

CS17 Woodfuel in the Tamar Valley

Exploring the potential for the creation of a local wood fuel supply chain – assessing supply, demand and viability.

Hedges and woods define the character of the Tamar Valley Area of Outstanding Natural Beauty (AONB) but more intensive farming practices and lack of management have led to a steady decline affecting both landscape quality and wildlife.

Government-sponsored greenhouse gas emissions reduction targets and renewable energy incentives – such as the Renewable Heat Incentive (RHI) introduced in the autumn 2012 in the UK – have boosted the biomass energy market. As a result, the economic relevance of good management of hedgerows and small woodlands is becoming more apparent.

The aim of this project was to explore means to secure the future of the Tamar Valley AONB's characteristic landscape of hedges and woods by stimulating viable new markets for wood fuel. The approaches trialled learned a great deal from similar work conducted in France.

In the course of their investigations, the Tamar Valley AONB:
Conducted detailed assessments to measure the potential wood fuel yield from different types of hedge in the Tamar Valley and Blackdown AONBs.

- Reviewed the environmental constraints and opportunities of encouraging the harvesting of wood-fuel from hedgerows and small woods in protected landscapes
- Studied the potential for a hub for storing, processing and distributing wood fuel,
- Undertook a series of wood fuel audits at farm, estate and parish scale, and a series of studies on the feasibility of switching from fossil to wood fuel and installing wood fuel boilers.
- Held a range of targeted events to raise awareness of wood fuel and to help either stimulate demand or supply of woodfuel
- Encouraged public participation in mapping hedgerow resources
- Investigated the installation of wood fuel boilers at a range of institutions including a school, hotel and estate buildings

Learning from experiences from abroad

The first stage of the work involved information gathering including training visits to Normandy and Brittany where harvesting woodfuel from hedgerows is well established. This enabled the team to

- Discuss and get a good understanding of the overall process of setting up a local woodfuel supply chain.
- Get first hand experience of how some of the logistics of a woodfuel supply chain are managed. Of particular interest to the team were the approach taken to mechanise all stages of the work, as well as to set up, design and manage the storage facilities where wood chips are left to dry.
- Learn about some of the local co-operative arrangements by groups of farmers to supply heat to buildings in local towns

Assessing demand and supply

Assessing both potential demand and supply of woodfuel is a critical starting point for any local woodfuel supply chain development project.

On the demand side, there is an increasing interest in biomass heating in the Valley, particularly from organisations with a high heat demand. The Tamar Valley targeted some potential institutions and estates that could have the potential to make savings by switching from fossil fuels to wood fuel. The next step was to examine whether self supply could be of interest or if wood chip could be supplied locally from Tamar Valley hedges and woods.

Feasibility assessments were carried out involving 12 farms (investigating the possibility of self supply), 5 estates (investigating boiler installation and self supply) and 5 institutional users of energy (boiler installation)

To date, of the 5 estates and 5 Institutional buildings that had an assessment of the feasibility of installing biomass heating, one estate has acted on the report recommendations. Ted Coryton owns Pentillie Castle an historic 17th Century Castle run as a 9 bedroom boutique Bed and Breakfast and wedding venue. Even though 2 new LPG boilers had been installed only 3 years before, the calculations for significant savings together with support from the RHI over 20 years will make the switch to wood fuel worthwhile. It is anticipated that potentially 2 schools and a hotel may well follow suit.

So far, there has been limited interest shown from the farmers who only had hedgerow audits carried out, to either supply themselves or to supply a third party. It is thought that this is partly because this would be a departure from current management practices in several instances; the time to convert the hedges to be producing a significant volume of biomass and a current lack of demand for chip and maybe appropriate equipment.



Nonetheless following a hedgerow audit and attendance at a Woodfuel Demonstration day organised by TVAONB, one farmer made contact with and received some additional advice through the Resource Efficiency for Farmers (R4F) programme. This has resulted in a report which recommends the installation of a 60KW multifuel boiler (as the farm has Miscanthus as well as the potential to self supply woodfuel). At the time of writing the farmer was intending to follow through with these recommendations. This experience has shown that farmers and landowners can benefit from additional follow-up and being signposted to sources of help, advice and grants. These are areas that the AONB team will need to focus on in the future.

Stimulating demand and supply

The aspiration of the AONB has been to increase the demand for timber growing within the valley in order to support the sustainable management of the landscape. There is a significant woodland resource of both hardwood and softwood, together with an extensive hedgerow network and it is felt that finding local markets for timber from the AONB, of which some would be wood fuel might help to sustain the special character of the area that we value.

