



CNPA Land Managers Forum: Getting **The *Fuel Good* Factor**

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People across Scotland are bringing the fuel good factor into their homes and workplaces as they realise the potential financial and environmental benefits of this **natural energy resource**.



Logs, woodchips, and pellets burn in highly efficient, clean boilers which can be installed to heat homes, offices, factories and public buildings.

The fuel comes from a variety of sustainable sources such as **forestry, new plantings** or from the **residues of timber processing**.

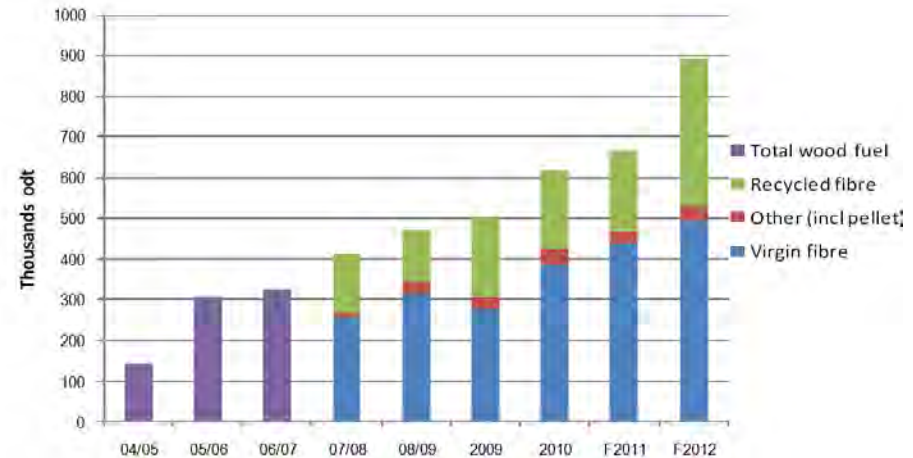


- **Save money, reduce fuel bills** and turn waste heat into bottom line savings
- Fuel Security: replace imported oil and gas by **sourcing your fuel locally**
- Be part of the **woodfuel supply chain** – providing local jobs and investment, maintaining income in the rural economy and contributing to Scotland's economic growth
- Using a green alternative to fossil fuels **reduces CO2 emissions**
- Woodfuel production can **improve timber quality, access and amenity value** to land managers
- Woodfuel **boiler efficiencies** are **equivalent** to fossil fuel alternatives



