

Biomass fired power is a hot topic. So in the spirit of providing information to you as you are in discussions or encouraging such in your area or community the following "Case for Biomass Power" may be helpful. With the economic stimulus work activity underway promoting value added hazardous fuel work which can also contribute to energy security goals, this information can help in making the case to utilize forest residues where possible for energy production.

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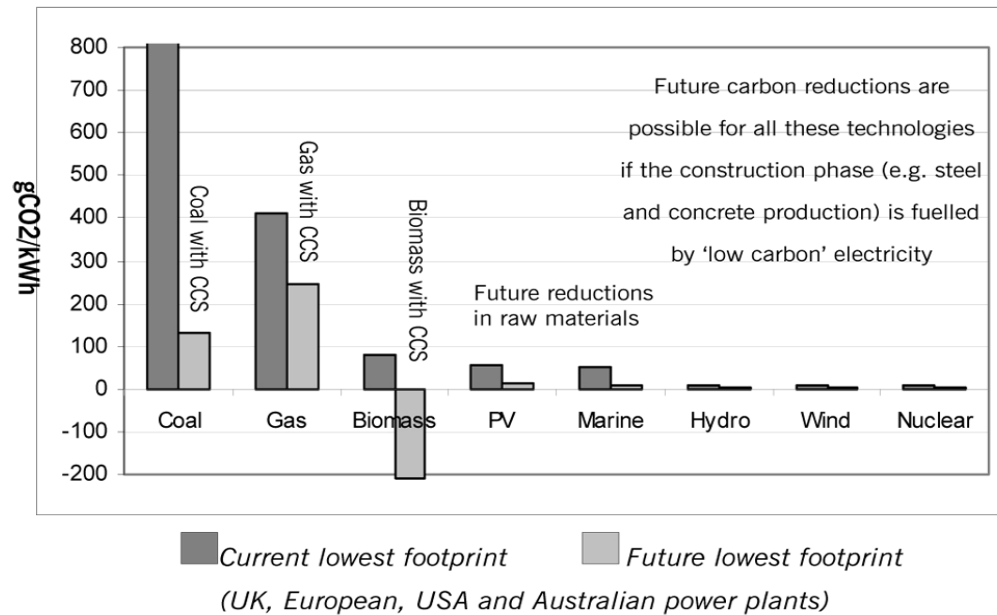
A Case for Biomass Power

To: Scott Lieurance, Chief, Division of Forests and Woodlands
From: Rick Tholen, Forester
Subject: Using Woody Biomass as a Source of Renewable Energy
Date: March 6, 2009

Generating electricity from burning woody biomass rather than coal or gas has the following benefits related to greenhouse gas emissions:

- The overall carbon footprint of biomass-fueled power plants, including all stages of a power plant's life, is nearly 10 times lower than coal fired power plants and more than 4 times lower than natural gas fired power plants. A British report prepared by the Parliamentary Office of Science and Technology included the following figure:

Figure 3. Current and future carbon footprints



- Biomass-fueled power plants can produce around 3 times more energy than a wind farm for the same amount of generating capacity, are more reliable and constant and can be scaled up and down to meet consumer demand.
- The combination of new processes for scrubbing smokestack emissions with wood's natural advantages over coal makes wood a low-emissions energy resource. Burning woody biomass instead of coal can reduce emissions of sulfur dioxide (the primary cause of acid rain) by more than 95 percent and reduce nitrous oxide (the primary component of smog) by more than 70 percent.
- Unlike burning fossil fuels which releases carbon dioxide captured billions of years ago, biomass-based fuel is carbon neutral because the carbon dioxide formed during combustion is balanced by that absorbed during the annual growth of the plants used as the biomass feedstock.
- While all energy production produces greenhouse gases during their entire lifecycle, biomass energy, including both biofuel and generating electricity by combusting non-fermentable lignin, can produce a greater than 100% reduction in greenhouse gases because it not only replaces fossil fuel use, but also harnesses the power of a natural carbon cycle that often goes uncaptured in the natural environment.
- Forest biomass is one of the largest untapped sources of renewable energy. When utilized to generate electrical power in parts of the country where there is surplus forest biomass, utilization can also reduce the damaging environmental effects of catastrophic wildfires which are estimated to produce as much 6% of the Nation's annual greenhouse gas emissions.

- A report by the Biomass Research and Development Board, of which DOI is a member, estimates that as much as 350 million bone dry tons of forest residue, enough to produce approximately 3% of the nation's energy demand, could be utilized under current technologies.

Sources:

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