

Village equipped with systems of the company STROJ d.o.o., SLOVENIA



General view of the village

Location	
Town or village / Country	Dvorska vas, Slovenia
Latitude	46°
Altitude	540 m

Building	
Living area	2000 m ²
Heat load (at -14 °C)	76 kW
Building year	1990 - 2000

Biomass boiler	
Type of boiler	combination: biomass, solar energy, oil
Nominal power	186 kW
Boiler manufacturer	STROJ, Slovenia

Solar heating system	
Collector area	140 m ²
Collector manufacturer	STROJ, Slovenia
Orientation / tilt angle	0° east – west / 50° - 55°, rotary
Space-heating storage volume	2500 l
Domestic hot water storage	300 l
Hot water preparation	thermal storage
Fractional energy savings	30 %

Cost Information (excl. VAT)	Cost basis 2003
Boiler	
Collector area	
Heating system	

System description

You can find the system we introduced in a village Dvorska vas, near Begunje in Slovenia. The heating system provides the energy to the dwelling place and business premises of the firm STROJ d.o.o. The firm STROJ d.o.o. was specialised in developing products, kind to nature, above all from the area of the heating and solar techniques.

To installation of a complex heating system led its own, innovative development and an approach to individual specialities of some systems. Their know how offers the whole action of adaptation and it is possible to built in a complex heating system, what also the above mentioned system proves. The STROJ systems are unique; they do offer a boiler, with the possibility of an active heat exchanger, where the heat transfer fluid transfers the heat directly from SSE. Preheated heat transfer fluid enters to the boiler, which enables the addition of heat from several sources – the process of combustion of biomass (firewood, pellets, coal,...), the process of combustion of fossil fuel and the process of combustion of gas. In the boiler there is a heat-reservoir, which we can heat, beside already mentioned sources of heat, by means of electric energy. The main advantage of the heating system STROJ is the working of the system without an addition of an antifreeze. Limitation in temperature of the use of heat transfer fluid at the minimum winter temperatures is solved with an innovative and patented solution of the special combined expansion holder. The system reacts on the direct danger of freezing and enables the withdrawal of heat transfer fluid (water without antifreeze) into a safe shelter of the warmer system-area. When the sun radiation is on a large scale, and there is no danger of freezing of heat post in SSE, the heat enters to the boiler directly from SSE. The fluid preheats the water in a boiler, where it is being extra-heated and sent to the heating part. Cylindrical construction of the boiler follows the reduction of internal stresses in a material. The boiler is weightless and therefor suitable for transportation. It is made of stainless steel, which provides over 25 years life period. The boiler is surrounded by qualitative isolation of incombustible materials. The regulation provides the guidance and control of all vital functions of a working system.

There is an already mentioned system of preparative arrangement of heat transfer fluid by means of solar energy, SSE and/or the process of combustion of biomass and/or gas included in the production of energy. This system works as a practical accomplishment of the newest developmental solutions by means of laboratorial accession at the solution and at the advanced studies of ideas. More than 4000 referential small and large systems can certify the solutions of the laboratory. Putting research achievements into practice is enabled by developmental, system-technological and fitting-gang, who work in reconciliation and provide a reliable working of diverse heating systems. Associated proficiency constantly enables improving of heating systems, professional montage, a reliability of functioning and permanent sustenance and service of working systems.

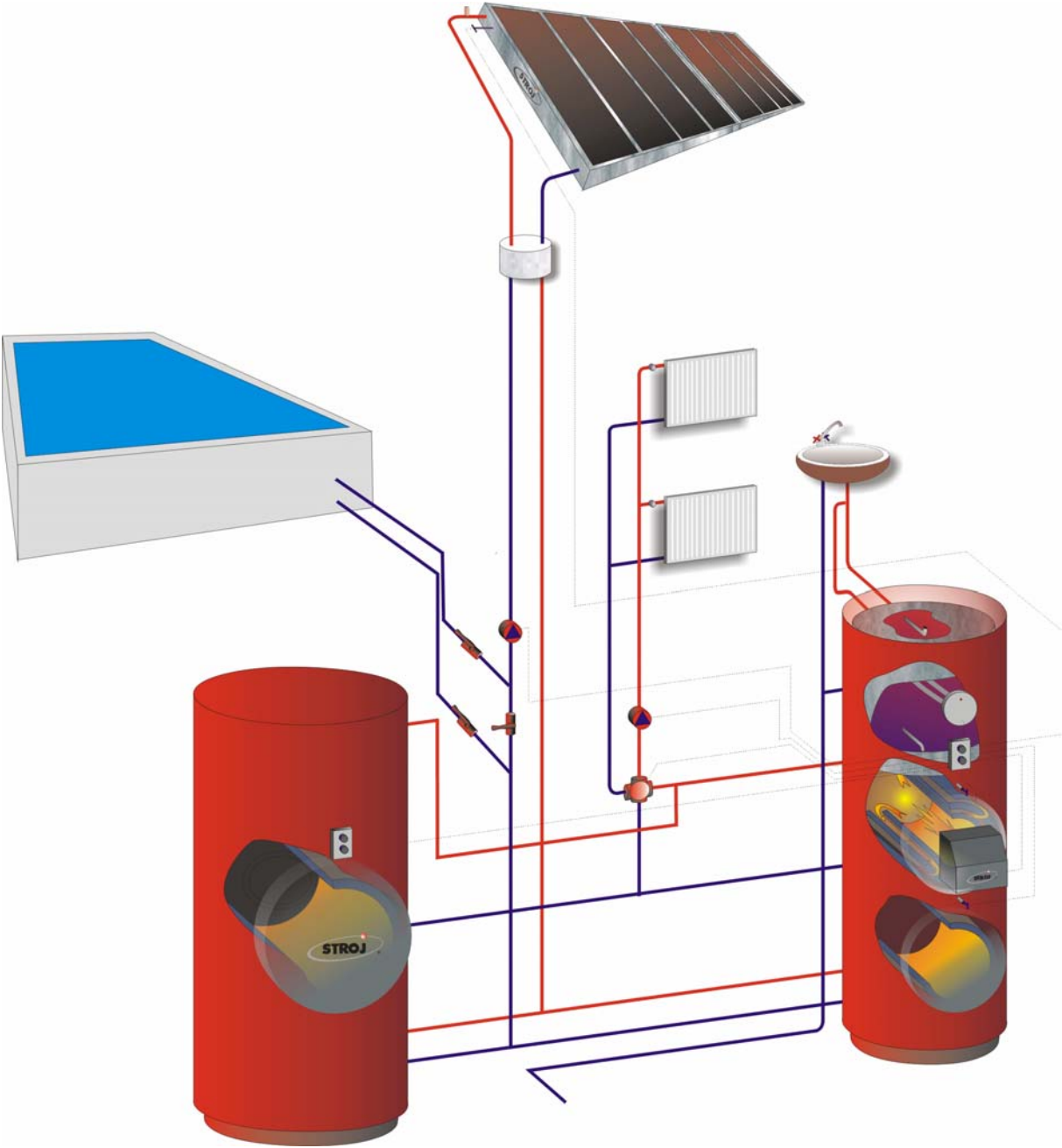


A photo of SSE STROJ



A photo of stove STROJ.

The hydraulic scheme of the heating system



The scheme of the heating system.