

# Hendre Farm, St. Davids, Pembrokeshire

## An Owner's Perspective



Our lovely, old house at Hendre Farm, St. Davids in the Pembrokeshire Coast National Park was built in 1850 by a local trader and commands extensive views to the North, South and West. Consequently, it is exposed to the wet and windy metrological elements from those directions all year around. The house is stone built and solid; it is however somewhat damp and the stone walls absorb much of the heat produced by our central heating system. Heating was by an oil fired central heating boiler and in 2010 was costing in excess of £4000p.a. to run. We have 20 acres of scrub willow (sometimes called tree weeds!) on our farm and it occurred to us that we should consider harvesting this timber in a managed way, for firewood. The additional spin off being that by coppicing the willow we could control the re-growth making it easier for future generations at the farm to harvest their firewood.

## Design Work

We carried out extensive research to look into the whole issue of using wood as a fuel for a modern heating system and visited many installations and talked to several experts before deciding upon the HDG 50 boiler as our chosen appliance.

During this research period we were struggling with such questions as:

- Whether 20 acres of relatively poor quality wood was enough,
- Whether the timber had a sufficient cross sectional area( average 60mm or so )
- Whether our willow would burn with enough calorific value to heat a 3000litre tank of water.

Euroheat were helpful and I guess understood these queries from potential customers. Their Simon Holden generously said 'pack a large cardboard box with some of your wood, drive up to our Bishop Frome HQ and throw it into an HDG 50 boiler to see it work for yourselves'. This we did and of course it worked well. Experience has shown that 20 acres is far too much timber for our boiler so that concern was ill founded.

We are fortunate that the boiler and accumulator can be housed in an existing barn that only needed internal enclosures to be built to keep it separate from other barn activities. Also the barn provides sufficient space for us to store up to 100cu.m of dry logs which are close-by to the boiler. Prior to going into the barn we season our logs by leaving them in the open air for 6 months or so to get the sap washed out, then they are cut into 500mm. lengths and stored in the dry.

## Installation and Costs

The whole operation cost in the region of £25k which includes approx. 50m of underground heating main. The in-house work was relatively simple with a straight forward connection into the existing heating pipe-work. A control system alerts the existing oil boiler to start automatically should we not have lit the HDG boiler for some reason.

## Operation

The lighting and loading of the boiler literally takes 15 minutes a day and is straightforward. Lighting is a dream as the unit always saves itself a quantity of charcoal from the last burn. Its powerful fan quickly ignites it. Approx. every 3 weeks we remove the ash and periodically carry out other maintenance operations in accordance with the very instructive operations manual.

## Conclusion

Over a normal occupancy period we use one wheel barrow of logs per 24hrs in winter time. The normal sized wheel barrow is filled as much as is possible. At Xmas time when the 4000sq.ft house is full then we would expect to use 3 barrows of logs every 2 days. Some immersion heater back up may be necessary on the domestic hot water at this time.

We installed our boiler in early 2011 and have been delighted with its performance. I have not yet seen any other model or system that I would prefer. However, from the perspective of one of your potential customers who was contemplating such an installation may I suggest that consideration be given to whether:

- You have access to sufficient logs.
- You have a place to store the logs while they season.
- You have a place to store dry logs that is reasonably convenient to the boiler. My space houses approx. 3 years supply of logs which is probably excessive.
- Your boiler room is sufficiently large to accommodate the boiler, accumulator, a wheel barrow with tomorrow's logs (!) a large pressure vessel and substantial pipe-work associated with connecting all the above together.

We have found that even without any contribution from RHI anyone who has access to their own source of timber would find that such an installation makes real financial sense for a fairly small amount of physical work.