

Fanzun AG and Caotec Haustechnik win 2017 Swiss Solar Prize

Medienmitteilung

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On Friday, the solar prizes of the Swiss Solar Agency and the Norman Foster Solar Awards were presented at the Palexpo in Geneva. The commercial building of the company Caotec in Brusio, which was recently the first building in Switzerland to be certified in 2017 according to the Minergie standards A and P, won the 3rd PlusEnergieBau® Solar Prize with an impressive own energy generation of 156 per cent. This is already the third award of this kind for the Fanzun/Caotec consortium.

The architects, engineers and consultants of Fanzun AG already developed pioneering energy concepts in collaboration with the building technology specialist Caotec from Brusio for the projects „Muottas Muragi" and „Malloth"; these energy concepts were subsequently awarded the Swiss Solar Prize (in 2011 and 2012). The owner Dario Cao had a clear vision for the rehabilitation of his company headquarters (2015-2016): The company's own craftsmanship for the use of renewable energies was to develop its full potential. The certification according to Minergie-A and -P as well as the Solar Prize were on the client's wish list. As the general contractor, Fanzun AG converted the property, which was built in 1971, into a modern PlusEnergie commercial building. In the process, it was possible to reduce the total consumption of energy by all of 80 per cent (from 112,600 kWh to 22,300 kWh per year) and to increase the company's own generation of energy to 156 per cent (34,900 kWh per year). This was made possible by an intelligent combination of high-quality building technology modules.

Efficient use of the sun's heat

In addition to the consistent use of energy-efficient household appliances and LED lamps, the building achieves its cost effectiveness through its external insulation made of glass wool, which can be up to 32 centimetres thick. Solar collectors integrated into the roof and hybrid modules on the facade generate heat energy for hot water and heating. If there is no direct requirement for heat, the energy produced will be stored as latent heat as an interim measure in an ice storage unit with a capacity of 10,000 litres. The heat required can thus be provided all year round via a heat pump.

Production of electricity beyond own requirements

The solar system of 315 square metres in total on the roof and on the facade as well as a wind turbine with a vertical rotor generate the electrical energy for the building that is operated entirely independently of the public power grid. It also supplies two electric vehicles. The electricity yield is 34,900 kWh in total, i.e. around 56 per cent more than required. The surplus can be stored in several lithium ion batteries or fed into the public electricity grid. The system also forms the roof membrane of the warehouse building and replaces the classical flat roof, which also enhances its external appearance.

Flagship project

The example of the company building of Caotec shows that companies with the size of an SME can be converted from fossil energies to renewable energies with technical savings measures and the innovative production of electricity. The entire project itself is being implemented in an environmentally compatible,

sustainable and low-cost manner. With this renovation of the energy system, the participants have succeeded in implementing a flagship project. This approach is pioneering and can be adapted to further modernisations.

More technical details in the fact sheet (PDF)

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