

Carbon Action Network Conference 2009

*Woodfuel market development and acceleration
in the North York Moors*

Ben Scotting
Project Manager

What is Yorwoods?

Yorwoods is the Woodland Initiative for Yorkshire and the Humber

Yorwoods works for Yorkshire's woodlands. At the forefront of multi-purpose, sustainable forestry management we provide advice for owners, managers, rural businesses and the wider public

Part of Rural Development Initiatives, a not-for-profit company with other offices in Scotland, Northumberland and London

Similar organisations include Anglian Woodland Project, the Silvanus Trust and Heartwoods.

Looking at

- **A biomass development service project**
- **A case study from the project**
- **Considerations for woodfuel – primarily woodfuel derived from primary timber.**

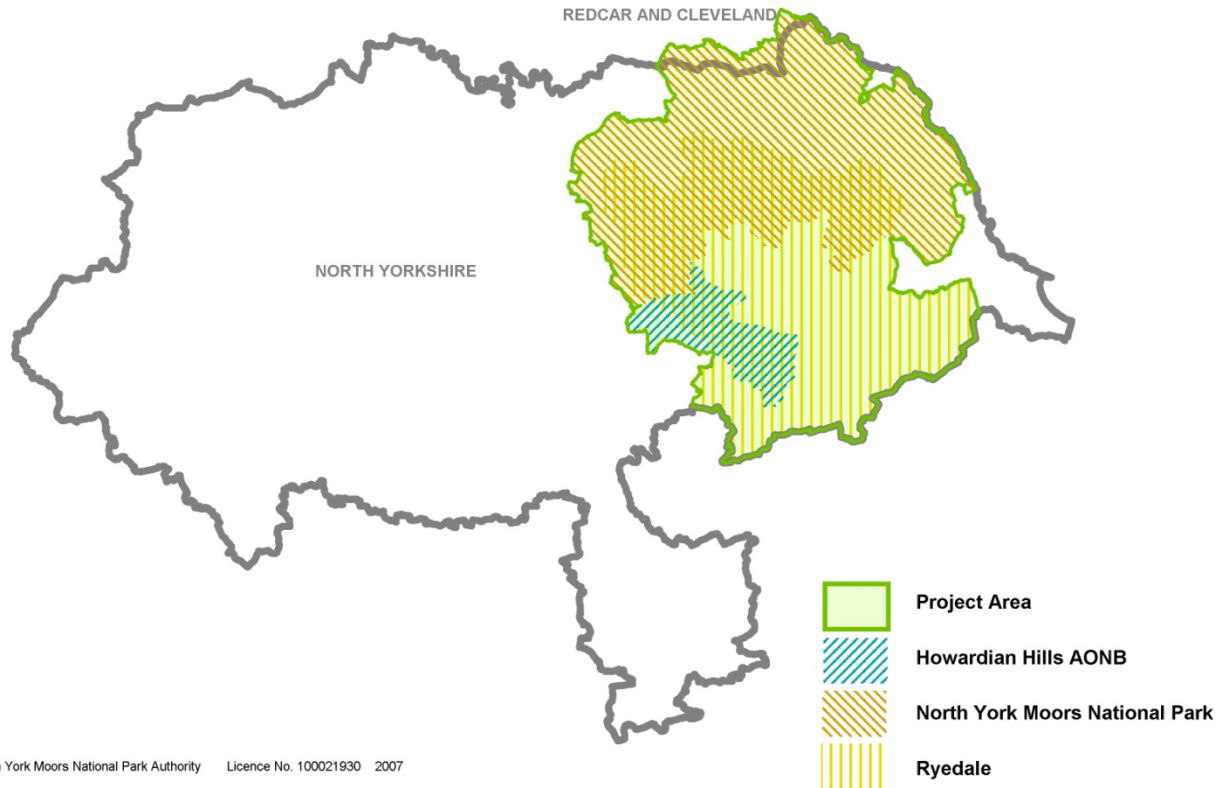
Biomass Development Service

Project ran from May 2007 - October 2008 and was supported by :

- North York Moors National Park Authority**
- Howardian Hills AONB**
- Ryedale District Council**
- Forestry Commission (in- kind)**

Nominally a gap in provision and then taken up by the Woodfuel Infrastructure Programme, commenced February 2009 and being run in North and East Yorkshire by Yorwoods.

Project Area



North York Moors National Park Authority Licence No. 100021930 2007

How was the project area chosen?

- The NYM, Howardian Hills and Ryedale District are the most wooded in the Yorkshire and Humber region
- About a third FC woodland and committed to existing markets but estimated that up to 900ha of FC woodland was not in production
- Estimated that 20% - 40% of the private woodlands in the project area were undermanaged and some of this area could be brought into production
- Ryedale District Council were actively considering converting some of their buildings to woodfuel
- Rurality of the area, many locations are off mains gas.