Some of the work the AONB has been doing around wood fuel has engaged community groups in the broader environmental and social agendas which they represent or are interested in. In order to provide more information around this complex subject and notion of wood fuel as a viable fuel source, a renewable energy 'open day' called 'Energy savers' was held with local suppliers including a tour of wood fuel boilers at a local school and plant nursery together with recommendations for home owners.

Community involvement has been encouraged throughout the project and some effort has been made to try to assist with capacity building within the community to enjoy and have access to 'their' local wood or hedgerow resource. Local wood products have also been promoted through the AONB's initiatives to encourage short supply chains which help to sustain the quality of the landscape.

Supportive networks and relationships are developing between the Tamar AONB work and other local Community Supported Woodland projects in Cornwall and Devon focusing on 'uneconomically small' woodlands, ideally sized for communities to tackle issues like fuel poverty.

The AONB has organised a programme of events to engage with the potential suppliers of wood fuel and to stimulate the interest and provide information to new users for wood fuel.

The programme of events included:

- a Devon Hedge Week a Dartmoor Circle/Cordiale joint farm demonstration day on the management of hedges for woodfuel,
- a land owner/manager exchange visit to France to look at wood fuel production in Normandy
- an advisers/ forestry/ industry exchange visit to Brittany to look at woodfuel platforms and co-operatives
- training events on the modification of boundary (and woodland) management to realize wood fuel.
- Demonstration events to showcase the tools that have been developed and to visit a farm with an installed woodchip boiler
- Community focussed woodland workshops and discussion to help develop and inform the Community Supported Woodlands handbook.
- Training and activities focussed on recording the biodiversity and historic importance of hedgerows with volunteers
- As part of the early work to initiate the Cordiale project the AONB was inspired by, and developed an extensive understanding of the depth of French experience in this area. The conclusion was that, in comparison to the UK, French projects are 'streets ahead'.
- One area however where UK practice was ahead of the French experience was in engaging local communities on hedgerow and small woodland conservation issues. The Tamar Valley had no difficulty in recruiting local volunteers to conduct community surveys of the hedgerows in defined areas (see tool 02 - Significant hedge identification methodology) These surveys placed an emphasis on the historic environment, landscape context and biodiversity value. This differs from the French approach, which sees these benefits as consequences of good management for woodfuel (which provides an economic rationale for the time invested in managing the hedge), rather than overt targets.
- In the French context, beyond outreach activities aimed at the supply side (e.g. farmers), engagement efforts are more targeted towards local elected members and other decision-makers overseeing the management of facilities with significant energy needs (e.g. swimming pools). Managing to sell local woodfuel as a reliable and "local development friendly" energy source for institutional buildings is seen as a priority as it allows to create the security and economies of scale needed to enhance the economic viability of a local supply chain model.
- The feasibility studies carried out in the Tamar Valley confirm that there is a significant hedgerow and small woodland resource that could support a reasonable woodfuel market or provide other timber based products. There was also a recommendation for the creation of a Tamar Valley Timber brand. At present the demand is very low, but the TVAONB could have a role in showing examples of where this technology is working and how this integrates with sustainable land management practices.
- With regard to the creation of a local wood fuel hub for wood chipping, drying and storing, as well as provision of suitable machinery, this seems to be less feasible as there is not yet a local demand. There is little point generating a supply of wood chip, if the local customers with wood fuel boilers do not yet exist. However, there are one or two larger estates and businesses who might be interested in investigating the establishment of a wood fuel hub in the coming years. The establishment of a local wood fuel hub, like some of the ones that have been seen in France, would be part of that local infrastructure.
- **Contact:**
- Tamar Valley AONB for further information



"This has been an exciting and complex journey – there has been so much to learn from our French partners. It has also been fantastic that the farmers and estates have been open minded and willing to join us at the cutting edge of the wood fuel industry. Without them there wouldn't have been a

project. We now need to ensure that we sustain the momentum. If we succeed, then the special qualities of the AONB landscape will be sustained for future generations to come."

Corinna Woodall, Tamar Valley AONB Manager

"Having had one of the hedgerow feasibility audits, I got further advice through the Resource Efficiency for Farmers programme and have just received the report for my farm. We will be going ahead and installing a 60KW multi-fuel boiler. You need projects like this to help signpost farmers like me to help, information and grants".

Farmer, and project participant

"Even though we had new LPG boilers, the sums added up, especially with the RHI payments and it made complete sense to install a new woodchip boiler to heat our buildings. Maybe in the future we will also be able to self supply."

Ted Coryton Pentillie Estate