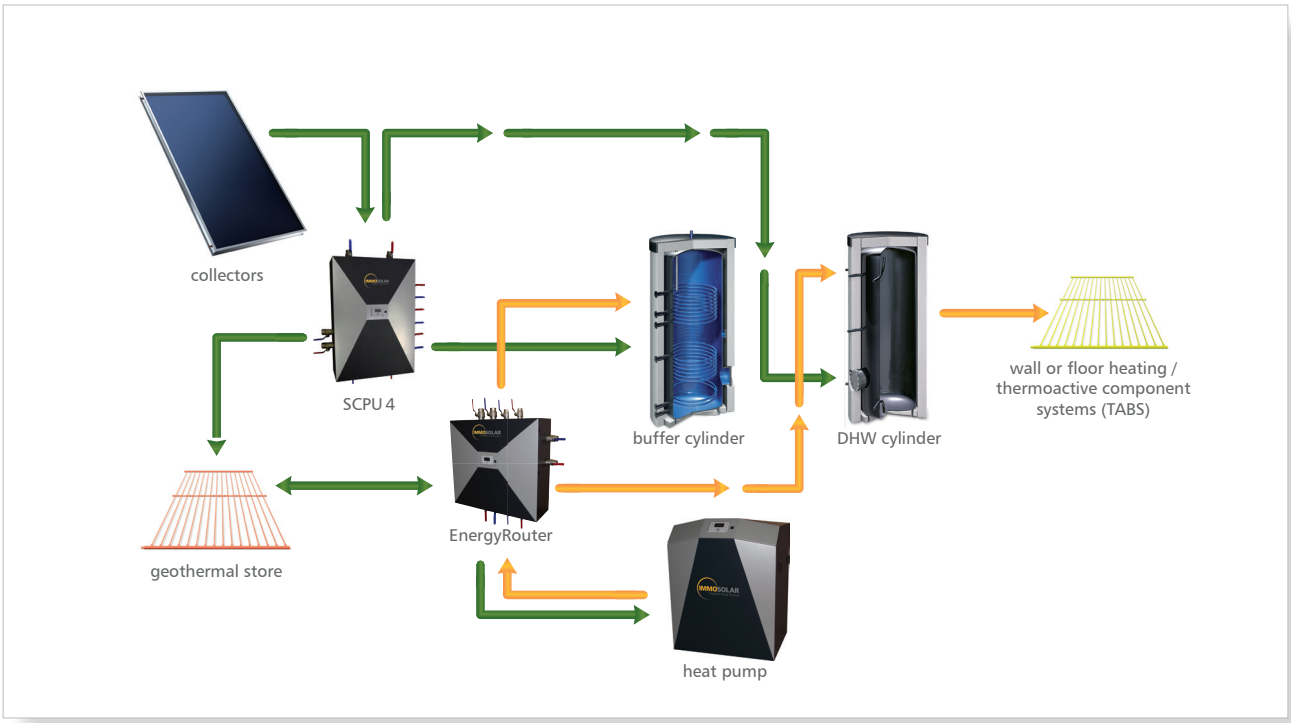
INTELLIGENT ENERGY SOLUTIONS **FOR TODAY AND TOMORROW**

THE SYSTEM

BES
BUILDING ENERGY SOLUTIONS
by IMMOSOLAR

SYSTEM DESCRIPTION
IS-ENERGYROUTERSYSTEM



The IS-Solar Central Processing Unit (SCPU 4) is a stand-alone, fully-equipped control and regulation unit. It makes highly efficient use of solar energy and several stand-alone storage types are loaded in succession, depending on temperature and demand.

In order to store excess energy that is solar-generated in the collectors, the ground beneath the building is used as a geothermal store for excess energy during the summer months. In times without sufficient solar output the heat pump absorbs the required heat from the geothermal store. Vertical geothermal probes present an alternative to this arrangement

