

Renewable energy case studies

Case study 4

Woodchip boiler system

Summary

There were a number of reasons Hugh Buchanan first considered replacing his conventional oil fired heating system with a wood burning system. Firstly, with an ever increasing annual oil bill there was a cost consideration. There were also a number of environmental considerations, not only is wood a carbon neutral alternative to oil, but Hugh was also very keen to ensure that his and his neighbours' woodlands were properly managed and maintained.

Before the installation went ahead Hugh first had to buy a second hand wood chipper and create a stock of woodchips (for householders who do not have their own supply, woodchips can be sourced from commercial woodchip suppliers). Hugh's wood chipper can only chip fairly small pieces of wood, such as saplings, so a local contractor brings in an industrial chipper to deal with the larger forest waste. Fortunately, Hugh had plenty of space and existing sheds that could be used for storage.

The installation itself only took two days and everything went according to plan. The boiler was installed in a shed about 50m from the house meaning that 50m of flow and return piping had to be laid and plumbed in.

Hugh is extremely pleased with the performance of the system, which is highly efficient and produces very little smoke at all. He has kept his oil boiler for back up and has reduced his annual oil bill by more than 80 per cent. Hugh is constantly refining his system of collecting forest waste and chipping it so that it becomes less labour intensive whilst producing a higher quality of chip. His neighbours have been pleased to accept his help in managing their woodlands with another positive spin off being that the process has created some local employment.



Hugh Buchanan's 60kW woodchip boiler

Key points

- Heat output: 60kW
- Type of boiler: Ala-Talkkari Veto stoker-boiler range
- Proportion of heating met by boiler: 85 per cent
- Cost of wood fuel: £0*
- Fuel being replaced: oil
- Estimated carbon savings: 11,500kg CO₂/yr

*Hugh chips his own wood, therefore it does not cost him anything; however, in most cases fuel will have to be purchased from the nearest fuel supplier and prices are always dependent on distance. For information on wood fuel suppliers and prices speak to a registered installer.

Cost

Total installation: £7,938

The Energy Saving Trust grant: £2,381

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.

