



Hinter Musegg Farm - Luzern, Switzerland

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Roof-integrated Photovoltaic system

Solar

What is the solution?

The Musegg Culture and Habitat Foundation has put its commitment to sustainable development into practice by building the old city farm Hinter Musegg in Lucerne, formerly a single-family house, converted into a double single-family house with a summer mall. Before the renovation, the EFH, including the farm, consumed 41,000 kWh/a. Thanks to thermal insulation, efficient household appliances and LED lamps, the total energy requirement fell by 47% to 21,900 kWh/a. The exemplary, fully-integrated, 92 kW PV system generates 76,500 kWh/a. Thus, the building has an energy supply of 349%. Since the beginning of 2016, an electric car has been regularly in operation as a temporary storage facility, mainly to balance out power peaks and reduce electricity costs at the same time.

Why does the solution work in terms of compatibility with conservation and technical aspects?

In accordance with the foundation's purpose, sustainability aspects were consistently taken into account during the conversion of the Hinter Musegg farm. The energy concept is based on the vision of the 2,000-watt society. Geothermal energy, solar power and an electric car enable a significant reduction in dependence on the grid. The electric car also serves as a temporary storage facility for solar power. This is fed back into the building in the evening as required.

Description of the context:

In spring 2013, the "Musegg Cultural and Habitat Foundation" was founded to ensure the preservation, protection and care of the Musegg region, of the cultural heritage, the natural environment and the native fauna on the Musegg in Lucerne. In summer the foundation runs a Hofbeiz and sells farm and regional organic products.

Pros and cons of the solution:

The 2,000-watt concept with production, storage and efficient use of electricity inspires school classes, specialist groups and visitors to the Sommerbeiz. Charging stations for e-bikes and a solar table with USB connections for charging the batteries of mobile phones enables the first-hand experience of functionality of solar power. For the innovative and comprehensive energy concept and the high degree of self-sufficiency, Hof Hinter Musegg achieved 2nd place of the PlusEnergieBau Solar Prize 2016.

Type of data available (level of information, simulation):

Solaragentur Swiss Solar Prize 2016, Category PEB (Plus Energy Buildings).

Are there any related publications or pictures of the solution?



Solaragentur Swiss Solar Prize 2016

https://www.hiberatlas.com/smarteredit/projects/219/g-16-09-21_peg_sanierung_anliker_affoltern_def_0.pdf

Solaragentur Swiss Solar Prize 2016