

Chepelare – BG



→ Good practice example

Pilot action community: Cheperale – Region Smolyan, Bulgaria

Type of energy consumption:

heat energy hot domestic water electricity water

Use of renewable energy resources (potential or actual):

biomass wind energy geothermal energy solar energy hydroelectric power station

Rational use of energy:

sustainable building systems, low energy housing building thermal modernisation modernisation and upgrading of the heating systems modernisation of lighting balanced/sustainable transport

The main focus of the pilot actions in the Municipality of Chepelare is to convert the fuel for heating public buildings to biomass and by using solar energy for heating and hot water. In 2007 Chepelare Municipality started requiring from the woodworking companies delivery of chips as a contractual provision in 5 contracts for timber production from the forests it owns.

→ Community

Short description containing:

Geographical position	Chepelare Municipality is located in the Rhodopi mountain, The town of Chepelare is 250 km from the capital city, Sofia, 80 km from the city of Plovdiv and 22 km away from the district center, Smolyan
Main profile of activity in the region	This is a high mountain region with developed tourism, timber and woodworking industries
Number of inhabitants	8 454
Important institutions	3 bank offices, Regional Court, Post office, 2 Forest Administrations and 4 wood-processing enterprises

Energy data:

Energy supply (number of households or customers)	1 000 households
Energy consumption	207 601 GJ (57 713 MWh)
Total heated flat area [m²]	23 247 m ² public buildings
Type of fuel (for heat energy)	wood, oil for heating of public buildings, electricity

Climatic data:

Average yearly temperature	7,3 °C
Average of heating days per year	220 – 230
Mean wind speed	1,3 m/s
Days of sunshine per year	265

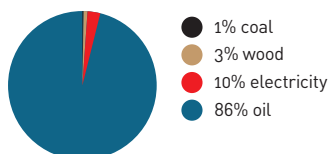
→ Context

Oil and primary wood are the main fuels used in Chepelare for heating in public buildings and family hotels in city of Chepelare. At the same time 75% of its area is covered by forests, 4 500 ha of which are municipal property. 265 days per year are sunny days. Analyses of the municipal budget showed high expenditures for public buildings heated by oil in order to cover the longer heating season in Chepelare. Replacement of oil by chips will reduce by two thirds heating expenditures for public buildings and family hotels. In case of residential buildings and houses effective boiler application (more then 80% efficiency) would result in a reduction in primary wood usage.

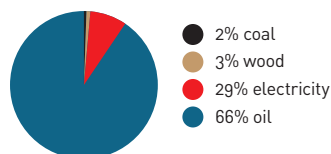
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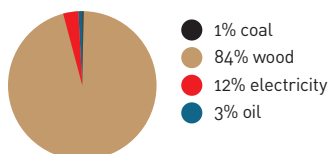
Public buildings



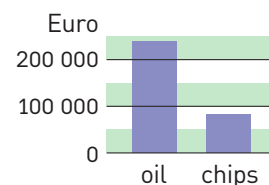
Family hotels



Residential buildings



Municipal expenditures for heating in public buildings



→ Experience of the city

Partnership process

How the partnership has been established with local, regional, national, European partnerships, main stakeholders (8 lines)
The Municipality of Chepelare started building partnerships with the timber and wood-processing sector. It has contracted timber production from its own forests with different woodworking companies. Delivery of chips is a contractual provision in 5 contracts for 2007. Chips will be used for heating municipal buildings during 2008 – 2009. The next steps will be building partnerships with hotel owner to present the pilot actions for public buildings and raising their awareness of benefits from fuel conversion.

Technical data

Description of the technology used, photos and/or graphs (10 lines)

The existing 8 boilers using oil – in 3 municipal kindergartens, the common oil boiler in the town hall building and the medical centre, 2 oil boilers in the 2 buildings of Vasil Dechev High School and the boiler in the municipal dormitory will be replaced gradually with boilers using chips. The first step of this process is planned to be the replacement of the boiler in one kindergarten. The next step will be installation of solar energy panels for hot water for the municipal dormitory and the swimming pool in the neighborhood of the dormitory.

→ Cost and benefits

Economical

The greatest possibilities for financial savings derive from the switch from oil to chips for public buildings and hotel heating. Thus the annual expenditures will decrease from 330 000 € (250 t for the public buildings and 120 t for hotels) to 75 000 € for chips. The total savings for the community will be about 255 000 €.

For example up to now the oil energy consumption of Elhitsa Kindergarten is 26 tons per year, which are approximately 24 500 €. The change of fuel for heating with biomass – chips will be made by the end of this year for Elhitsa Kindergarten. It will be about 120 t chips (6 000 €).

For the realization of this project as well as the project for the municipal dormitory and the swimming pool, the Chepelare Municipality will apply for different projects and third-party financing will be used. ESCO contracts may be used, too. Using solar energy for hot water in the dormitory will save 102 040 kWh electric energy per year (6 000 €) and will make it possible to use the swimming pool that has been closed for more than 20 years again.

Environmental

Switching from oil to chips will reduce the CO₂ emission by 1 100 t.

→ Evaluation and Outlook

The monitoring will be provided by the Municipality as well as the administration of the 3 municipal kindergartens, the medical centre, Vasil Dechev High School and the municipal dormitory.

Further information

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