

INTEGRATED APPROACH FOR INCREASING ENERGY EFFICIENCY

BROCĒNI
(Latvia)

Summary

In Brocēni for useful energy producing and utilization in time of 10 years are invested more than 2 millions LVL. Brocēni is an example how municipality, trying integrated to solve energy economy problems, have encouraged their inhabitants to engage in renovation of apartment houses by loaning bank credit in that way encouraging inhabitants of Brocēni to change their usual environment and making it more mellifluous to work and rest.

Since 2004 in Brocēni are renovated 15 buildings, improving their energy efficiency – consumption of thermal energy has reduced more than 50 %, wherewith has reduced payment for the heat.



For more detailed information please read below...

Short presentation of BROCĒNI

Brocēni town and rural area:

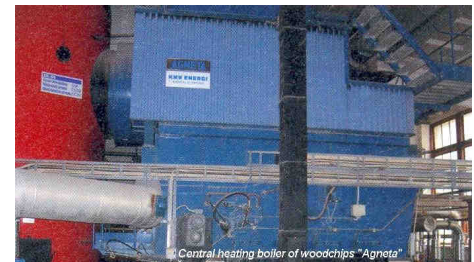
- Area: Brocēni town - 855 ha, from them forests- 65,9 ha, rural area - 10034,9 ha,
- Number of inhabitants: ~ 4850,
- Population density (people./km²): at town - 40, at rural area - 12,8.

Brocēni is typical industrial town, at a 114 km distance from Riga. Brocēni. As a town it started to develop in 1939 to its Cement and Slate Factory. At the beginning this factory was one of the modern in the world.



Sustainable energy development approach

Reconstruction of heat supply system in Brocēni have been started in 1996, when with loan of Sweden Energy Agency (NUTEK) to the tune of 600 000 LVL was reconstructed boiler house – set up VEA AB Sweden UNIVEX HVV 4,5 MW central heating boiler of woodchips and Sweden VEA AB UNIVEX HVSG 5 MW central heating boiler of gas. Gas now is used as alternative – if the outside temperature protractedly is lower than minus 20⁰ C.



In 2001, using loan of North Investment Bank to the tune of 830 000 LVL , was changed heating mains, built individual heat – units of buildings, old mains was changed to industrially isolated pipes – in a year reducing thermal conductivity for 8932 MWh and averting losses of condensate.

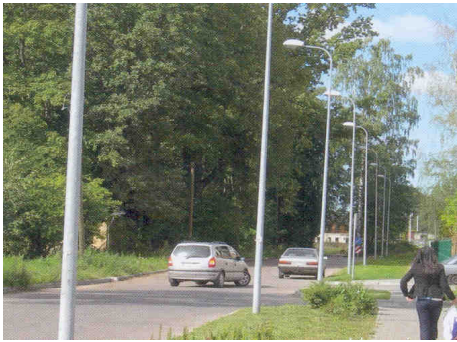
That inhabitants of town old buildings can provide with hot water, managing reconstruction of heat-line peripheral was set up *Comfort* 1, 5 MW woodchip boiler.

From the 2004 in Brocēni are renovated 15 buildings, improving their energy efficiency – consumption of thermal energy has reduced more than 50 %.



In 2004 Brocēni was one of the four Latvian cities, what was elected for realizing Latvian – German collaboration project „Reorganization of lodging for saving thermal energy”. In four 103rd serial apartment houses was managed complex measures for reduction of energy consumption: relieved windows, done heat insulation of buildings; arranged two-tube system, done isolation of pipelines, set up pipes with thermo regulators.

In Latvia it' is one of the first such kind renovation projects, what gave confidence that manager of building to the tenants as a favour can offer credit taking for building renovation and inhabitants can save up the expenses of supplied thermal energy.



To economize means what must to waste for providing lighting in Brocēni was changed light-bulbs and consoles. Using more modern natrium light-bulbs and replacing 250 W light-bulbs to 70 W light-bulbs, electric energy to one lantern is economized approximately three times – now lanterns is giving light not useless warming air.

Current situation: At this moment in all apartment and public houses of town are arranged local thermal-knots, which are connected with cable in boiler house from which can regulate temperature in building of supplied heat. In future municipality is planning to renovate more buildings.

Main achievements

- After project realization consumption of thermal energy has reduced more than 50 %, wherewith has reduced payment for the heat;
- About delivered thermal energy and hot water is possible to pay off after actual consumption, which is provided by in buildings mounted heat and water meters;
- Mounted thermo-regulator allow provide desideratum comfort level – rooms are not unnecessary overheated;
- Arranged environment in the boiler-house, thermal-knots; buildings obtained both esthetic external and more stability towards fluctuation of temperature.
- Project is relevant also from the environmental protection opinion – utilization of renewable resources (woodchip) contribute reduce CO₂ emissions.
- Managing change of all old light bulbs, achieved useful utilization and new light bulbs serves 10 -15 times longer.

⇒ Realized energy efficiency measures allowed also reduce amount of produced thermal energy: till reconstruction for town providing with heat was produced on average 22 000 MWh in year, but after - 18 000 MWh. Thereby decreased also consumption of woodchip in year: before reconstruction in a year utilized 28 000 m³, after - 23 000 m³.

⇒ Consumption of thermal energy for central heating, MWh

Address	Consumption before renovation in 2002 (MWh)	After renovation in 2005 (MWh)
Skolas Street 21 (70 flats)	472,27	202,68
Skolas Street 23 (70 flats)	460,78	195,08
Lielceres Street 34 (42 flats)	309,08	124,72
Lielceres Street 36 (42 flats)	316,30	127,21

⇒ After building renovation 80 % inquired inhabitants of Brocēni recognized that have improved comfort in their residences.

Suggestions for other municipalities

- It's necessary to prevent bureaucratic barriers, what obstruct realization of efficiency measures;
- It's necessary to accomplish laws and regulations to contribute implementation of energy efficiency measures in public and apartment houses and ease involvement of finance resources for providing energy efficiency.
- It's necessary to create mechanism how to motivate inhabitants of apartment houses to engage in renovation of houses, for it foreseen also co-financing from budget and EU funds, as well as more advantageous conditions in use of credit.

MODEL NATIONAL COORDINATOR FOR LATVIA

Social Economy Fund



Social Economy Fund (SEF) was founded on March 3, 2003

The main activities are focused on:

- ⇒ Contribute in development of the projects for improvement of ecological situation and sustainable development (incl. energy saving and RES projects);
- ⇒ Facilitate implementation of EU standards in local activity;
- ⇒ Promote mastering of new, advanced social and technological knowledge;
- ⇒ Contribute employment, social cohesion and local development;
- ⇒ Promote development of social, democratic civil society

Further information

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This case study was prepared by SEF as a part of the MODEL project which is supported by the European Commission (DG TREN – EACI Agency) under the IEE Programme as well as by ADEME, the French Energy Management Agency.

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