

# Domestic Pellet fuelled Boilers



Wood burning boilers have come a long way in recent years and the latest addition to the Windhager range of wood pellet boilers has reached a new height. Stylishly designed for installation in the living room of a domestic property it offers an affordable carbon neutral solution to the residential client that is looking for an alternative to gas or oil.

These modern boilers are over 94% efficient at converting the pellets potential energy into hot water for space heating and washing. Fully modulating wood pellet boilers are well suited to meet the variable load demands of family occupancy and operate automatically from sensors and microprocessor controls with both manual or auto-feed systems available.

The wood grown specially for production of pellets has removed  $CO_2$  from the atmosphere and whilst this is released during combustion, it is re-captured the following year. There is a small carbon emission when processing and transporting the fuel but this is no more so than for extraction and refining of oil based fuels, hence wood is regarded as a carbon neutral, eco-friendly fuel.

Wood pellets are made from purpose grown bio-crops, grasses, ground woodchips and industrial sawdust waste and is a system well established in Sweden, Austria and Denmark. The UK market is young, started in 1999 with a EU funded project 'Introducing Wood Pellet Fuel to the UK'. The project helped to establish a number of sources of UK manufactured wood pellets with heavy investment in new mills every year. Take up of wood pellet fuelled systems has doubled year on year as more people seek a more environmentally friendly heating solution.

Pellets are manufactured to a consistent size, and moisture content (<10%), up to 25mm long of 6mm and 8mm diameter for domestic heating units. No chemical additives are included as the natural lignin of the wood itself serving as a binder, with small quantities of maize starch are sometimes being added as a lubricant.

Pellet boilers can be installed for manual filling from paper sacks or can be fully automatic if a storage hopper can be located in the property.

A house with a heating load of 20,000kWh/yr would require about 4.5 tonnes, hence a years supply would require a storage area of approx. 1.5m x 2m x 2.4m with automatic feeder, as illustrated. Wood pellet prices range from £120/tonne for bulk deliveries to around £160/tonne for a pallet load in paper sacks, equating to an energy price of between 2.7p ~ 3.6p/kWh

With fully automatic pellet feeding, ash removal, self cleaning and weather compensated, modulating control systems, these stylish, clean and easy to operate boilers generate less than 1% ash and are particularly suitable for domestic use where gas may not be available and oil fired systems are increasingly becoming a less attractive alternative.

Systems start from £4000. Grants are available for certain systems, details can be provided on request.



**Planet Energy Solutions**

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