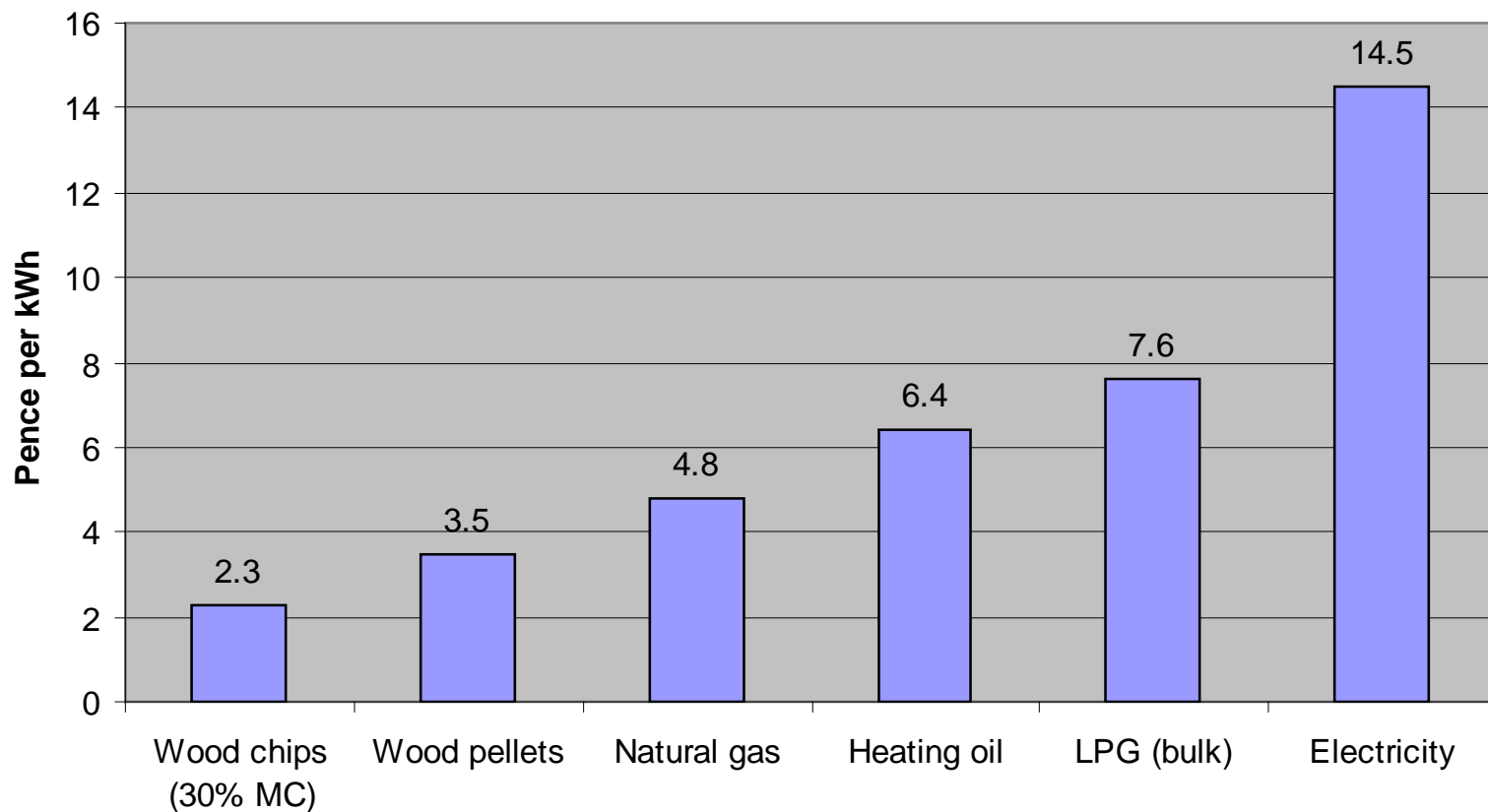
Woodfuel

Demand and Usage in Scotland Report 2011



- 1.2 million tonnes of woodfuel used in Scotland in 2010.
- Fastest growth is in small and medium scale users.
- Small and medium scale users account for ~10% of annual woodfuel usage.
- NE Scotland and CNP: 60% increase in installed capacity in last 2 years

Relative Fuel Costs



- Through Reduced Energy Costs by Installing a Wood Fuelled Boiler
- Through Sale of Wood to the Market
 - Woodfuel producers are willing to purchase small volumes, ideal for farm woodland management.
- Through Improved Woodland Management
 - Access and Amenity
 - Longevity of Stands
 - Increased Quality of Future Timber Production
 - Improved Habitat Provision
- Through Lease of Land or Storage Capacity - Woodfuel producers need distribution hubs near to customers.
 - Timber Storage
 - Undercover Chip Storage
 - Processing sites
- Through Sale of Heat on Distributed Heat Network





