

Environment, Planning and Countryside Committee

EPC(2) 05-06 (p4)

Date: 23 March 2006

Venue: County Hall, Haverfordwest, Pembrokeshire

**Title: To provide the Committee with a report on the Welsh Assembly
Government's policy concerning bio-crops and biomass**

Purpose

1. To update the Committee.

Summary / Recommendations

2. The paper – which is presented at the request of the Committee – provides information on the Welsh Assembly Government's position concerning bio-crops and biomass

Action for Subject Committee

3. The Committee is invited to note the paper.

Carwyn Jones AM

Minister for Environment, Planning and Countryside

Annex 1

**A report on the Welsh Assembly Government's policy concerning bio-crops and
biomass**

Background

Strategic Level Initiatives

The Woodland Development and Biomass Strategy Group was set up at my request in 2001 to examine the potential of farm woodland development and the biomass sector in Wales. Over thirty organisations in the agricultural, forestry and energy sectors in Wales were invited to sit on the Group, which was

overseen by a neutral chair and co-ordinated by staff from Forestry Commission Wales, and both EDT and EPC. The resultant Woodland and Biomass Action Plan was debated in plenary in June 2002. Implementation is currently being taken forward by Forestry Commission Wales.

The Woodland Development and Biomass Steering Group has been established to carry forward the Action Points highlighted in the Farm Woodland and Biomass Action Plan report. The Group met in December 2005. The group is currently looking to assess action points which have been carried out and up date the plan and identify new actions.

The EU Biomass Action Plan was put out to consultation in February 2005. The final Action Plan was approved in December 2005. The action plan sets out measures to increase the development of biomass energy from wood, wastes and agricultural crops by creating market-based incentives and removing barriers to the development of the market with the aim of reducing dependence on fossil fuels, cutting greenhouse gas emissions and stimulating economic activity in rural areas. At the Agriculture and Fisheries Council meeting on 20th February 2006, the Council held a full discussion of the Action Plan. Points highlighted by Member states were improved incentives for growing energy crops; information campaigns for consumers, farmers and traders; simplification of the administrative procedures; promotion of bio-heating in the UK and increased maximum area for energy

Biomass Task Force - DEFRA published the Biomass Task Force final report in October 2005. The report examines the contribution of biomass energy to renewable energy targets, and to sustainable farming and forestry objectives. The findings will have relevance to Wales as well as the rest of the UK. The 42 recommendations which were highlighted in the report are being taken forward by the Biomass Task Force Implementation team. The Biomass Task Force Steering Group (on which the Welsh Assembly Government is represented) provides guidance and comment on direction of the Implementation team.

Biomass Sector Review for the Carbon Trust - In October 2005, the Carbon Trust published the results of a study intended to inform future Carbon Trust activity in relation to biomass. Among the key findings were:

- UK biomass resources could save up to 5.6 mega tonnes of carbon per annum
- using biomass for heating via combustion and displacing fuel oil gives the most cost-effective carbon savings and is the closest use to being economic without subsidy at the present time
- liquid biofuels can be commercially attractive, given current government incentives, but are not the most resource-efficient use of biomass
- biomass use for heat only or Combined Heat and Power is better, in carbon saving terms, than electricity production.

Research Initiatives

Research is being carried out in Wales on growing energy crops. The research organisations are also

available to give advice.

The Centre for Alternative Land Use (CALU) is the fifth Development Centre funded by the Farming Connect initiative and was established in November 2004 based at University of Wales, Bangor. The aim of the Centre is to provide a signposting service; market information and co-ordination of demonstrations in relation to biomass and farm woodland; alternative crops/livestock and horticulture.

The Wales Biomass Centre, Newbridge-on-Wye (Cardiff University) have been carrying out research work for the last 14 years on establishment and growth of short rotation coppice and energy crops in upland Wales. The research has centred around small-scale trials looking at planting density, yield, fertiliser requirements, herbicide usage and the Centre has also carried out studies on the economics of production.

Willows for Wales, headed by the Institute of Grassland and Environmental Research, Aberystwyth. This project is funded by Objective 1 and co-funded by the Welsh Assembly Government, WDA and private sector funding.

The aim of the project is:

- to evaluate yield potential of varieties of willow under Welsh conditions
- to assess disease and pest resistance and special management requirements
- to assess the economics of production
- to establish growing systems suitable for the commercial production, harvest and storage/transport of willow at a commercial farm scale
- to evaluate the impact of the crop on the landscape and environmental diversity.

Crops as a direct source of energy

Biomass as a renewable fuel is seen to have the following benefits:

- It is regarded as carbon neutral as it will absorb CO₂ during growth which is released through natural degeneration or combustion.
- Emissions of NO_x and SO_x pollution are considerably lower than for coal or oil.
- Local air quality tends to be better (if burning equipment is operated properly)
- Biomass can be cheaper than fossil fuel sources (apart from gas)
- The use of biomass for heat and power allows energy to be stored and used on demand, unlike other renewable sources such as wind.
- Local job creation/retention particularly in the agriculture and forestry sectors.
- The woodfuel/biomass market helps to make woodland management more viable, benefiting timber quality and habitat management.
- A renewable resource - biomass could be described as "solid solar energy".

