500kW measuring 78m to the tip of the blade. Since being fully commissioned in September 2014 it has reliably provided the farm with renewable energy to power their farming operations.



## EWT Rufford Forest Farm Case Study

Since 1969 the King family have been expanding the business at Rufford Forest Farm. The EWT wind turbine supports the next stage of their business development plan, diversifying their income to allow future investment, as well as to become more sustainable.

The wind turbine is fully owned by the King family through their own energy business - King Renewables. Each year that it is operational – expected to be 25 years – the turbine will generate approximately 1,630MWh of green electricity, which is supplied to the farm as well as to the local distribution network. About 20 per cent of turbine output is used for farming operations, the rest goes into the local grid. The wind turbine generates enough power to replace approximately 885 tonnes of CO<sub>2</sub> every year – offsetting the farm's carbon footprint of 250 tonnes per year more than three times over.

### Benefits to the Farm

- With a power output of approximately 1,630MWh each year, the EWT wind turbine generates more than 7 times the amount of electricity needed by Rufford Forest Farm, which has an annual electricity demand of 220MWh. Therefore, the turbine has a grid connection to ensure that the surplus power can be fed to the local network.
- Since the turbine started operations in September 2014, the Kings have saved about £10,000 on their farm's electricity bill compared to the same period before.
- The wind turbine offsets Rufford Forest Farm's carbon footprint by 100%.
- This allows the farm to market low-carbon produce and puts it in a position to tender effectively for future contracts.



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