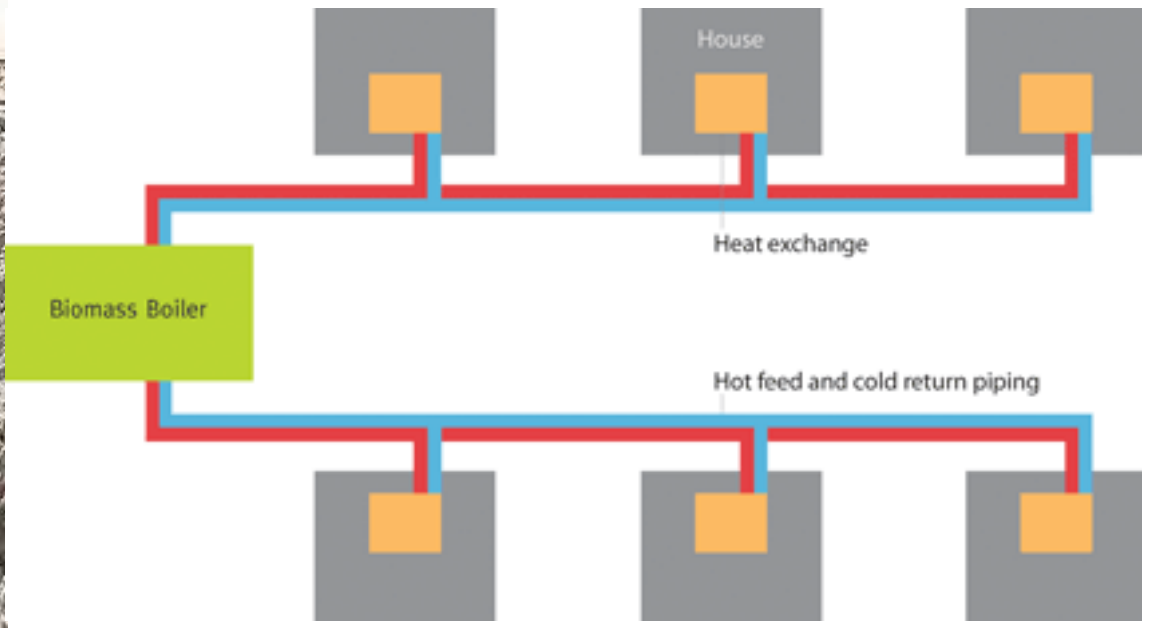












Woodfuel in practice farms and estates

One of the actions set out in Scotland's Routemap for Renewable Energy is to achieve 11% of heat demand from renewables by 2020. Woodfuel from sustainably managed forests and woodlands, can contribute to this goal.



Champfleurie Estate Linthgow

For many years Champfleurie House, a family home and the location for various enterprises at the centre of a small estate, has been heated with log burning stoves. From its own needs, feeding 7 stoves in the house, a woodfuel supply business has developed.

Since 2005 the business has sourced local supplies of wood from thinnings, windblow, deadwood and tree surgery. The estate now has more than 2000 customers, an annual production of 350 tonnes of seasoned logs and four full time employees.

Hard and softwoods are graded and seasoned for up to 30 months and then processed into logs, while small roundwood is chipped for stable and garden use.

A mechanical excavator, fitted with a 'wood cracker', an attachment capable of handling trees over a metre in diameter, splits the timber to the right size. This is fed into a firewood processor which makes shortwork of

cutting timber into 25cm sections and splitting these by applying hydraulic pressure onto an eight-way axe. This process results in 16 tonnes of seasoned logs a day.

Undersized wood is separated and removed, the split logs are then left in covered ventilated crates for another six months of seasoning, or until a moisture content of less than 20% is achieved, all by means of natural convection.

Once ready for delivery, the seasoned logs are packed in perforated builders bags of 0.75m³ size and sold by volume (rather than weight). The estate's 3.5 ton truck and its hydraulic crane makes deliveries in a 30 mile radius and is small enough to fit any driveway.

Other firewood materials have been added to the product range, including briquettes made from recycled wood, bark, rape seed or straw, as well as pellets. Orders are fulfilled through the Champfleurie estate website and help line.

- Woodlands could allow farms and estates to provide their own energy for heating
- You can reduce your energy costs by using woodfuel
- There is an experienced supply chain ready to expand with demand, and this provides an opportunity for diversification
 - Storage
 - Timber sales
 - Processing
- Substantial Financial support is available to help meet the capital costs for renewables projects



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