

Best-Practice-projects for bioenergy utilization in urban environments



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Project name: Biomass District Heating Vransko
Location: Vransko, Slovenia
Bioenergy technology concerned: biomass energy

Executive summary (1-2 sentences):

The biomass district heating system was built according to the strategy of the development of the community Vransko to remove old boilers, use wood biomass from the surrounding area as domestic energy source and to increase the employment in forests. The project was financially supported by a subsidy from the government and GEF project as a capital stake. The owners of the biomass district heating are the community, industrial companies and the government (GEF).

Case description (half page)

Background:

The long-term strategy of the development of the community Vransko includes starting to use wood as fuel for space heating, reduction of greenhouses gas emissions, use of domestic energy sources and increasing employment in forests. The opportunity for realization of these strategic objectives was done within the activities of the GEF (Global Environment Facility) project (Removing barriers to increased use of biomass as energy sources).

Description:

The community of Vransko is responsible for space heating of different public buildings which use mostly old fuel oil and firewood boilers and need to be renovated or exchanged with new boilers. With building a biomass district heating system, expensive renovation of boilers will be avoided and will ensure a new heating source (domestic biomass). Households and 20 bigger consumers (schools, kindergartens, health centre, community building...) are connected to the heat grid.

Technical data (capacity, output, etc.):

The total heat power of 2 biomass boilers is 3,2 MW and one fuel oil boiler with 1,5 MW heat power. The total heat production is estimated at 6,6 GWH per year and the reduction of CO₂ emission is estimated at 1.670 t per year. The length of heat network is 3,04 km. The heat power of connected consumer is 4,6 MW.

Financial data (investment, subsidies, etc.):

The total investment was about 2,2 million Euros. The wood biomass district heating system was built by more than 75% financial support of the Slovenian government subsidy (23%),

the Global Environment Facility – GEF (23%) as a capital stake and soft loan of the Slovenian Eco-Fund (31%). The founder's share of the local community Vransko and industrial companies was about 23%.

Which main problems had to be overcome?

Legal factors: Long time for obtaining the license and environmental permits.

Socio-economic factors:

Economic:

Others:

Information flow (which information needed, sources, difficulties, etc.).

For a successful project it is important to obtain information about the heat users, availability of wood biomass in the area, knowledge about available technologies and development plan of the community.

Lessons learned: The use of “domestic” wood is a good opportunity to develop the community and increase employment in the area as well as increase security of heat supply.

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