

KOMBISOL® house, Tyrol, Austria



Picture source: SIKO SOLAR GmbH

Architectural integration of solar thermal energy systems

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Single-family house with solar collectors integrated in the façade

PROJECT

KOMBISOL® houses are able to supply a home with 100% renewable energy due to the combination of a solar thermal system, a heat pump and a photovoltaic system. These houses are successfully realised throughout Austria, the first one was built already in 2000.

This KOMBISOL® house in Tyrol collects all energy needed for hot water preparation and space heating from the solar thermal collectors that are integrated in the façade and from a geothermal heat pump. In summertime the solar collectors are used for domestic hot water preparation, excess energy is used for heating the ground collector and a swimming pool. On rainy days or in winter time the heat pump is using this energy from the ground collector for heating the house and the tap water. The whole regulation is managed by a central control unit. The KOMBIBOX recognises the energy demand of the house and regulates the energy flows of the solar thermal system and the heat pump.



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Key figures

Energy sources:	solar collectors, solar cells, heat pump, ground collector
Collector area :	70 m ²
Heat store:	16 000 litre
Solar yield:	app. 58% solar coverage
Heat pump:	15 kW

Features

Excess energy from the solar thermal collectors are not only stored in the ground collector but also in the concrete core of the house. This enables a comfortable and warm climate in winter and also a cooling function in summer.

The collectors have been perfectly adapted into the façade, for that reason a white frame colour has been chosen.



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SOLAR COLLECTOR

Type:

SIKO INTEGRAL, flat plate collector

Dimensions: variable

Colour: variable

Certificates: Solar Keymark and Austria Solar

Read more: www.solar.at



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GALLERY



PHOTOS; SIKO SOLAR GmbH

- Built/completed:
2007
- Engineer:
SIKO SOLAR GmbH
- Location:
Tyrol, Austria
- Project period:
2006-2007
- Type of project:
Single-family house



- Read more : www.solar.at