Objectives of the project

- **Promote the use of wood and other biomass for heat and power generation**
- **Encourage the use of biomass for heat where applications are suitable**
- **Engage with the owners of undermanaged woodlands in the project area to develop woodfuel supply opportunities**
- **Strengthen the woodfuel supply chain and infrastructure**

But...

- **Focus upon woodfuel derived from primary timber sourced from existing woodlands.**

To achieve the objectives

- **Develop a dedicated resource to provide a clear and unbiased information, facilitation and network service for biomass**
- **Write or commission feasibility studies**
- **Provide training**
- **Produce a written assessment of the local woodfuel resource**
- **Work in partnership with the Community Renewable Energy Project and existing community groups.**

Outputs achieved

- **8 woodfuel supply/heating feasibility studies written or commissioned**
- **19 other businesses advised, plus advice to potential domestic users**
- **Ignite woodfuel training course delivered**
- **Case studies written**
- **Woodfuel resource study written**
- **Parish council mailout with promotional poster**
- **Shows and events attended, presentations to local groups given.**

WOODFUEL DEVELOPMENT SERVICE

Developing the use of woodfuel as a renewable energy resource amongst businesses and communities in the region...

VILLAGE HALLS, SCHOOLS, FARMS, HOTELS AND BUSINESSES CAN ALL BENEFIT FROM INSTALLING OR CONVERTING TO WOODFUEL

Woodfuel is a carbon neutral renewable energy resource. Where it replaces fossil fuels it contributes to a reduction in CO₂ emissions. Its use can create local jobs in woodfuel production or supply and help to bring neglected woodlands back into useful management. YORWOODS has a dedicated woodfuel development service and could help you realise the potential for woodfuel.

Anyone interested in developing a woodfuel renewable energy project, should get in touch as YORWOODS can help...

For a free and impartial assessment contact:
YORWOODS, Unit 9, Sycamore Business Park, Dishforth Road,
Copt Hewick, Ripon, North Yorkshire HG4 5DF
Tel: 01765 609355



Briquette Manufacture



Case Study 'Waswood', Kirkby Malzeard

This operation, established in a joinery workshop, utilises oak shavings and sawdust created as a by-product from timber processing for the manufacture of briquettes to be sold onto the firewood market

Business Rationale

The briquette manufacturing operation was established to provide a solution for the otherwise problematic disposal of oak shavings and sawdust. Bagged briquettes are sold on-site and distributed to local shops and service stations.



Waswood briquettes

Current operation

Waswood currently produces some 45-50 18kg bags of 50mm diameter briquettes per week (up to 900kg total). The briquetter fills up to nine bags hourly and is run for up to five hours weekly.

The system is largely automated; the briquetter is mounted under the dust extraction system which removes the need for material handling. The finished briquettes are automatically run to a carousel where they are bagged. Manual labour is required to fit, remove and seal the bags. It is essential that the material processed is dry, if wet the briquettes do not bind. As there are no 3-phase electrics the operation is run by a diesel generator.

The briquetter is an Italian Ecomec and was installed in November 2006. The retail cost of the machine

was £11,000 but the carousel was built in-house to avoid the £4,000 cost of Ecomec's own carousel bagging system. At current levels of production it is anticipated that the financial outlay will have been recouped by 2012. The briquetter has been reliable and generally maintenance has been carried out in-house.

On-site the bags retail at £2.50 (as at December 2007). The recommended price for external points-of-sale is £3.75 but this is not necessarily adhered to and it has been noted that customers are willing to pay higher prices.

Future Operation

There is scope for handling and processing hardwood residues from other local joinery workshops. This would increase output but would also require greater investment of time in collection of the raw material, running of the plant and distribution of the product.

An increase in production volume would be easier if the briquettes could be fed into dumpy bags and mechanically lifted and delivered. However potential customers interested in this sort of volume would either have to be buying the product wholesale to repack and re-market or have a significantly large application running on briquettes. Woodfuel heating systems would be ideal but automated systems currently favour chip or pellets.

Finally any future expansion is limited by the seasonality of the firewood trade. Evidently, unless there is a market for a heat and hot water boiler systems then demand is limited to five months of the year.

Conclusion

The size of the system is critical, organisations looking to install a briquetter need to consider the amount of material produced and the capacity of the machine bought



Ecomec Briquetter

For Waswood the current briquetting operation does not stand alone as a viable business model. However as an alternative to having to pay for disposal of the by-product the briquetter and its income is worthwhile. In environmental terms, the burning of this material is a better option than consigning it to landfill.

Ecomec briquetters are distributed by Delapre Machinery. They can be contacted at 01536 521552 or www.briquette-it.com

For free and impartial advice about woodfuel contact:

Yorwoods
Unit 9, Sycamore Business Park
Copt Hewick, RIPON, HG4 5DF
Tel: 01765 609355
E: info@yorwoods.org.uk
Web: www.yorwoods.org.uk

Bransdale

- Remote dale largely owned by NT with more than 20 tenanted properties
- On oil, LPG, storage heaters or solid fuel
- Potential woodfuel source from FC softwood plantation
- Feasibility study identified 130 dry tonnes required annually
- Local farmer to be helped to set up a supply business.



