

Renewable energy case studies

Case study 8

Small scale wind (grid-connected)

Summary

When Ian and Rosamond Robertson bought a derelict cottage in need of complete renovation, with no grid connection, they had to carefully consider the options for generating electricity.

After much deliberation and various calculations Ian opted for a grid-connected 2.5kW turbine from Proven Engineering Products Ltd. Getting a grid connection was expensive and time consuming but it meant the Robertsons would always have a reliable energy supply and they would also be able to sell any excess electricity produced back to the grid.

Ian had to apply for planning permission for all aspects of the renovation including the wind turbine. Planning permission was granted within the normal timescales of around two months as set out in official guidelines. The installation of the turbine itself was very straightforward and was completed over the course of a single day.

Ian investigated the possibility of a tariff that would allow him to both buy from and sell to the national grid and he finally decided on Good Energy. Good Energy have agreed to pay the Robertsons 4p for every unit of electricity generated.

The Robertsons have not moved into the cottage yet as the renovations are not yet complete, however the turbine is providing more than enough electricity to power the pump for the private water supply. It is also powering some domestic appliances and the power tools being used in the renovation.

Ian and Rosamond are pleased with the turbine's performance so far and Rosamond has been particularly happy to find the turbine is quieter than she had thought it might be. On reflection Ian feels that he should have considered installing a 6kW turbine given that the site is very unobtrusive and that a larger turbine might have produced a lot more electricity to sell back to the grid.



The Robertson's wind turbine with their house and outbuildings in the background

Key points

- Power output: 2.5kW at 12m/s wind speed
- Type of turbine: Proven WT2500, hub height 6.5m, grid-connected.
- Estimated fuel saving: approximately £350/yr
- Estimated carbon saving: approximately 2,300kg CO₂/yr

Cost

Total installation: £10,290

The Energy Saving Trust grant: £3,087

Further information

In Scotland, the Energy Saving Trust (with funding from the Scottish Executive) offers homeowners grants of 30 per cent towards the cost of a renewable energy installation, up to a maximum of £4,000. Technologies eligible for funding include, but are not limited to, solar water and space heating, wind, hydro, heat pumps and automated wood fuelled boilers and stoves.

To obtain an application pack and further information contact the helpline on **0800 138 8858** or visit www.est.org.uk/schri.

