



Biomass Heating
Case Study

Brian Dillon,
County Kilkenny



" The boiler is extremely reliable and virtually maintenance free.

The Glas team did a great job at the time of installation and I have found them to be very professional since"

Brian Dillon

Key Facts HDG Navora Log Boiler & 2000L accumulator tank

Application Heating and hot water for detached family home.

Previous Heating Oil **Year** 2012 **Annual fuel cost:** €1,000 approx



Comfortable heating. With wood!

Background

Brian and his family had both environmental and economic reasons for considering a log boiler. The cost of heating their two story house with oil was high and rising and they wanted to move to a local fuel source, reducing their dependence on fossil fuels. They had already upgraded the insulation, windows and doors of their home to make it as energy efficient as possible. Solar Thermal panels on the roof provide hot water during the boiler's off season.

The Heating System

Glas Energy installed a HDG Navora log boiler and a 2000L buffer tank into an outhouse a stone's throw from the dwelling house. From September to early May the boiler is typically lit every 3 days but this increases to every second day in cold weather. The logs are loaded into the fuel chamber on a base of kindling and cardboard.

The wood is burned at a high temperature in a process of gasification leaving only small amounts of charcoal in the burning chamber and a thin layer of ash, collected in a bottom tray. Brian recommends leaving most of the charcoal in place as it assists in the ignition of the next load. The ash tray is emptied onto the compost heap every couple of months.



The ash tray



Charcoal

Continued ...

A light inside the house lets the occupants know when the water in the accumulator tank falls below 40°. Below this, the radiators are luke warm and the boiler is relit, taking 4 to 6 hours to reheat the water in the tank. Reloading and lighting takes less than 10 minutes.



An outside shed is home to the HDG Log Boiler, the 2000L accumulator tank and the store of half metre length logs

The Fuel

Brian has tried different sources of logs since 2012 and believes that there has been a marked improvement in availability. "For a long time Ireland lagged behind the rest of Europe on the production, drying and grading of quality wood fuel" he says. "I'm glad to say that this is changing. Our fuel now comes from Coillte managed forestry and is dried and prepared by Gabbett's in Callan. The moisture content is critical to the energy value of the logs and these are 20% which is just right." In late summer, the family receive a delivery of half metre logs amounting to 40m³.

A few years ago the family planted birch, ash and other hardwoods on their 5 acre small holding. Initially their motivation was to grow some of their own fuel. This is no longer a priority and as they are happy with the local source of fuel their own trees have earned a reprieve.

"When the log delivery arrives we all chip in to stack them inside the shed - it can take a whole day. Of course there is more work to this than ordering a tank of oil and flicking a switch but there is something very satisfying about it too. And we are definitely saving money over buying oil.

If you have the space and a reliable local fuel supplier I would recommend it. "

Brian