Bransdale



- **Log boilers only practical solution**
- **Central storage and processing facility**
- **Domestic storage facilities**
- **Restructured plantation must provide sufficient sustainably produced timber for future use.**

To provide woodfuel from primary timber

Woodlands have to be:

- **Sizeable**
- **Accessible (both in terms of in-forest infrastructure and by road)**
- **Able to provide a desired timber type and/or sufficient volumes of the product**
- **Able to service markets which are within an economic radius (owing to haulage costs)**

But...

- **The WSE estimated that every year the unharvested increment of timber growth is 4.2 million tonnes.**

If you are considering woodfuel

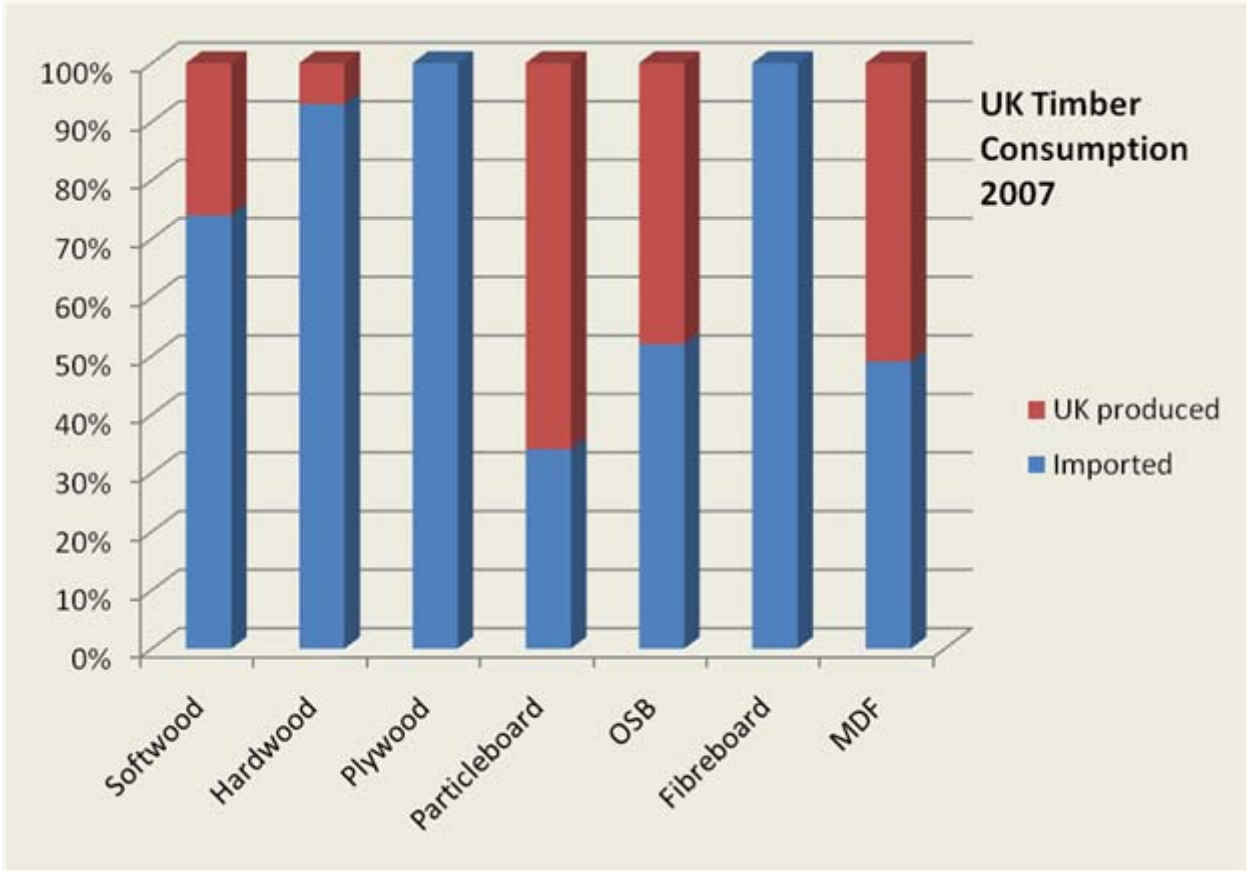
- **Woodfuel is easier to install in new builds**
- **It is likely that infrastructure will have to be developed or capital items purchased**
- **Developments where the need to provide heat and hot water requires a boiler of >100KW output must be encouraged to consider woodfuel, primarily in the form of woodchip (in the absence of a local pellet processing facility)**
- **Identify your source of woodfuel before buying the boiler.**

Carbon Action Network Conference 2009

www.yorwoods.org.uk

Thank you

Timber imports



Timber imports

