



Biomass power and CHP

a sustainable part of the UK energy mix

Biomass: Driving Green Growth and Jobs

Supporting the growth of the biomass industry will pay economic and environmental dividends. Biomass is able to make a real contribution to green growth and jobs in the UK by harnessing an existing skills base and infrastructure, helping to develop existing sectors such as farm diversification and improved forestry management. Giving wood its proper value will have positive economic knock on effects, stimulating an industry supply chain with resultant jobs and skills across a number of sectors including energy, construction, transport and agriculture.

However, without a proper regulatory framework and clearly defined support levels, the industry simply cannot deliver on this potential.

Biomass delivering jobs and growth

- The biomass industry makes a substantial and growing contribution to jobs in the UK.
- Biomass can help to develop an extensive industry supply chain for the UK, helping to drive jobs and growth throughout the economy.
- If the biomass industry is given the support it needs to develop its potential, the Forestry Commission estimates that the woodfuel industry could generate £1 billion and support more than 15,000 jobs in the UK.¹
- The biomass industry could also help contribute to green growth in the UK by enhancing the value of biomass sources. Actively developing the UK biomass energy supply chain would place a real economic value on wood thus incentivising better managed woodland and a host of related industries, such farming and agriculture (including short rotation forestry, and the integration of biomass crops into farming crop cycles), transport (ports and rail), processing (pellet plant facilities) and many more.
- A lively market reflecting the real value of this commodity will also encourage more biomass to be planted and also for it to be managed in a responsible, sustainable way.

Decarbonising Industry

- Biomass has the potential to decarbonise high electricity and heat usage in UK industry. Through the use of by-products and waste products from industrial processes, industry can both decarbonise and offset operating costs. For example, recovered wood could provide a total of some 4.5 million tonnes of fuel a year.²

¹ Forestry Commission: Woodfuel Implementation Plan 2011-2014

[http://www.forestry.gov.uk/pdf/FCE_WIP_Web.pdf/\\$FILE/FCE_WIP_Web.pdf](http://www.forestry.gov.uk/pdf/FCE_WIP_Web.pdf/$FILE/FCE_WIP_Web.pdf)

² Drax: Biomass the fourth energy source

http://www.draxpower.com/files/page/84635/Biomass_the_fourth_energy_source_FINAL.pdf

- Agricultural by-products such as straw, oat husks, grape flour, cocoa shells and olive cake and non-food crops such as cork fines can also be used as biomass for energy production. Of solid biomass used in 2009-2010, 14% was from bedding waste and 8% from animal by-products³.
- Combined Heat and Power (**CHP**) approaches provide the opportunity to integrate the production of usable heat and power (in the form of electricity) into a single super-efficient process. This has the potential to make a key contribution to the UK's renewable electricity and heat targets. It also provides a viable solution to decarbonising some core industrial sectors without jeopardising Britain's competitiveness and growth agenda.
- Where end users for heat can be found, biomass CHP offers a uniquely efficient, economic and renewable solution to heat and power supply needs for industry and society, e.g. schools and hospitals.

"We are very clear that wood biomass has a key role to play, particularly in local energy economies, which we want to see developed to encourage a greater link between local communities and the energy that they consume - coppicing, for example, has great biodiversity as well as low-carbon advantages." - Minister of State, Department of Energy and Climate Change, Gregory Barker, July 2010⁴

Complementing the wood products industry

- Given the varied nature of the biomass feedstock, the overlap between requirements of the wood panel industry and the biomass industry is not unduly obstructive or problematic, and would become increasingly less so as the supply chain matured.
- There is a symbiotic relationship with the wood panel industry, in that much of the waste by-product of the wood panel industry can be utilised as biomass fuel.
- Projections from the **AEA** suggest that the price of biomass would be unlikely to increase by more than 10% between 2010-2020, as demand increases.

Key Terms:

AEA: AEA Group is a world leading international energy and environmental consultancy, specialising in policy support and programme management for national and local Government and global businesses.

Combined Heat and Power (CHP): CHP is a method of power generation that combines the

³ REA Analysis of Sustainability reporting under Renewables Obligation

⁴ Hansard, 1 July 2010

<http://www.publications.parliament.uk/pa/cm201011/cmhansrd/cm100701/debtext/100701-0004.htm>

production of usable heat and power (electricity) into a single super-efficient process. As a result, CHP produces substantial savings on primary energy usage, resulting in considerable cost and environmental advantages compared to conventional electricity generation in which significant amounts of heat are wasted.

Renewable Heat Incentive: The Renewable Heat Incentive (RHI) is a payment for generating heat from renewable sources, which is set by Government. The RHI is administered by the official regulator, Ofgem, who pay the tariffs through funding from the Treasury.

Renewables Obligation: The RO is a means of incentivising renewable electricity projects in the UK. The RO places an obligation on licensed electricity suppliers in the UK to source an increasing proportion of electricity from renewable sources. Energy providers meet this obligation by presenting Renewables Obligation Certificates (**ROCs**). Where suppliers do not have sufficient ROCs to cover their obligation, they are required to make a payment into a buy-out fund.

Renewable Obligation Banding: The **RO Banding** system entitles different renewable technologies to varying levels and values of ROCs. The aim is to send a signal to the market to attract extra investment into emerging technologies (such as biomass) enabling them eventually to scale up and bring down costs long-term. RO Banding Reviews are regularly conducted by Government to decide and fix levels of support until the next review.