

Demonstration houses in
Černošice,
the Czech Republic



Technical systems

- warm air heating, mechanical ventilation with heat recovery
- earth heat exchanger
- solar collectors 5,0 m²
- integrated heat storage (IZT) 950 litres
- fire stove 9/5 kW
- central regulation
- lighting tube for staircase
- composting WC

Energy performance

Total energy demand: **29 kWh/m²**

Space heating and ventilation air: **12 kWh/m²**

Energy sources: solar energy, biomass, electricity (low tariff)

Domestic hot water: **34 kWh/m²**

energy sources: biomass, electricity (17 kWh/m²)
solar collectors (17 kWh/m²)

Parameters declared above are calculated. The house is being monitored since January, 2004. System was proved by failure of its active heating part. For about 14 days there was average temperature of 19°C by exterior temperature of -20°C.

Note: If „super“ windows (and doors) had been used, the passive house standard would have been performed.

Costs

Realization costs were about **4 mio. CZK (ca.123000 EUR)**. There are approximately 0,5 mio.CZK extra costs when comparing with a common house of this standard.

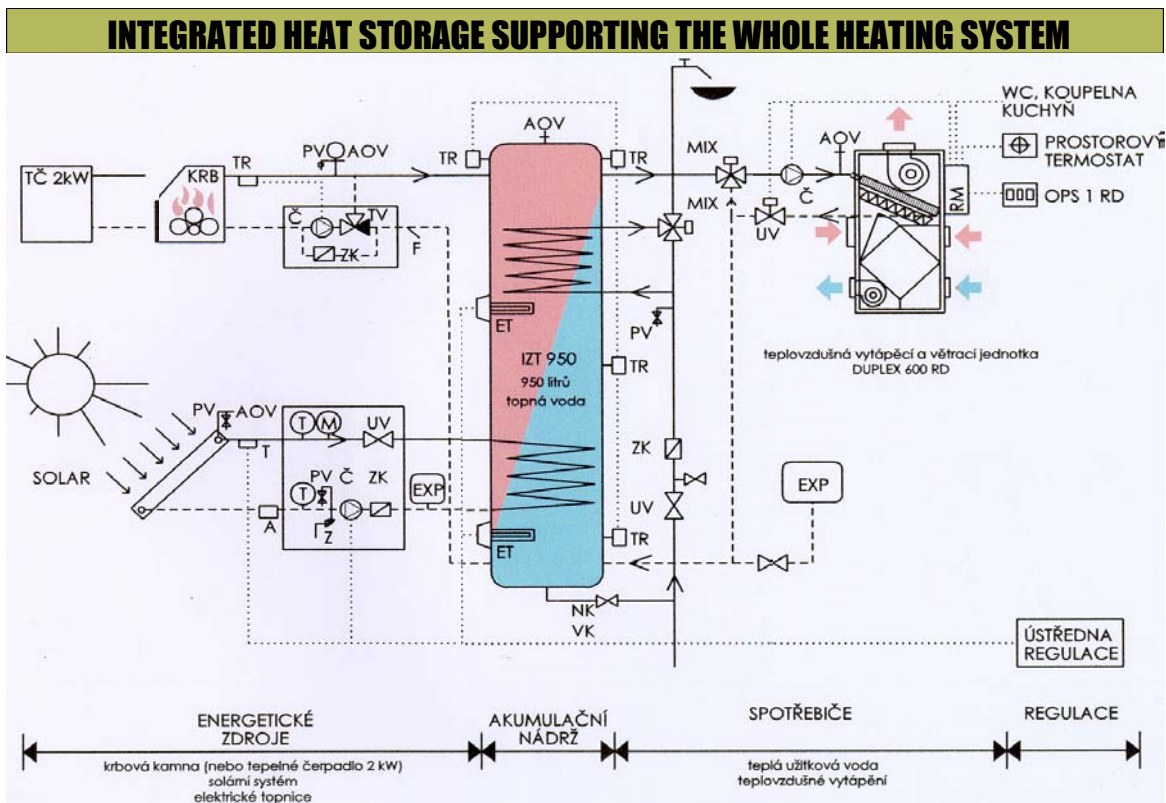
Planning tools

Energy performance of the house comes partly from former experiences of several engineers and architects and partly from a model developed in co-operation with Czech Technical University, Faculty of Civil Engineering.

Marketing strategy

The marketing strategy can not still be based on economical arguments only. Economical pay-back time is playing important role for many investors when making decision on energy parameters, but never plays role when making decision on bay-windows, doorknobs or garages.

Marketing can be based on both environmental and economical parameters. A standard shape and material of such type of house can be an advantage for rather conservative investors.



The design principles of the house are published at venues of ECOHOUSE (association for sustainable housing) and discussed at the website. The parameters of energy performance will be monitored in co-operation with investor.

Investor:

Vančák family

Detail planning and energy concept:

Aleš Brotánek, Jan Brotánek

Realization:

ALTERSTAV s.r.o., Vysoké Mýto

LOCALITY

(south-west of Prague)



www.iea-shc.org

www.ecbcs.org