

Farmer enlists Bowers to help create zero carbon farm and £200k income

A FARMER who turned to Bowers Electricals in order to reduce his electricity bills has described the move as one of his “best decisions ever” after seeing a return of £200,000 a year.

Andy White, who runs a pig farm near Grantham in Lincolnshire, commissioned Bowers to install a wind turbine which is producing enough energy to not only power his 600 acre business, but two neighbouring villages.

The turbine, which was part of an £800,000 investment by the green-thinking farmer, has been generating 830,000kWh a year since its installation at Frinkley Farm in February 2012. Thanks to the Bowers BEST Range Low Loss transformer and switchgear that it was commissioned alongside, Mr White is able to sell the electricity he generates back to the grid at 26p per unit, under feed-in tariff rules.

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Andy White

Charged with producing 11,000 pigs a year for Morrison's supermarkets, and with a herd of 450 sows to maintain, Frinkley Farm was racking up monthly electricity bills of £3,000 before Andy turned to renewable energies. Now he spends just £300 a month keeping his herd warm and believes he has created the UK's first zero carbon pig farm.

“I've been interested in renewable energy for many years and looked into the idea of generating my own electricity ten or 15 years ago but it didn't stack up. When the Government announced the feed-in tariff that all changed.

“We started by installing 50KW Solar PV on the grain store and the power generated feeds back into the pig unit. Now, with the turbine and the Bowers transformer, we're feeding enough power back into the grid to take care of two entire villages.

“We're seeing a return on investment of around £200,000 a year from the turbine and £22,000 a year from the solar PV,” explained Andy (pictured overleaf), who runs Frinkley with his father Bryan and five full time workers.

“We grow our own food for the pigs and the muck is returned to the land as manure

so we don't need to buy in 60-odd tonnes of fertiliser from overseas, unlike most farmers. The whole thing is pretty much self-sustaining which means we don't face prices that are outside of our control.

“We're not a factory farm: our pigs are on straw and are very happy. In fact they probably have the best welfare in the world.

“The turbine doesn't dominate the area and the neighbours actually quite like it. And from an environmental and cost point of view I think it's fabulous.

“It was an easy process once we had the planners on side and they understood the wider benefits. Bowers did a great job. Everything has been good and went smoothly and I think it's been one of the best decisions we've ever made.”

Michael Bowers, managing director of Bowers Electricals, added: “We were faced with very tight time constraints on this project and because of the different elements it was quite a complex job but the team ensured everything went according to plan and it was a great scheme for us to project manage. Our work has not only made a real impact on Andy's bills but on the environment, which is a win-win result.”



THE TECHNICAL BIT

Bowers Electricals was commissioned by Andy White to project manage the installation of a new 315kVA Enicon E33 wind turbine as well as to supply and install a new Bowers BEST Range Low Loss 315kVA 11kv to 415V transformer, complete with RMU and close coupled mounted 400A LV feeder pillar.

The project included the connection from an existing overhead line to a new Lloyds approved G59 substation and HV switchgear and G59/2 generator protection was specified to enable the Whites to generate back into the grid.

Bowers Electricals manufactured the super-efficient transformer at its Derby headquarters and the project team procured the HV and LV switchgear and carried out all the civils building works, including the installation of 720m of HV cabling and all the component parts and equipment between the turbine and the new substation. Bowers engineers also installed GRP enclosures and all associated equipment and undertook soil resistivity tests on large areas of the farm before installing a large earth matrix for the new substation.

The project concluded following discrimination studies and G59 commissioning.

FRINKLEY FARM - AT A GLANCE

DATE OF INSTALL:

January 2012

ANNUAL kWhr CONSUMPTION BEFORE INSTALLATION:

290,000 kWhr

EQUIPMENT INSTALLED:

Bowers BEST Range Low Loss 315kVA 11kv to 415V transformer
315kVA Enicon E33 wind turbine
RMU and close coupled mounted 400A LV feeder pillar

FINANCIAL SAVINGS:

£32,600

ADDITIONAL INCOME GENERATED:

£200,000

RETURN ON INVESTMENT

4 years



Bowers
Electricals Ltd

FOR MORE INFORMATION:

T: 01773 531531

E: enquiries@bowerselec.co.uk

W: www.bowerselec.co.uk

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