



RENEWABLE ENERGY - WILL BIOENERGY DELIVER THE TARGET?

This is the last in a series of Bulletins looking at issues considered in the Renewable Energy Strategy Consultation (the "Consultation") published on 26 June 2008. The Consultation closes on 26 September 2008.

Other Bulletins in this series cover:

- Centralised Electricity - [click here](#)
- Distributed Energy - [click here](#)
- Energy Efficiency - [click here](#)
- Renewable Heat - [click here](#)
- Transport- [click here](#)

At the current time, approximately 5% of the UK's electricity demand is met from renewable sources. The EU has committed to a challenging target of 20% of energy usage to be derived from renewable sources by 2020 and the UK's share of this obligation is likely to be 15%.

An analysis carried out by the Department for Business Enterprise and Regulatory Reform ("BERR") has shown that the least cost method of delivering on the UK's 2020 target might require around 30% of renewable energy to come from bioenergy across the heat and electricity sectors.

Bioenergy is a generic term for the energy produced from the direct or indirect combustion of biomass material such as energy crops, wood and waste, and biogas. It can be used for heat and electricity and to

produce transport fuels. In the 2007 Biomass Strategy, the Government described biomass as an "untapped resource" and to date, little bioenergy has been deployed in the UK.

The Government has been consistent in requiring that increased deployment of bioenergy must be made in a sustainable manner. The EU has struggled with agreement of sustainability targets for biofuels (one form of bioenergy) but a recent vote by the EU Industry Committee has moved us towards a compromise, requiring a proportion of the biofuels used in transport to be sourced from non-food and feed competing second generation biofuels, hydrogen and electricity. These requirements have not been universally welcomed but are an important step. Biofuels are dealt with separately in the Consultation and were the subject of an earlier Bulletin in this series, [click here](#).

Key concerns

- biomass from waste should not be used as a fuel where it could more beneficially be re-used or recycled - the Waste Hierarchy requires waste to be treated in this order: Reduce, Re- use, Recycle
- biomass must be sustainably produced and processed

The Consultation considers the current policies to develop more reliable sources of biomass and to increase sustainable supply. It also considers how waste can be used more effectively and how to facilitate the production and use of biogas.

According to the Consultation, the UK has biomass resources sufficient to meet 80-98% of estimated bioenergy requirement. However, this has to be developed. Significant barriers to the further development of biomass generation remain. Of these it is crucial that the financial support mechanism and the reliability of the supply chain are addressed. Financial support is given through the Renewables Obligation ("RO") and this will continue. The proposals to band the RO will make biofuels created using advanced technologies and dedicated biomass more financially attractive, whilst reducing the benefits of producing landfill gas.

The Consultation makes it clear that a drive towards renewable heat is crucial to the UK being able to meet its renewable targets. A renewable heat obligation or renewable heat incentive (as discussed in the Consultation and in our Renewable Heat bulletin, [click here](#)) will further stimulate the bioenergy market.

In relation to waste biomass, the Government has identified waste wood and waste food as

two waste streams for which better management options must be sought. Waste wood can be burnt for either or both of electricity and heat production. Biogas can be produced by the anaerobic digestion of food waste and then used to produce electricity and heat. Recently Joan Ruddock, Waste Minister, described anaerobic digestion as "extremely attractive".

One well-developed food-waste-to-energy scheme which is operating successfully, on a commercial basis, is a partnership between Greenfinch, a company based in Ludlow, and South Shropshire District Council. This project involves the collection of all domestic household food waste across a large, essentially rural area and its conversion into a feedstock for a bio-digestion plant. This in turn produces biogas to fuel a CHP plant which provides heat and power to local facilities, including a nearby business park. The other main by-product is a digestate which serves as a useful, stable fertiliser.

Anaerobic digestion is much more widely used abroad than in the UK. The Government believes that further deployment is in the national interests and is working with local authorities, farmers and business to drive further use of this technology. It is also making significant funds available for demonstration projects. In addition, it is working with gas transporters to assess the viability of injecting biomethane (a constituent of biogas produced from anaerobic digestion) into the gas pipeline system. The Consultation asks for views on the barriers to the cost effective take up of these measures but it is clear that bioenergy will play a big part in the UK's drive to meet its renewables targets.

Sources of biomass - domestic and imported:

- ▄▄▄ forestry
- ▄▄▄ straw
- ▄▄▄ wood waste
- ▄▄▄ waste, particularly food waste
- ▄▄▄ agricultural waste
- ▄▄▄ energy crops

Key measures already in place to encourage increased biomass take up include:

- ▄▄▄ Biomass Strategy 2007
- ▄▄▄ Bioenergy Infrastructure Scheme
- ▄▄▄ Bioenergy Capital Scheme
- ▄▄▄ Support to energy crops through the Rural Development Programme for England
- ▄▄▄ Woodfuel Strategy for England 2007
- ▄▄▄ Waste Strategy for England 2007
- ▄▄▄ Renewables Obligation
- ▄▄▄ Landfill tax escalator
- ▄▄▄ Enhanced capital allowances for conversion of boilers to fire on solid recovered fuel



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