

# Integrated Logistic for Use of Biomass Energy in Slovakia - Reducing Greenhouse Gas Emission through the Use of Biomass Energy in Northwest Slovakia

## The aim of the project

To create a sustainable market for biomass energy for heat generation in Slovakia, by addressing institutional, financial, and informational market barriers.

## Description of the project

### 1.) Construction of the Central Processing Unit (CPU) for wood pellet production

Creation and management of innovative integrated logistics system of:

- Sawdust collection, transport
- Processing to wood pellets
- Distribution of wood pellets to the Slovak boiler rooms placed in the BIOMASA members' municipalities



The Central Processing Unit is situated in the Northwest Slovakia, municipality Kysucký Lieskové. The distribution of pellets in Slovakia as well as export of pellets is exactly specified in the transport analysis. The annual production of pellets is calculated in amount of 12.000 tons.



### 2.) Reconstruction of 44 boiler rooms in schools and public buildings in member's municipalities

- Dismantling of the existing systems
- Construction works: groundwork, preparation of the district heating system, etc.
- Reconstruction of boiler rooms
- Upgrade of the heating systems: upgrading the old heating system in order to be compatible with new one
- Supply and installation of new boiler plants
- Energy efficiency measures
- Delivery of heat to the end users

#### Characteristics of pellets:

Diameter:	6 mm, 8 mm
Length:	20 mm
Heating capacity:	17.5 GJ/t
Specific weight:	1 200 kg/m <sup>3</sup>
Moisture:	8 -12 %
Ash content:	1 %

## Expected end-of-project results

- Reduction of CO<sub>2</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO emissions
- Increase in re-utilization of local wood waste
- Modernization of old heating systems
- Decreased operating costs for heating
- Strengthening of local economies and the economy of the Slovak Republic
- Creation of new job opportunities
- Decrease in Slovak dependence on fuel import
- Increase in general awareness concerning the use of alternative energy source

## Project financing

Exch. rate, mid 2002: 1 USD = 36 SKK, 1 EUR = 41 SKK

Source	Type	Amount (EUR)
European Commission - LIFE III Program	- grant	EUR 1 011 900
UNDP/GEF	- grant	EUR 854 760
Ministry of Environment of S.R.	- subsidy	EUR 990 760
BIOMASA Ass. members		EUR 720 927
Dexia banka Slovensko a. s.	- loan	EUR 2 310 073
<b>Total</b>		<b>EUR 6 096 460</b>

## Project structure - BIOMASA Association



## Implemented boiler rooms

Reconstruction of the boiler rooms in Nokočov 725 kW and Luky 120 kW were realized in 2000 as the pilot projects. These projects were supported by the Danish Environment Protection Agency (DEPA).

In 2002, the biggest boiler room in Lubochňa, Central Slovakia with the capacity of 2.5 MW, was reconstructed and the new biomass technology was installed. It has replaced the old boiler rooms in basic school, kindergarten, municipal office and in 2 buildings of the health institute.

## BIOMASA Association - the project holder

BIOMASA, Association of legal entities, an independent, non-profit organisation was established in 1999. It consists of 27 members (19 municipalities, Košice Self-governing region, 2 health institutes, 2 professional schools and 2 NGOs).

The Association will be owner of the newly constructed production unit and the technology in the reconstructed boiler rooms. It will sell heat to the end users. The income from the sale of heat will be used for the loan repayment and for the new investments into the reconstruction of the new included boiler rooms.



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