



Solar Process Heat Installation

Cider house Hostětín, Czech Republic

Summary description

Hostětín is a small municipality (250 inhabitants) in the Zlín Region on the border to the Slovak Republic. Since 1995, a lot of if environmental projects such as biomass central heating plant, photovoltaic power plant, cider house with ecological production, root wastewater treatment plant, solar installations on residential buildings, a passive house or energy efficient public lighting have been implemented.

Background

It fits into the overall concept of the municipality (environmentally friendly municipality). The solar thermal installation is used for heating, preheating of cider before pasteurization, and for bottle washing.

Technical data

- main products: apple cider
- number of employees: 9 – 15 employees in the season, 2 employees in the off-season
- company data: line capacity 1000 liter/hour, capacity for 300 tons of apples per season

Technical description

- main technical data:
a large scale solar collector TINOX 36 m², buffer storage (already existing): 9 m³
The collector with a total area of 36 m² is fixed in a wooden frame and replaces the original tiled roofing. The absorber has a special selective coating TINOX and consists of copper strips that are soldered in one integral absorbent surface. The bottom of the collector is insulated with six inches of mineral wool and covered with tempered solar glass. The collector is filled with antifreeze liquid and the heat is transferred into a 9 m³ buffer storage. The storage already existed before the solar thermal installation and was additionally equipped with a stratification system. Thermal insulation of the buffer storage is made with straw bales (80 cm).

- processes: heating, preheating of cider before pasteurization and bottle washing
- technical feasibility: solar collector was built on-site under technical supervision, it was installed in 2001, the system produces 12000 – 13000 kWh/year. The backup heating of the cider house is done by a biomass boiler.

Results & conclusions

Concerning the solar system support of the following organisations was most helpful: Luxembourg company EBL (financial support), Austrian organization AEE (technical support – head assembly)

Otherwise, the cider house was supported with a range of other subsidies from CZ or abroad and also with some donations.

