REPROMO Project Idea Hungary

Biomass retrofit project at the AES Borsod Power Plant in Hungary

The AES Borsod Power Plant was a pulverised coal based plant built in the middle of 50's. The plant is located in the hart of the North-Hungarian mountainous area covered with big hard wood forests (oak and beach). The fuel change took place in 2003-2004, after the reconstruction of two boilers and installation of log reception and chipping plant.

The plant received considerable investment support from the Dutch Government through its Joint Implementation contract. The Hungarian Government passed over 700,000 Emission Reduction Unit to the Netherlands and the plant received 20% of the investment cost which makes half of the price of the ERUs.

Contact: **Mr. Dr. Istvan Aved**
Email: istvan.aved@aes.com

Main project parameters:
Wood consumption: 270,000 ton/year, contracted for 10 years with state owned forestry companies.
Steam pressure: 75 bar, temperature: 500 °C.
Net electrical power out: 26 MW, 220 GWhr.
The off-taker of the electricity is the Hungarian wholesaler, MVM AG.

HUNGARIAN POSSIBILITIES OF THE ENERGY FOREST PLANTATION

EXAMPLE OF HUNGARY

TOTAL AREA: 9 303 000 HA	AGRICULTURAL LAND: 5 744 000 HA
VEGETATION: 7 596 000 HA	ARABLE LAND: 4 500 000 HA
FOREST LAND: 1 760 000 HA	EU SUBSIDISED: 3 488 000 HA

LOW QUALITY LAND: 1 790 000 HA

LAND POTENTIAL

After the accession of Hungary to the EU 1 million ha of arable land can be afforested. A considerable part of which can be energy-forest.

BIOMASS POTENTIAL

Hungary's estimated total biomass reserves are around 350-360 million tons, and the annual biomass formation is around 105-110 million tons. The gross energy content of the annual biomass formation is 1185 PJ. It is much larger than the country's total energy consumption, which is 1040 PJ/year. Vegetation stores about 30,4 million tons of carbon annually, which is more than twice as much as the carbon content of coal extracted from the mines.

ENERGY TREE TYPES	LAND CHARACTERISTICS
WILLOW (SALIX)	FLOOD PLAINS
POPLAR	FAIR QUALITY SOIL
BLACK LOCUST (ROBINIA)	SANDY SOIL

PLANTING PATTERNS

	RE-PLANTING	SHOOTING
DENSITY	5-8 000 STAND/HA	13-15 000 STAND/HA
ROTATION	8-15 YEARS	2-4 YEARS
WOODMASS	8-15 TONS/HA/YEAR	11-20 TONS/HA/YEAR
ENERGY PRODUCTION	80-150 GJ/HA/YEAR	150-250 GJ/HA/YEAR

For more information contact: GEONARDO Ltd.

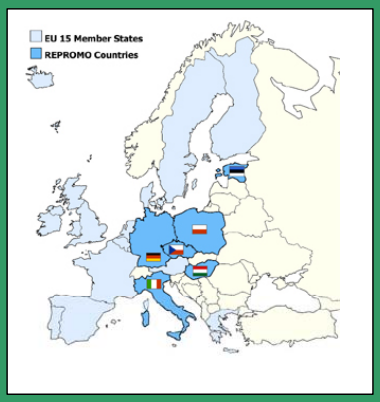
www.enegyforest.com

Mr. Roland Hartyanyi – Mr. Janos Horvath, Email: repromo@geonardo.hu

ENERGY FORESTS PROJECT

REPROMO Partners

ENVIROS, Czech Republic
Estonian Biomass Association
ETA – Renewable Energies
European Biomass Industry Association
European PV Industry Association
GEONARDO, Hungary
KAPE, Poland
WIP – Renewable Energies



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