

# Gemini House

## Basic Idea

The basic idea was to develop a detached one-family house being as sustainable as possible in view of the global environmental situation. The following criteria should be taken into consideration when designing it:

- no consumption of non – renewable energy
- the house should be as independent as possible from the power grid
- state of the art building technique
- small space consumption

## Energy Strategy

To achieve a maximum of energy output the following equipment components were used:

- 40 m<sup>2</sup> window area to make use of passive solar radiation
- 70 m<sup>2</sup> photovoltaic cells mounted on the roof for generating electricity
- a maximum of energy output is achieved by the rotation of the whole house: by doing so it can always be aligned to the best position in relation to the sun
- the shape of a cylinder creates an excellent volume to surface relation
- excellent thermal insulation in the walls
- passive house heating system by using a heat pump – this device can be used for cooling in summer as well
- computerised energy monitoring system

## Building Material

The main building material which was used is wood, because it is a regional sustainable material that is abundant in the surroundings of Weiz.