

## **Tees Renewable Energy Plant - Sustainability Q&A**

### *Introduction*

- MGT Power obtained planning consent from the Department for Energy and Climate Change in July 2009 for the 300MW Tees Renewable Energy Plant (TeesREP).
- TeesREP will be a 100% biomass-fired power station, situated at Teesport in Teesside, Middlesbrough.
- As part of this planning process, MGT submitted thorough information on all environmental impacts of the power station and its fuel supply to both local and national authorities, and consulted widely with NGOs and stakeholder bodies.
- All authorities and consultees were satisfied with MGT's application and **not a single objection was received**.
- TeesREP is due to start operation in 2012/2013.

### *Where will all the biomass come from?*

- All MGT's biomass will be sourced from forestry activities which have been **certified as sustainable by an independent third party** such as the Forestry Stewardship Council or the Sustainable Forestry Initiative. This ensures that all biomass comes from well-managed forests, where harvesting occurs at the correct time and harvested areas are replanted, generating a sustainable ongoing biomass product. It also ensures our biomass procurement does not contribute to degradation or loss of valuable habitats such as tropical rainforests.
- The vast majority of fuel will be sourced from the long established forestry industry of North America, which ensures our procurement is from a region where the forested area is actually increasing.
- Sustainability certification of a forest requires that the forest management activity meets a broad range of social and environmental criteria. Certification of biomass coming from that forest also requires a strong system of track-and-trace of biomass from forest to power station.

*Is there enough sustainable biomass fuel available to meet the needs of all the power stations planned in the UK?*

- Research indicates that very large volumes of biomass are available to be sustainably utilised for carbon neutral electricity.
- Forestry consultants Hawkins Wright Plc. say, “A cautious estimate is that North America's woody biomass supply could be increased by around 135 million oven dry tonnes (odmt) per year without a material change in current forest management regimes. This is about ten times the annual feedstock requirement of all 20 of the large (>50MWe) biomass power stations that are planned in the UK. Of this 135 million tonnes, only about 10 million tonnes represents the establishment of plantations on currently unproductive land. Given the right price signals, and some overdue changes to forest management legislation, the increase in North American supplies of woody biomass could be far greater still.”
- In addition, a recent UNECE/FAO Timber Section report quantified the 'socio-economic' potential of sustainable biomass in Europe as an additional 110 odmt of ongoing supply per year.
- The demand from TeesREP is 1.2 million oven dry tonnes per year

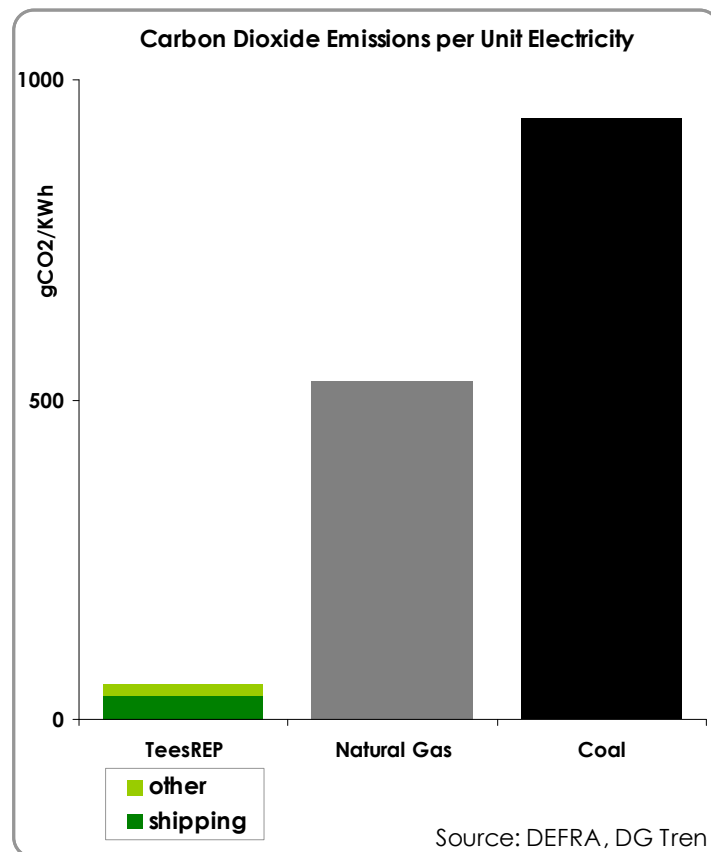
*Is it green to burn woodchips? Will the plant deliver low carbon electricity?*

