

Biomass Resources: Demonstration and market

Restoring of phased out peat soil farmlands for bioenergy recycling in rural district areas in Northern Sweden

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In the period of year 1850-1955 approximately 60. 000 ha of peatland in Northern Sweden were drained out and used for production of grass as animal fodder. Since then all this land have not been used for any purpose at all and some areas have turned into low production forest without any economical value. Glommers Bioenergy AB is situated in Glommersträsk near the Arctic Circle. GBE is running a project in progress which shows that such land can be restored for energy grass production for less than 800 ECU/ha. The used perennial rhizomatous grass *Reed Canary Grass (Phalaris Arundinacea)*, gives high yields all over Sweden, approximately 8 tons DM per hectare. In a long term, these peat soil areas will not be used for food production and are therefore suitable for fertilization by biofuels ashes and municipal sludge. Because of the introduced deposit taxes in Sweden in the year of 2000 the use of sludge as fertilization will be profitable for the community. The delayed harvested reed canary grass has low moisture content <15%. This raw material will be upgraded to biofuel pellets and briquettes without artificial drying in a new built small scale plant for production of approximately 10. 000 tons of upgraded fuel annually, which can replace 4000 m³ of oil for central heating plants and households. The ash from the boilers will be recycled to the reed canary grass fields. This system will keep the land areas open, reduce the oil consumption and also provide a sustainable system for sludge recycling. The resources in this project will also be used for a 3 years academic education regarding biofuel production.