

Project name Ökohnbox Nänikon, ZH



Keywords ecological building and habitation, sustainability, energy self-sufficient, modularity, flexibility

Start of project 2012

End of project In operation until 2015

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Short project description / project function In consideration of the "2000 watt society" and " Agenda 21", the raisers of this project want to show a practical example of ecological building and habitation. The ambition is to reduce the energy consumption and produce electricity, without losing comfort of habitation. The first "ökohnbox" is set-up in Nänikon (Zurich) and will stand there for the next few years. After that period, it's possible to remove this building and build up on a new place. This house is transportable and can be extended with additional modules according to the future demands on this building.

Water Reducing the fresh water consumption of the building is realized by installation of a waterless toilet, as well as a low consumption washing machine and special armatures. Hot water is produced by solar energy in normal operation and by gas-powered boiler during cloudy weather. A system for using gray water is included as well. With this configuration the annual consumption of fresh water sums up to 24 cubic meter.

Energy Electricity is produced by solar panels on the building surface. Using high efficient state of the art electric devices and lights, the consumption of electric energy is kept at a minimum. Using architectural concepts, such as window sizing and thermal isolations, the energy demand is substantially reduced. Heating can thus be realized by a single wood log stove supported by phase change materials acting as thermal storage. At the given location, the annual demand for heating

	is 1.5 cubic meter wood and 30 litres liquid gas.
Biomass	The building materials are selected with respect to sustainability and low emission. Hence, all materials are renewable and biodegradable or recyclable.
Project benefits	This project is the practical answer to the theoretical Question how to achieve the 2000 watt society. It showed new ways for this ambition and furthermore addresses the demand of flexibility and consistent quality of living conditions.
Project level	Pilot project
Financial scale	Building at set-up costs of the Ökohnbox: around 180'000 CHF
Environmental conditions	Climate zone: temperate; Climate type: moderate continental; Latitude: 47.37° N, Longitude: 8.69°
Altitude	453 meters above sea level
Description of special local conditions	The building is located in the rural area of Zürich. Public transportations are accessible within a 7 minutes walking distance and enable four connections per hour to the city of Zurich.
Context Zero Emission Buildings	This project is an example of zero emission buildings. It is thereby a prove of concept for the combination of living comfort, high degree of flexibility, sustainability and ecological real estate.