

## Written submission to support oral evidence on

### Developments in the Biomass Industry

22 February 2006

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#### **Introduction**

Scottish Environment LINK is the forum for Scotland's voluntary environment organisations comprised of 36 member bodies representing a broad spectrum of environmental interests with the common goal of contributing to a more environmentally sustainable society.

The Committee's interest in the development of biomass is welcomed. Electricity represents approximately 20% of all the energy used in households in Scotland, leaving around 80% as energy generated for heat. The generation of an increasing proportion of this energy from sustainable sources, such as biomass, in conjunction with targets for emission reduction, stabilisation of energy consumption and energy efficiency will contribute significantly to Scotland meeting aspirations for a 60% reduction in carbon emissions by 2050.

#### **Climate Change and Forests**

Carbon is stored under the earth's crust for millions of years. Carbon is also stored for considerably shorter periods of time in surface vegetation, soil and sediments under the sea and fresh water. Disturbance of these releases CO<sub>2</sub> into the atmosphere. Forests and trees are therefore inextricably linked to the causes of, and responses, to climate change. New research is continually adding to our knowledge of the complex relationship forests have with the climate. For example, the Hadley Centre, has developed a model which shows that the release of carbon from soils could outstrip the ability of vegetation, including trees, to absorb it as the climate changes and temperatures rise<sup>1</sup>.

Planting new woodland has a role in absorbing carbon. However, it cannot sequester more than a tiny proportion of total carbon emissions generated by Scotland each year. As Oliver Rackham a Cambridge historical ecologist commented on the effect of sequestration in relation to climate change, "For its practical effect, telling people to plant trees is like telling them to drink more water to keep down rising sea levels."

Trees also have a role to play in reducing emissions through the sustainable use of woodfuel to generate energy, particularly heat. The development of a Renewable Heat Strategy and a Biomass Action Plan should contribute significantly to the development of a biomass industry.

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<sup>1</sup> [http://www.metoffice.com/research/hadleycentre/models/carbon\\_cycle/results\\_trans.html](http://www.metoffice.com/research/hadleycentre/models/carbon_cycle/results_trans.html)

## **Forestry Biomass**

The use of woodchip, wood pellet and logs can be an efficient way to generate heat, running up to 80%. By comparison, the use of biomass to generate electricity runs at an efficiency of around 30%. Reducing emissions through the extensive use of small to medium scale woodfuel heating from sustainably managed woods will produce a number of positive outcomes including:

- Social benefits from new areas for recreation and sports and, with prices of gas and electricity on the increase and estimates that 80,000 houses are facing fuel poverty, biomass could help address this, particularly in areas off the mains gas network
- Environmental benefits from contributing to the reduction in emissions, promoting the sustainable management of woodlands, increasing forest cover by creating forest habitat networks and providing new habitats for wildlife
- Economic benefits from providing a market for the increasing volume of timber, job opportunities for woodland management, timber extraction, processing and the manufacture of heating systems

However, Scotland has one of the lowest forest covers in Europe (17% of land area, compared to a European average of 35%). However, with low timber prices, increased global competition and timber production set to rise over the next 10-15 years by over 65% the potential for developing new markets, such as woodfuel, is at a premium.

There is, however, a danger that a small number of large scale biomass plants generating electricity will promote single purpose forestry and intensive woodland management rather than the economic, environmental and social benefits which are currently delivering sustainable, multi-purpose forestry, accredited to the UK Woodland Assurance Standard<sup>2</sup>.

At a smaller scale, farm woodlands are an untapped resource, generally neglected and used for sheltering cattle, storing machinery or as cover for game. Encouraging land managers to view their woodlands as a source of income will help stimulate a new rural industry.

However, following the launch of the Land Management Contract Menu Scheme in April 2005, of the 10,000 farmers who applied there were only 185 applicants for the Woodland Plan option (covering 3,000ha) and 162 applicants for the Farm Woodland Management option (covering 1,000ha).

Taking into account that the Menu Scheme was only launched last year, the figures above show that there is a marked reluctance on the part of land managers to consider active management of farm woodlands. This is likely to be for a number of reasons:

- There is no perceived market for biomass or financial benefit to managing woodlands for biomass.
- There is a reluctance to enter into woodland management due to a lack of skills and training and a perception that it would be costly to

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<sup>2</sup> <http://www.ukwas.org.uk/>

employ contractors to manage the woodlands, extract timber and restock.

- Increasing the area of woodland on a landholding will remove the area's eligibility to the Single Farm Payment
- Other options in the Menu Scheme are more attractive. For example, there were 7,500 applicants for the option of SEERAD to pay for membership of a Quality Assurance Scheme.

There is however, an opportunity to build on the good work being carried out through the Farm Woodland Premium Scheme which, during the duration of the scheme from 1992 to 2003, had 2689 agreements and woodland cover of 52,521 hectares.<sup>3</sup>

### **Agricultural Biomass**

The demand for energy crops is driven by the requirement in the Renewables Obligation for coal plants co-fired with biomass to include a minimum percentage of energy crops by 2009. However, co-firing will not be eligible for Renewable Obligation Certificates after 2016. Short Rotation Coppice is currently being incentivised at £1,000 per hectare to farmers who have a supply contract with an end user such as a power-generating company. SRC requires good quality arable land with high water levels. The management, extraction, processing and transportation of these crops is energy intensive.

In addition, SRC can have a significant impact on the landscape, wildlife and sites of archaeological interest. It is important that they are appropriately located, designed and that chemical inputs are minimised. There is also a need for research into high yield crops, their invasive characteristics and how this can be managed.

### **A Sustainable Resource**

The environmental impact of biomass production in forestry is potentially wide ranging and an important aim for the Scottish Executive in encouraging the development of biomass from forests, woodlands and short-rotation coppice should be to ensure biomass production complies with existing, multi-purpose forestry principles and environmental standards. In addition, if the aim of renewable energy is to reduce emissions, particularly carbon, it is vital that the development of a biomass industry takes into account the energy used to establish, maintain and process the resource: it is only likely to be 'carbon neutral' if it is used close to the source.

### **Recommendations**

To ensure biomass is undertaken at a sustainable level and the environment is protected:

1. The development of a biomass industry is small to medium scale

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<sup>3</sup> The State of Scotland's Farmed Environment 2005, Macaulay Land Use Research Institute, 2006

2. Existing woodlands and created woodlands planted for biomass should be managed sustainably through UKWAS accreditation (with grants for small woods)
3. The overall emissions lifecycle analysis is taken into account in order to deliver emissions reduction and that transportation is minimised and energy efficiency maximised in processing.
4. Development of Short Rotation Coppice is appropriately located, designed and that chemical inputs are minimised.
5. A market is developed through the setting of targets for each local authority for the use of biomass in public buildings such as schools, swimming pools, council and government offices. The Scottish Procurement Directorate should be involved in ensuring biomass is incorporated into appropriate tenders for new buildings.
6. Working with Forestry Commission Scotland, local authorities are resourced to contact contractors, forest managers and farmers to discuss the local availability of wood chip
7. Funding for the capital costs of installing woodfuel heating through the Scottish Community and Householder Renewables Initiative should be increased

**Further information** contact:

Flavia Pigot, Woodland Task Force Convener, Scottish Environment LINK,  
[Flavia.Pigot@woodland-trust.org.uk](mailto:Flavia.Pigot@woodland-trust.org.uk)

Tel: 0131 558 8619 or 07795 126 898

Jane Herbstritt, LINK Parliamentary Officer, [jane@scotlink.org](mailto:jane@scotlink.org)

Tel: 0131 225 4345 or 07980 852 562