

Homeowners: Heating with Wood Pellets

From RVR

Heating with Wood Pellets

Wood Pellets are a highly compressed fuel source which can be burned for heating purposes. They are mainly used with wood pellet boilers to provide central heating.

History

The production of wood pellets developed in the USA during the oil crisis of the 1970s. Wood pellets were seen as an alternative to oil based fuels. However, when the price of oil fell again, wood pellets seemed expensive and pellet usage declined.



Wood Pellets

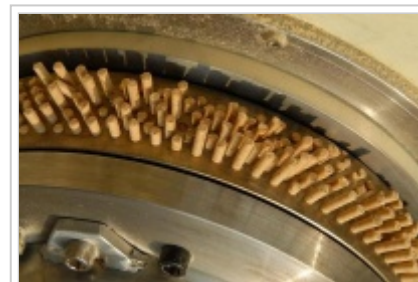
Wood pellet production has been rising rapidly since the 1990's due to rising oil prices and the need to convert to carbon neutral fuels. In many countries, wood pellets have displaced substantial consumption of oil, gas and electricity.

Today, the biggest users of wood pellets are the Scandinavian countries especially Sweden. Swedish companies have pioneered the development of wood pellet technology.

Wood Pellets - What are they?

Wood pellets are a fuel made from compacted sawdust. They are produced in a machine which exerts great pressure on the wood and squeezes it through round holes to produce the pellets. They are cylindrical in shape and have a diameter of either 8mm or 6mm. The length of the pellet varies from 5mm to 45mm.

The process takes place at a high temperature which causes the wood to release a natural binding agent. The 'natural glue' holds the pellet together. The compacted pellet is quite dense. It will sink if placed in water. The wood used to make the pellet is dried before it is compacted so that the water content of the pellet is less than 10%.



Pellet Mill

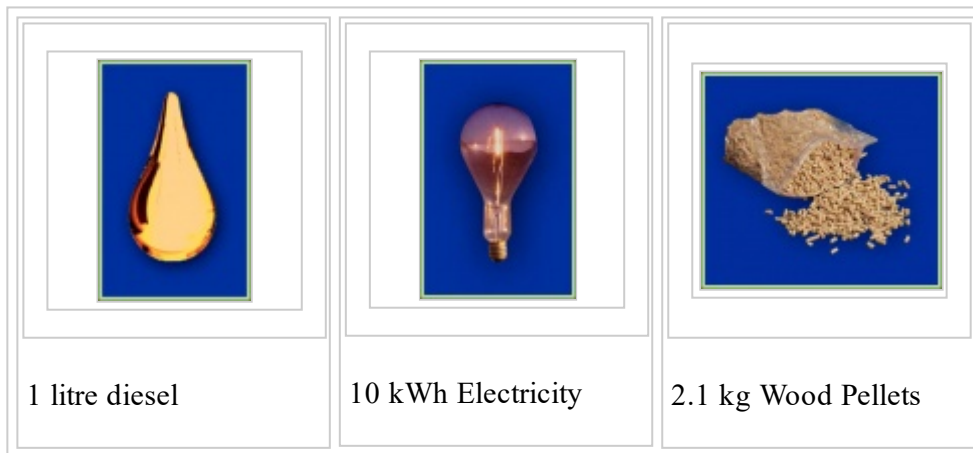
Pellets can be made from almost any wood variety. There is little difference between pellets made from different species.

Good quality pellets do not contain impurities, re-cycled wood or bark. They do not contain any binders or other materials. There are several national and European standards which define the quality of wood pellets, and it is important to purchase only good quality pellets which comply with these standards.

These standards include CEN/TS 15234:2006, Austrian ÖNORM M 7135, German DIN 51731 and Swedish Standard SS 18 71 20.

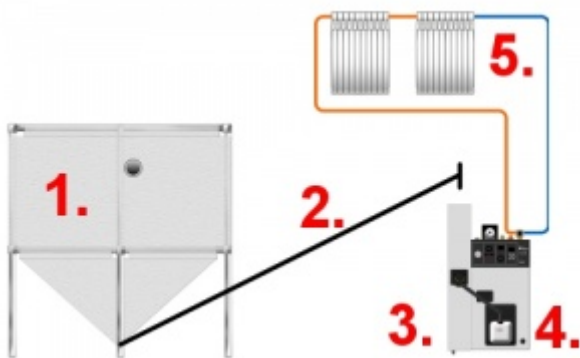
Wood Pellets as a fuel

One kg of wood pellets has a heating value of about 4.7 kWh (17 MJ). An easier way to remember this is that 1 litre of heating oil is equivalent to 10kWh of electricity or about 2.1 kg of wood pellets.



Burning wood pellets

Burning wood pellets for central heating is quite simple once all the relevant parts of the system are installed properly. There are several things to consider.



1. A large pellet store is often used. This needs to be capable of storing 3-4 tonnes of pellets. As an alternative, bagged pellets can also be used but this is more work for the user and costs more.
2. An auger, which contains a large screw, lifts the pellets from the bottom of the store and feeds them to the boiler
3. If the large store is not directly beside the boiler, sometimes an intermediate store is also used
4. The pellet boiler burns the pellets and generates heat. This works in almost exactly the same way as an oil boiler
5. The heat is used to heat the radiators, underfloor and domestic hot water

Further Reading

Read on about wood energy and burning pellets here: [Homeowners:Wood_Energy_and_Pellet_Burning](#)

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