However it is important that biomass feedstock is used locally rather than transported over large distances, if the carbon neutral element is to be maintained.

Technical Issues

Woodfuel is derived from a wide range of sources that can vary in their suitability for energy production. These include:

- Short Rotation Coppice (SRC) - The most common form of SRC is Willow and Poplar, with yields in excess of 10 oven dried tonnes (odt) per hectare at altitudes of up to 300m.
- Energy Grasses - There are several energy grasses that have the potential to be grown in Wales although they are not as hardy as SRC hence not suited to higher altitudes. Miscanthus is currently the most popular species of energy grass. Other species of interest are Reed canary grass, Switchgrass and Prairie Cordgrass. Miscanthus crops in Wales have reached 12 odt/ha, new prolific yields could reach 14 odt/ha.
- Short Rotation Forestry e.g. Poplar, Eucalyptus et al
- Broadleaved/conifer woodland - either thinnings or clear fell,
- Residue Harvesting - tops and brash

A number of organisations in Wales have called for the expansion of the biomass industry as a way of reducing carbon emissions and boosting farmers income. An Energy Aid Payment of 45 euros must be claimed in order to be eligible for Single Farm Payment, the aid payment is currently under review by the EU. As Single Farm Payment can be claimed for energy crops, the main obstacle to expansion is the high establishment costs of planting energy crops. DEFRA offer an establishment grant which is largely funded through modulation. In Wales, modulation money is used toward funding agri-environment schemes. Our estimates suggest that to provide planting grants for a potential demand of 9,000 hectares of land in Wales would cost £9 million. The Welsh Assembly Government has focussed its resources on expanding demand for energy crops rather than risking causing over-supply by stimulating the planting of crops for which no long term sales contract existed. The Wood Energy Business Scheme (WEBS) has been allocated £13.37 million to help develop a market for energy crops and local wood heating plants.

There are as yet few biomass users in Wales, but there is an increasing demand to enable co-firing at coal power stations at Aberthaw and Uskmouth, enabling operators to claim renewable obligation certificates. There are also a number of proposals for new power stations burning just biomass, again with the benefits of accumulating ROCs. This demand could, however, be met by the power stations importing biomass if this proved less expensive than buying it locally.

There is also increasing interest in the use of biomass from waste streams to generate electricity. Such power stations would have to be authorised under the Waste Incineration Directive requiring tight controls on emissions. However, they would be able to get payment for disposing of the waste products as well as claiming ROCs for the biomass used in electricity generation. Such waste incineration would need to comply with the Assembly Government's waste management hierarchy, which states that wastes

should be reused, recycled, and useful components recovered before energy recovery from the remainder.

The introduction of direct financial support for the planting of biomass crops is being considered as part of the Rural Development Plan 2007 to 2013.

Other Initiatives

Renewable Transport Fuels Obligation (RTFO)

In November 2005, the Department for Transport announced the introduction of a Renewable Transport Fuels Obligation across the UK. The level of obligation is 5% of all transport fuel sales in 2010. This is predicted to save around 1 million tonnes of carbon dioxide emissions in 2010.

Major oil companies and importers will be required to ensure that a growing proportion of their fuel sales will be from a renewable source. To ensure that biofuels are sourced sustainably, the Government proposes to develop a carbon and sustainability assurance scheme as part of the obligation.

The RTFO will work through a system of certification. Oil companies will receive certificates from an administrator to demonstrate how much biofuel it has sold. If the company sells more than its 5% obligation, it would then be able to sell those certificates to other companies who need more to meet the obligation.

EU Strategy for Biofuels

In February 2006, the European Commission announced that it had adopted an EU Strategy for Biofuels with a range of market-based, legislative and research measures to boost production of fuels from agricultural raw materials. The paper, that builds on the biomass action plan adopted in December 2005, sets out three main aims:

- To promote biofuels in both EU and developing countries
- To prepare for large-scale use of biofuels by improving their cost-competitiveness and increasing research into 'second generation' fuels
- To support developing countries where biofuel production could stimulate sustainable economic growth.

The Strategy is based on seven key policy axes pulling together the measures the Commission will take to promote the production and use of biofuels.

- Stimulating demand for biofuels
- Capturing environmental benefits
- Developing production and distribution of biofuels

- Extending supplies of feedstocks
- Enhancing trade opportunities
- Supporting developing countries
- Research and development

Sustainable Development Action Plan

One of the top ten commitments under the Sustainable Development Action Plan was that the Welsh Assembly Government would commission a project to investigate the benefits and barriers to promoting the uptake of alternative fuels in Wales, such as biofuels, biogas, natural gas and hydrogen.

Consultants Atkins were commissioned to carry out this work and to produce a report. The completed report is being studied to see how it can help in drawing up a draft action plan for Ministers to consider.