

Bowland Bioenergy - *Technical Information*

Pdf 3. LOG BURNERS

Log stoves

Log burning stoves utilise well established and generally understood technology. They offer significantly better energy efficiency when compared with an open fire. They are relatively low cost which is reflected in their simple control mechanism. A considerable amount of effort is required to maintain constant heat output. The use of dry wood is essential for achieving maximum efficiency.

Log burning boiler with heat accumulator

Typically the boiler is hand loaded with logs and then lit. The heat produced is stored in a water tank called an accumulator or buffer store. One load of logs is intended to raise the water in the accumulator to its working temperature of around 90°C. The fire is then allowed to go out. The hot water required for the property is drawn from the accumulator until the temperature drops below a usable level and the boiler must be refuelled to begin the cycle again. The frequency of boiler firing depends upon the heat demand, the accumulator, and the ambient temperature.

The capital cost of these boilers is much lower than chip or pellet units of the same output. However, significant management and manual input is required and they would seem to be less attractive as a replacement for automatic fossil fuel boilers.

The rules for using wood as a fuel are fairly simple in concept although not always so easy to follow in practice. The moisture content, the fuel size and type must be suitable for the equipment in which it is being burned.

The presence of tramp material, stones, metal etc must be avoided to prevent damage to the equipment. Wood that contains paint or preservative will produce atmospheric pollution and must not be burned in boilers.

If dried to the correct level wood fuel will keep indefinitely without degrading.

Bowland Bioenergy, based in Lancashire, produces dried wood chips – and supplies wood pellets – for wood burning boilers. The company was founded in 2005 and has grown to be one of the North's leading biomass companies. Wood fuel of the highest quality (BS EN 14961) is produced year-round and the company was the first biomass supplier to achieve the prestigious HETAS Accreditation for wood chip.

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