



Introduction

The Watsons live in a large Borders farmhouse; they recently installed a biomass boiler to burn woodchip produced from their tree surgery business.

Background

Previously there was a wood burning stove and Rayburn that supplied the domestic hot water. Energy bills were relatively small, but the house was generally cold.

The Watsons were interested in sustainability, but that was not the only reason for going along this route: Mr Watson is a tree surgeon and has all the raw materials to hand to provide cheaper fuel.

Getting started

They carried out some initial research, and became very interested in woodchip boilers. They approached Farm 2000 who supply large biomass and woodchip boilers.

Farm 2000 provided assistance, and they also received a 30% grant from the Scottish Community and Householder's Renewable Initiative (SCHRI). Mr. Watson found the grant system very easy.

Technology

The boiler is a Refo 40, manufactured in Denmark. Farm 2000 products supply the boilers in the UK.

The boiler is capable of burning woodchip, wood pellets, grain, rape mash, shredded timber, and sawdust. It can handle woodchip with a moisture content of up to 45%.

The boiler has worked very well with woodchip, and suffered no problems with 'nesting' (wood chips stacking up inside and stopping the fuel supply).

The boiler provides heat and hot water for the farmhouse. A holiday cottage will be refurbished in due course and it will also be plumbed into the system. It could also be used for drying grain, heating a swimming pool etc.

" The boiler can work over a range of 8-100% of output which makes it very flexible in terms of heat supply. The system also dries the chips just before they enter the burner chamber – thus allowing wetter material to be used. "

Benefits

It fits in very well with the tree surgery business as fuel is readily available, providing a cheap and sustainable source of heat.

Farm 2000 have provided very good aftercare.

Difficulties might arise if away for a long time and the boiler requires de-ashing, although automatic ash removal is possible as an optional extra.

" We are happy to go away leaving the boiler lit for 3 or 4 days. "

Cost

Boiler and storage unit cost £12k – compared to about £2k for an equivalent oil boiler

£4k grant was received from SCHRI

Installation costs were covered by own labour, and Farm 2000 warranted the work so that the grant could be claimed.

Recommendations

Use dry wood for best results, and have a large storage area, so that the chipper can be hired in once a year.

Summary

" We're really pleased with the boiler and its operational capacity. It needs some input – filling the hopper and de-ashing can be done every 5 – 6 days. It is difficult to envisage how these systems could work without some materials handling "

Further information

Peter Teisen
FARM 2000/Teisen Products Ltd,
Bradley Green, Redditch, Worcs. B96 6RP UK
01527 821488
www.farm2000.co.uk