

Pellet Boilers for Eco-friendly Heat



As a renewable energy source, wood is a carbon neutral fuel. That is CO_2 emitted when wood is burned has been taken out of the atmosphere by the growing plant. Processing and transporting the fuel has some effect but typically net CO_2 emissions can be reduced by over 90%. Wood pellets boilers, produce hot water for space heating and stored DHW in specially designed stove or boiler.

Unlike other types of wood fuel heating, pellet boilers are well suited to meet variable load demands and can be operated automatically on a timer. The pellets are made from compressed waste sawdust 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 and saw the installation of the first wood pellet-fired appliances and encouraged UK boiler manufacturers to develop Pellet fired boilers.

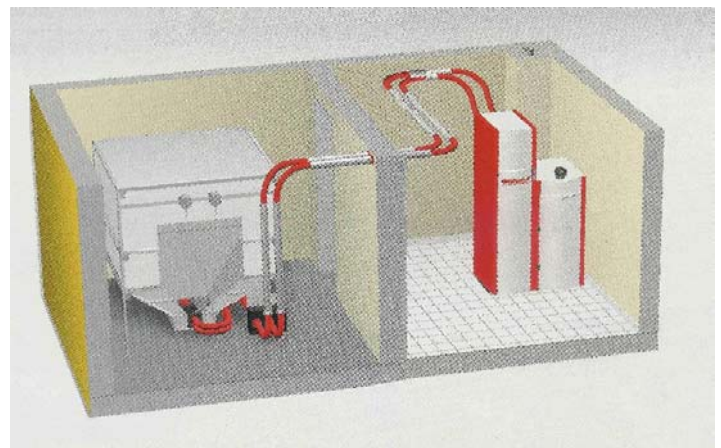


Take up of bio-fueled systems was originally slow due to difficulties in obtaining pellets but has increased rapidly, aided by a number of pellet producing plants in the UK.

Pellets are manufactured to a consistent size, usually up to 25cm long with a diameter of 6mm for domestic heating units or 8mm for commercial boilers, from waste wood products from wood processing industries. The materials used, include ground woodchips, sawdust and bark.

No chemical additives are needed and the natural lignin of the wood itself serving as a binder, although small quantities of maize starch are sometimes added.

Pellets can be bought for bulk delivery and stored in a storage hopper or room such as the one illustrated right or in paper sacks on a pallet. A typical house with a heating load of 20,000 kWh/yr would require about 4 tonnes, which might be delivered as a pallet of sacks. A larger property with a heating load of 40,000kWh/yr would require 9 tonnes/yr and may prefer to have two or three bulk deliveries a year to a hopper or pellet store with an automatic feed, as illustrated.



Currently the price for wood pellets ranges from £120/tonne for bulk delivery to around £190/tonne for a pallet in sacks.

Boiler response time is fast and modern technology provides fully automatic feed and ash handling controllable systems, clean and easy to operate with less than 1% ash produced they are particularly suitable for domestic use where gas is not available and oil fired systems are the only alternative.

Prices start at £5000, full systems from £8000 with grants available of £1500 from the DTi LCBProgram. Being a source of renewable energy, wood pellets are also exempt from the Climate Change Levy.

Planet Energy Solutions

Renewable Energy Systems

16 Carleton Rise, Welwyn, Hertfordshire, AL6 9RF

Tel. 01438 712398 ~ e-mail planetenergy@btinternet.com ~ www.planetenergy.co.uk

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