



## Meeting 100% of the energy needs of an organic dairy business

The Tweddle family have been farming at Garthone Farm since 1979. Their organic business – Acorn Dairy in Darlington – with its 250 strong herd produces almost six million litres of milk each year. This milk is delivered to over 4,000 households across the North-East, as well as to local schools, hotels, restaurants, leisure centres and British businesses such as Morrisons and Waitrose. Acorn Dairy is a great example of a successful local, organic farm with a strong commitment to the local community. Employing 34 people, Acorn Dairy perfectly demonstrates how the green economy provides employment in Britain.

The Tweddles wanted to generate their own power and installed a DW54-500kW turbine with a 40 meter hub height on their farm. EWT's wind turbine will produce enough electricity to make their two farms self-sufficient. Their steam generator had been using diesel at an alarming rate, but has now been replaced by an efficient electric one. The purchase of a wind turbine is the largest capital project Acorn Dairy has ever undertaken. The Tweddle's next step will be to start using electric delivery vans powered by their wind turbine.



## EWT Acorn Dairy Farm Case Study



Acorn Dairy uses a lot of energy to pasteurise their milk and sterilise their equipment. Because of this, the Tweddles are concerned about the future costs of electricity – as well as their carbon footprint.

The rising cost of fossil fuels will have a substantial impact on their business, so the Tweddles have taken the step to start generating their own clean, green energy. This will protect their business from future energy price spikes.

The wind turbine is just one of the many initiatives taken by the Tweddle family to ensure their business can grow sustainably. Acorn Dairy is an organic farm, so their impact on the local environment and the welfare of their cattle are of paramount importance.

The Tweddles also operate a 12 mile hedge improvement plan. Following a RSPB survey, they know their farm provides habitat for over 80 unique species of bird.

Their efforts, which include ecological work on their farms, have earned the Tweddles the Friends of the Earth Clean British Energy award.



### Benefits to owner and the local community:

- The income from the turbine has had a stabilising effect. Against the ongoing backdrop of increasing volatile milk prices, this additional income has enabled the farm to budget on a steady export price for their electricity.
- The turbine provides all the power needed for the farm's processing and bottling process, saving 1,000 litres of diesel a week, and drastically reducing the farm's carbon footprint.
- Before the turbine was installed the farm was using approximately 400MWh of electricity each year – this demand has fallen to less than 100MWh, a reduction of over 75%.
- The turbine generates 1,350 MWh per annum. The surplus power is fed into the local grid network.
- In excess of 730 tonnes of CO<sub>2</sub> are saved annually. Depending on whether this power had been produced by gas or coal fired power stations, the amount of CO<sub>2</sub> saved could be as much as 1180 tonnes per year (source: RenewableUK).
- Since installing the wind turbine, Acorn Dairy was awarded the Clean British Energy award by Friends of the Earth.
- Local schools that buy milk from Acorn Dairy visit the farm to learn about renewable energy and sustainable living.

### EWT B.V.

Lindeboomsseweg 51  
3825 AL Amersfoort  
The Netherlands  
T +31 (0)33 454 05 20  
F +31 (0)33 456 30 92  
sales@ewtdirectwind.com  
www.ewtdirectwind.com

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