

# New construction MFH power plant B, Bennau

2008

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The multi-family house Kraftwerk B is located in the village center of Bennau/SZ, right next to the Catholic church. It is the 1st plus-energy house in Switzerland, which means that it produces more energy than it consumes.

## The project

The structure The basic structure is kept very compact and thus also very energy efficient. Under the gable roof are a total of 7 apartments. Behind the wooden element facade is a massive concrete skeleton building, which serves as a mass storage. In the interior, exposed concrete, clay plaster and oak parquet dominate.

## The construction

The execution The whole building is the 1st PlusEnergy MFH in Switzerland. Plusenergy means that this building produces more energy than its inhabitants and the building itself consume. Thermal energy is obtained through the south facade, which consists of solar collectors. A 24'000 l storage tank in the basement serves as heat storage. Passive solar energy is used through the large windows facing south. The electrical energy is generated by the full-surface photovoltaic system on the south-facing gable roof and on the pavilion roof. Through the use of natural, preferably untreated building materials, the ECO label is also achieved in addition to Minergie-P. This PlusEnergieBau won a solar prize in 2009 and 2010.



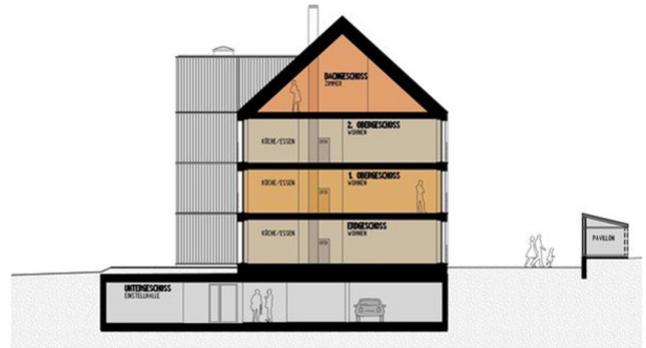
Visualization north-east



Wooden element roof with photovoltaic system for electricity generation



Ground plan ground floor, 1st floor 1ST FLOOR, 2ND FLOOR



Cross section

### Construction Data

- Wooden element thickness 58 cm
- Thermal insulation cellulose/rock wool 48 cm
- Hot water tank 24'000 liters
- Photovoltaic system 33'000 W

### Services of Timbatec

- SIA Phase 31 Preliminary design
- SIA Phase 32 Construction project
- SIA Phase 41 Tendering and comparison of offers
- Site supervision and site inspections

### Photo voltaic system

3S Swiss Solar System  
3250 Lyss

### Timber construction

Dettling Holzbau AG  
6440 Brunnen

### Architect

Grab Architekten AG  
8852 Altendorf

### Solar system

Heizplan AG  
9473 Gams

### Building owner

Sanjo Immobilien AG  
8852 Altendorf