FARMING FUTURES
PROFITABLE BUSINESS IN A CHANGING CLIMATE

CASE STUDY 32

FOCUS ON RENEWABLE ENERGY
STEPHEN RAMSDEN

Long before much of the farming world had acknowledged the benefits of renewable energy, Stephen Ramsden and his family took the plunge of installing a small wind turbine on their Yorkshire Dales farm. Whilst the financial incentive of such a system might be sufficient for many, Stephen firmly believes that livestock farmers have an opportunity to reduce their carbon footprint by undertaking a renewable energy project. His contribution is a wind turbine that can produce around 11,000kW of energy per annum, equivalent to about 50%of his household requirements. In this case study, Stephen talks of the ease with which the project was undertaken and his numerous motivations for investing in renewable energy.

THE DETAIL

- **Yorkshire Dales** landowner
- **6kW, 10m Proven Energy wind turbine** at a cost of **£20,000** (2007, 5% Vat excl)
- **11 month** project timescale
- **20+ years** turbine life expectancy
- Turbine capable of withstanding up to **100mph** winds
- Low maintenance costs of **£200** per annum (self-service option)

What is your background in farming?

I am a fourth generation landowner in the Yorkshire Dales, farming 8500 acres together with 9 tenants (three-quarters of which are moorland).

When did you decide to invest in a wind turbine for your land?

Four years ago we erected a small 6kW, 10m high Proven Energy wind turbine. The whole project took 11 months to undertake, from concept through to commissioning.

What motivated you to install the turbine?

We decided to install it for a number of reasons, but primarily because it made financial sense. With a life expectancy of over 20 years, the turbine will provide us with domestic electricity for a good while yet. Any unused units of electricity are exported (sold) to the grid.

We also see the turbine as a means to reducing our carbon footprint. Looking to the future, upland farmers must make a long term commitment to reducing their carbon footprint because small-scale hydro and wind-based renewable energy technology presents a

massive opportunity. Sustainable farming has a big part to play in our response to climate change.

What benefits does the turbine bring?

In the first two years since installation, the system has generated 11,500kW per annum, but we have recently noted lighter winds resulting in less output. The turbine can withstand wind speeds of up to 100mph, making it incredibly versatile and sturdy.

We also use the turbine to promote renewable energy production in the area, and to educate children on the importance of sustainable farming and micro-energy production. Being able to witness a turbine in action does much more than learning about its benefits in the classroom.

How difficult was the system to install?

Taking just 11 months, the whole project went seamlessly. After a few initial maintenance issues, the turbine is still performing very well. Every other year, the turbine is taken down, stripped and cleaned, before being re-erected in near-perfect condition.

How much did it cost to install and what savings are you making?

At the time of installation the system cost £20,000, inclusive of planning costs (plus VAT) – we estimate that the pay-back will be over a 7-8 year period. The cost of the project was aided by a grant, but we are exempt from the Feed-in Tariff because our system was installed before the scheme's introduction. We continue to save on our domestic electricity bills, and make a small amount of money from exporting unused units of electricity to the grid.

Do you think sustainable farming is important in light of threat of climate change?

I think it is vitally important that upland farmers take steps to adapt to climate change – it was only recently that the Yorkshire Dales Farmer Network (of which I am a member) hosted a presentation on renewable energy options available to upland farmers. Despite these advances in thinking, there remain obstacles to overcome, such as the isolation of upland farms and their lack of proximity to a suitable grid connection. It will be interesting to observe future government and EU legislation regarding the responsibility of landowners to improve the green credentials of their business.

> "Looking to the future, upland farmers must make a commitment to reducing their carbon footprint because small-scale hydro and wind-based renewable energy technology presents a massive opportunity..."

For advice and information on how to apply this approach to your own farm, take a look at FACTSHEET 26 – WIND POWER

With thanks to: Forum for the Future, the AHRF, AIC, CLA, Defra, FWAG, LEAF and the NFU