

Advisors Toolkit

Factsheet No 6.i

Wood Fueled Heating (Biomass)

Wood-fueled heating systems, also called biomass systems, burn wood pellets, chips or logs to provide warmth in a single room or to power central heating and hot water boiler. Biomass is produced from organic materials, either directly from plants or indirectly from industrial, commercial, domestic or agricultural products. It is considered to be a carbon neutral fuel, as trees absorb carbon from the atmosphere when growing, which is then emitted when burnt. Wood fuel includes forest products, untreated wood products, energy crops and short rotation coppice (SRC), e.g. willow.

Homes can either use stand-alone stoves providing space heating for a single room, or boilers connected to central heating and hot water systems. Stoves (which can often be fitted with a back boiler to provide water heating) can be fuelled by logs or pellets but only pellets are suitable for automatic feed. Boiler systems are suitable for pellets, logs or chips. Many boilers will dual-fire both wood chips and pellets, although the wood chip boilers need larger hoppers to provide the same time interval between refuelling. Boilers can be designed with an integral hot water energy storage or accumulator tank that stores water up to 90° C.

As part of the installation a flue which meets the regulations for wood-burning appliances needs to be used. This could be a new insulated stainless steel flue pipe or an existing chimney, though chimneys normally need lining to make them safe and legal. Under the Clean Air Act (1993), in Smoke Control Areas (usually in the main cities) wood can only be burnt on exempted appliances. Installations must comply with the appropriate safety, planning and building regulations i.e. Part J of the Building Regulations.

The cost for boilers varies depending on the fuel choice and payback depends both on the fuel being used and the fuel being replaced.

Consideration must be given to storage space for the fuel, appropriate access to the boiler for loading and availability of local fuel supplies. It is both more cost-effective and sustainable when a local fuel source is used.

Wood-fueled heating (not log stoves or pellet-fueled stoves without a back boiler) may qualify for RHI – see Factsheet 4.e