



Log Boiler System

Cuilfail Hotel, Kilmelford, Argyll

Why use green heat?

The Cuilfail Hotel is a twelve 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 ten minutes to 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 20% moisture content
- Wood burning systems need a special flue or chimney liner

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Images supplied by
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- 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 to shield the logs from rain and snow.
- 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 under cover for around one year.



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: 20%

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 (20% 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)

