Sustainable heating for your home –

c) log-gasification and wood pellet boilers

Sustainable heating has a number of technological solutions, which will not all be of equal interest to every householder. This factsheet part deals specifically with log-gasification and wood pellet boilers. Other parts are:

a) Introduction to current and developing technologies
b) Liquid fuel replacements
d) Heat pumps
e) Electric boilers and electric heating

❖ Log-gasification and wood-pellet boilers

- Both these types of wood burning boilers can supply heat to a normal heating system but require a hot water storage tank for accumulation of heat for central heating and domestic hot water supply.
- Subsidy payments are available for many log gasification and pellet boilers through the Renewable Heat Incentive (RHI) scheme (see Part a of this factsheet for more details). The current rate is 7.01p/kWh.

- **Log-gasification boilers:**
  - Are available in a wide range of heat outputs, e.g. from 16kW to 150kW, including those suitable for larger properties. Typically, they are located in an outhouse close to a wood store. Operating costs may be 40% lower than for a pellet boiler.

Log gasification boiler (left) and wood pellet boiler (right))
Reproduced from www.buffertanks.co.uk

The Rural Community Energy Fund

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- Log boilers need manual stoking and normally run on a single fire cycle, which means they burn once within each cycle, and then need fully re-stoking before the next cycle. A heat accumulator tank is used to smooth out the heat production so it is there when you need it, even if the boiler has completed its firing cycle.

- **Wood-pellet boilers:**
  - Are good for supplying smaller heat demands, and can be small enough to fit inside many properties. Typical heat outputs range from 13.9 kW to 21 kW.
  - Pellet boilers can be hopper fed, with an automatic gravity or screw fed fuel supply which allows continuous burn. They can operate like an oil-fired system, with timers and thermostats. The fuel hopper can be located externally.
  - Wood pellets can be delivered in 15 kg bags, usually 60 bags on a pallet for manual loading into the feed hopper, or they can be supplied by bulk delivery. While bulk loads may be cheaper and easier for delivery, pellets can get damp if stored for too long. This will adversely affect the burn efficiency and may also clog up the fuel feed system.
  - Some pellet stoves can also be used to provide warm air space heating, either as a free-standing room stove, or via warm air fans and ducting. These stoves can be located in one part of the home and blow warm air via ducts into several other rooms.

Example of ducted air heating pellet stove
Reproduced from:
https://palazzettigroup.com/products/wood-burning-fireboxes/

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