

# PREPARING WOOD FOR BURNING

## Fact Sheet 4

Wood fuel processing offers an opportunity for farmers and growers to add value to their wood.

[www.woodenergybusiness.co.uk](http://www.woodenergybusiness.co.uk)

## Adding value to wood

Wood for wood fuel is available in many different forms:

- Roundwood and 'brash' from the forest (see fact sheet 2)
- Chipped, slab wood or saw dust from sawmill co-product

All these can be used by the wood fuel industry for energy production. In a modern wood fuel industry wood is usually processed into a more suitable form such as chips or pellets before burning. This allows the fuel to be fed into the boiler automatically for example using a screw auger, or bucket on a grab.

Wood fuel processing offers an opportunity for adding value to the wood for either the wood fuel supplier or the wood energy business itself. A wood chip producer may supply several small scale heating developments, or be one of many suppliers to a larger electricity plant. The Forestry Commission's Wood Energy Business Scheme will support wood fuel processing.

## Wood chips

Wood chip can be produced relatively easily and cheaply on a small scale, providing an opportunity for farmers and growers to add value to their wood.

It is important for both the producers and users that a reasonably consistent size and quality of wood chip is achieved. Chippers produce very different qualities of chip, so it is essential to check with the end-user that the chip produced is of a suitable type. Large installations may be more tolerant of chip variations.

Generally wood fuel chip parameters are between 8 mm and 30 mm, although it will vary depending on the technology used. Wood chip has to be relatively uniform, with no long shards. High bark content can be a problem with some end-users and again this should be checked. Chipped sawmill co-product may need to be re-chipped to a consistently uniform quality standard.

British Biogen, the Trade Association to the UK Bioenergy Industry has produced a wood chip standard

summarising size classifications into super, fine and coarse (see below)

It is easier to chip wet wood but some end-users may require dry chips as they store more easily than wet chips. If wood chips need to be stored then it is best to air dry logs and wood prior to chipping.

## Wood Pellets

Wood pellet manufacturers are another market for wood fuel, in particular saw dust. The benefits of wood pellets are that they are dry, clean, and uniform, flow easily, and have a high density, making them suitable for transporting over longer distances. However they can be more costly in terms of energy and money, due to the further processing required in manufacture.

Although they are used in large scale electricity generation and co-firing (refer to fact sheet 5), they are also ideal for small scale domestic systems up to 50 kW, which require the high degree of uniformity and consistency.

## What are wood pellets?

Wood pellets are generally made from sawdust and ground wood chips.

Resins and binders (lignin) occurring naturally in the sawdust hold wood pellets together, so they usually contain no additives.

Premium grade wood pellets are made from 100% pure and natural softwood sawdust.

They are dry, have a high energy content and are made to a strict UK standard.



Supplied by: Talbotts Ltd

## Wood Chip

### British Biogen Wood Chip Standard

Size	<2mm	2 – 25mm	25 – 50mm	50 – 100mm	>100mm
Description	Dust	Small	Medium	Oversize	Slivers
<b>Super</b>	<15%	Any	0%	0%	0%
<b>Fine</b>	<15%	Any	0%	0%	0%
<b>Coarse</b>	<15%	Any	0%	<10%	0%

Max of 2% tramp material. No stones >25mm. The material should not be mouldy and should be well mixed. The material should be of a characteristic wood chip and should not include eg timber offcuts.

### A. Wood Fuel Processing

1. Logs, branches, small roundwood from forest.
2. Slabwood/Chips from sawmills.
3. Sawdust from sawmills.
4. Pellet Manufacture.
5. Chipping.
6. Boiler.

