



Log boiler system

Cuilfail Hotel, Kilmelford, Argyll

Why use green heat?

The Cuilfail Hotel is a 12 bedroom hotel which was built in the Victorian era, and is situated close to the shores of Loch Melfort. With rising fuel costs and also a desire to reduce the environmental impact of the hotel's heating system, the current owners replaced the old LPG boiler system with a new log fuelled boiler. A log gasification boiler was chosen, as there was limited space for an automated wood fuel boiler and no suitable local supply of dried wood chip. The owners were also enthusiastic about using logs as a fuel, which are very abundant locally.



"The old boiler system was very inefficient, and with our new log fuelled boiler it will save us a huge amount on our heating bills. It only takes around 30 minutes to collect and load the logs to re-fuel the boiler, and this will supply hot water for several days."

The log boiler system was installed in July 2011, and includes a 3,200 litre thermal storage tank which stores water that is heated from the log boiler. The system design also allows for an input from a solar hot water panel, and an air source heat pump. In addition, the log boiler system will remain operating even if there is a power failure.



KEY FACTS

- Log boilers supply space heating and hot water using dried logs as fuel
- Log gasification systems need wood fuel dried to below 30% moisture content
- Wood burning systems need a special flue or chimney liner

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Images supplied by
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System Specifications

- Log boiler systems can be designed to integrate with conventional boilers, as well as solar hot water panels and also heat pumps.
- Smaller wood burning stoves can also supply heat for hot water and radiators in a property
- The log boiler is situated inside a former wood shed, and a supply of logs is stored beside the boiler for easy loading. Most of the logs are stored outdoors under cover.
- Wood is sourced from local forests and can be supplied already split and dried, or alternatively delivered as a timber load and then processed on site for cutting, splitting, stacking, and drying outdoors.



Facts and Figures

BOILER

Application: Heating for hot water and radiators
Max output: 60kW
Model: Eco Angus
Fuel type: Logs up to 75cm in length and 25cm diameter
Moisture content: 25%
Installation date: July 2011
Installer: Argyll Solar and Renewable Energy
Fuel loading interval: Every 2 to 3 days depending on heat load
Annual wood fuel use: 15-20 tonnes (25% moisture content)
Accumulator tank: 3200 litres

INSTALLATION COSTS

Boiler system and thermal storage: £15,000
Funding source: Renewable Heat Incentive (RHI)

OPERATING COSTS

Wood fuel cost: £1,000 per year
Payback period: 3 to 4 years (2011 fuel costs)