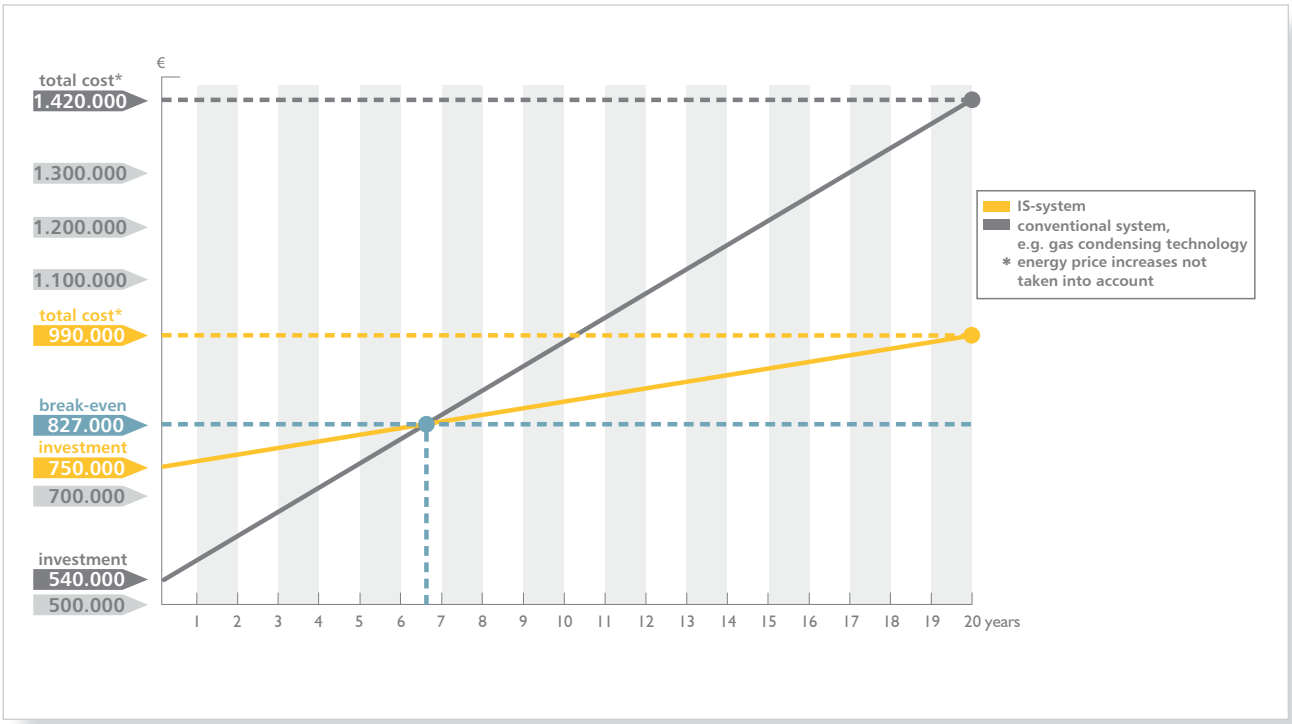
The IS-EnergyRouter forms the interface for coupling of solar collectors, heat pump, geothermal store and cylinders for optimum distribution of the available energy.

The IS-heat pumps were developed specifically for heat sources. They are coupled directly with the solar collectors, thus increasing the efficiency of the system significantly. Now even temperatures below 30 °C can be utilized – conventional solar systems cannot make use of this low temperature range, and therefore work far less efficiently. Heat pumps with active cooling provided cool the building via cold water buffer and area heating/cooling systems.

For economically viable use of solar generated energy, low temperature heating surfaces in the form of floor and/or wall heating are required. The necessary temperatures are provided by the system all year round.

Thermoactive component systems (TABS) utilize either solar energy or can be integrated into the system, for direct heating or cooling of the room.

IMMOSOLAR SYSTEMS
REDUCE YOUR COSTS



When you purchase an IMMOSOLAR-EnergyRouter system, the initial costs may be higher than those of a conventional system. However, compared to a conventional heating system, an IMMOSOLAR system pays for itself in less than 7 years on average. With its intelligent components – i.e. geothermal store under the building, solar-thermal energy, heat pumps and buffer cylinder, up to the IMMOSOLAR EnergyRouter system – more than 70 % of the operating costs can be saved compared to a conventional system using fossil fuels. In the example mentioned above, operating costs of a conventional system are as high as € 44,000 annually, whereas operating costs of the IMMOSOLAR system are only € 12,000 annually. By assuming a total lifetime of 20 years for the two systems, this results in savings of more than € 400,000 with an IMMOSOLAR system, despite higher initial investment. The price increase for fossil fuels is not even taken into account, yet, otherwise the difference would be even more significant.

With an IS-EnergyRouter system you not only purchase a highly efficient and perfectly harmonized energy system, but you also decide in favor of a high degree of indepence from fossil fuels and their price increases for the upcoming decades.

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