- Biomass is recognised as near carbon neutral by DEFRA, DECC<sup>1</sup> and the European Commission DG Environment division. Biomass is a carbon neutral fuel source since the same amount of carbon is released on combustion as was absorbed from the atmosphere in the first place when the plant grew, and re-growth replaces harvest under ongoing good forest management. Thus biomass derived electricity, by replacing fossil fuel derived electricity, allows fossil fuels like coal to be left underground.
- Carbon emissions from cultivation, processing and transport in biomass supply chains are typically extremely low<sup>1</sup>. MGT Power will employ best-practise in the biomass supply chain, for example by avoiding excess processing into pellet form, and by shipping in efficient, large scale vessels, to maximise greenhouse gas savings. A full life-cycle analysis of MGT's fuel supply chain indicates that TeesREP will offer extremely significant carbon savings versus fossil fuel derived electricity, even after taking into account long distance sea freight.
- We expect to deliver electricity with a 90% carbon saving versus natural gas derived electricity, or a 95% carbon saving versus the more polluting coal derived electricity (see chart below).

---

<sup>1</sup> UK Biomass Strategy 2007

[http://www.decc.gov.uk/en/content/cms/what\\_we\\_do/uk\\_supply/energy\\_mix/renewable/explained/bioenergy/bioenergy.aspx](http://www.decc.gov.uk/en/content/cms/what_we_do/uk_supply/energy_mix/renewable/explained/bioenergy/bioenergy.aspx)



- In addition, establishment of plantation forestry on poor soils with low organic carbon content can create enduring carbon sequestration on that land, through carbon accumulation in the soil and also in the above ground carbon stocks existing over time. This is a carbon benefit which occurs in addition to the primary carbon benefit of displacing fossil fuel derived electricity.

*Is it green to import woodchips, shipping over long distances?*

- Sea freight in large vessels is an extremely carbon-efficient method of transportation<sup>2</sup>. The GHG savings stated above are calculated after taking into account long distance sea freight.
- The import-based fuel supply business model is intended to bridge the gap before a greater volume of sustainable biomass can be sourced from the UK.
- The UK has a great potential to produce sustainable biomass, however, we believe demand centres such as TeesREP must be developed first to allow these biomass supplies to be utilised.

<sup>2</sup> Data relating to long distance shipping emissions is available online at: <http://www.mgtpower.com/files/2009-11-19%20GHG%20Savings%20Briefing.pdf>

*Is the biomass industry contributing to rising food prices or scarcity?*

- Biomass carries much less potential to interfere with global food markets than 'first-generation' liquid biofuels, primarily because biomass is NOT derived from food crops.
- The vast majority of MGT's biomass will be sourced from existing managed forests, where a large volume of material is sustainably available, and therefore will have no impact on food markets.
- With regards to establishment of new plantations, in addition to the requirements of certification schemes which prohibit utilisation of high carbon or high biodiversity value lands, MGT has a policy of deliberately targeting the large areas of low quality, or 'marginal', land which are available globally for biomass cultivation, so as to minimise competition for land space with food production. Therefore, our sourcing of biomass will not interfere with food supply locally or globally.

*Where can I find out more?*

- Further details on MGT's sustainability 'Guiding Principles' can be found at: [www.mgtpower.com/sustainability.php](http://www.mgtpower.com/sustainability.php)

For further information, contact:

**Taylor Keogh**

020 3170 8467

[james@taylorkeogh.com](mailto:james@taylorkeogh.com)

**MGT Power**

[enquiries@mgtpower.com](mailto:enquiries@mgtpower.com)