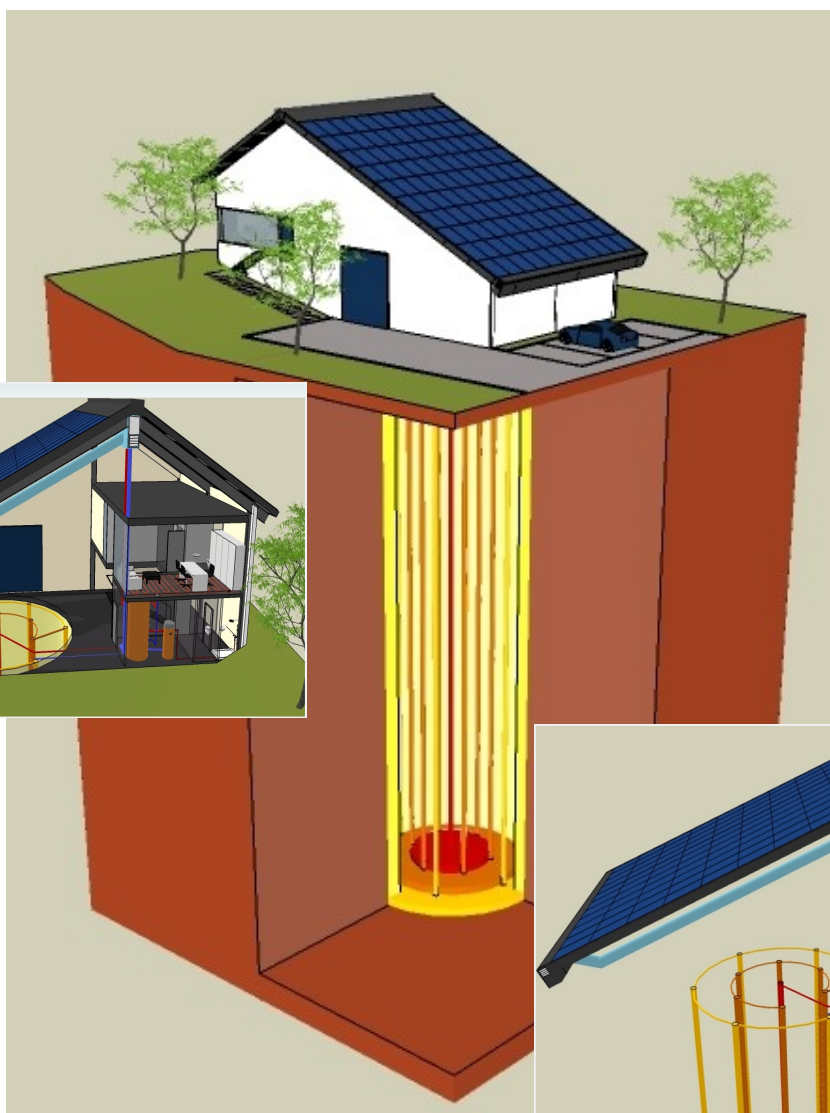


## e2-building™

**e2-building** is an innovative approach to sustainable building and energy management. By integrating on-roof photovoltaic power plant, solar thermal energy capture, and underground thermal storage, commercial, industrial or residential constructions not only become Net-Zero-Energy buildings, but actually turn into surplus energy providers.

An ingenious PV module/roof integration system functions simultaneously as a photovoltaic power plant and as a highly efficient solar heat collector, capturing excess thermal energy generated by the solar irradiation. During the hot summer days the heat captured by the roof collector is continuously fed to the underground borehole system where transferred to the surrounding soil gradually crates a seasonal thermal storage. In winter the process is reversed, whereby the thermal energy stored underground is transferred back to the building and reused for the ambient heating and hot water.

In addition to energy management the system creates a controlled thermal closed-loop in which the temperature of the on-roof collector can be controlled and thus ensuring the PV power plant to operate within the optimal working conditions.



### KEY HIGHLIGHTS

- Generates both electricity and heat
- Total solar energy transfer above 75%
- Ambient heating self-sufficiency up to 100%
- Higher efficiency of the PV by up to 10%.
- Huge reduction in CO<sub>2</sub> emissions
- High return on investment

