

Solar energy for the parish church in Saas-Fee

The car-free mountain village of Saas-Fee is located in the middle of the Swiss Alps at 1800 meters above sea level. Saas-Fee not only impresses as a winter and summer holiday destination, but has also been certified as an Energy Town since 2002 and as an Energy Town Gold since 2020. As an Energy City Gold, the municipality promotes renewable energies, environmentally friendly mobility and the efficient use of resources. When the old copper roof of the parish church, built in 1963, was in need of renovation three years ago, it was clear that conventional materials should not be used, but that the renovation should be as sustainable as possible. Nevertheless, it was crucial that the new roof should fit into the old village center and not stand out surrounded by the traditional stone roofs.

According to the parish priest of Saas-Fee, Konrad Rieder, there were not many alternatives for a new church roof. A stone roof would have been too heavy and a new copper roof would have been too expensive. "As the church council also includes members of the Energy City Commission, the topic of solar energy soon came up," says Pastor Rieder. Saas-Fee wants to look to the future as a community. Energy-efficient renovations and buildings play an important role in this. Although the church council was convinced of the merits of solar energy, the snow load and the visual appearance of a solar church roof initially raised doubts among some parish representatives. "At the beginning of the planning process, we were unsure whether a modern solar church roof would suit a parish church," says Pastor Rieder. Although many solar roofs still consist of conventional solar panels, there are now solar panels that are adapted in terms of color and structure and no longer even shine. In a construction with these panels, you cannot tell at first glance that it is a solar roof. The use of these modern solar panels then convinced the church council and the project was commissioned.

The global market leader for solar roofs with special modules is the company Megasol Energie AG. The company specializes in the installation of solar modules on difficult surfaces such as roofs and facades. "If the solar panels are to replace an entire roof, for example, care must be taken to ensure that the water is drained away and that the roof can withstand snowfall," says Jan Hübscher from Megasol Energie AG. Another challenge is the individually manufactured solar panels that are adapted to the roof. Over 700 individual modules of different sizes were produced for the church roof in Saas-Fee. Precise work is important here, with the first step being to precisely measure the individual sizes on the roof. "There was a well-coordinated and professional team of roofers and solar installers on site in Saas-Fee, who did an excellent job," reports Jan Hübscher.

"We are receiving more and more new inquiries for complex solar projects on a wide variety of buildings. Interesting projects include the solar roof of the church in Bettingen and the solar façade of the Kleinmatterhorn cable car mountain station, which is now the highest PV system in Europe." Jan Hübscher, Megasol Energie AG

Although every renovation of a church is borne by the parish itself, the new solar church roof was indirectly supported financially by the parish's energy fund. Subsidies and energy funds are there to promote Switzerland's Energy Concept 2035 and provide financial support for forward-looking projects in the municipalities. In Switzerland, the federal government reimburses up to 30% of the costs of solar roofs through subsidies. As a private individual, the costs can also be deducted from taxes.

The increased demand for electricity requires a rapid expansion of renewable energies. More and more solar modules are conquering the roofs of Switzerland and more are being added every day. However, according to energy city consultant Patrizia Imhof from Swiss Climate, Switzerland is lagging behind other European countries when it comes to photovoltaic systems. One possible reason for this is the lack of professional solar installers. By 2035, Switzerland wants to

900 GWh of electricity per year, today we are only achieving 1/9 of that. Experts see great potential in photovoltaics, as solar energy can make a major contribution to achieving the 2035 energy target. Known as the sunniest region in Switzerland, the conditions in Valais are ideal for solar installations. As a homeowner, you only consume around 30% of the solar power produced, the rest is fed into the public grid. With a solar roof, you can supply a building directly with your own electricity, which is a great advantage in a power shortage situation. According to Patrizia Imhof, energy cities in Switzerland are making great strides in exploring the potential for solar installations on existing buildings or new builds and promoting solar energy.

"Any roof without a photovoltaic system is a "dead roof" and conversions such as an innovative church roof make an important contribution to achieving energy and climate targets." Patrizia Imhof, energy city consultant

The finalization of the roof was originally planned for last autumn. Unfortunately, the renovation of the church roof was delayed by the lockdown and subsequent supply chain issues. The substructure of the roof was completed in mid-2021, but the glass for the solar panels was only delivered last December and the roof had to be "winterized" during the cold months. But now the time has come: in the last few days, the solar church roof in Saas-Fee has been completed and the scaffolding dismantled. The renovated roof, consisting of the solar modules, now has a total output of 97 kWp. According to Pastor Rieder, the residents of the community have responded very positively to the renovation. Even people who were initially critical of the project are enthusiastic about the solar panels and a few businesses and private individuals are now considering installing photovoltaics on their own buildings and roofs.

"For the diocese of Sion, the parish church in Saas-Fee is a reference object for innovative renovations." Konrad Rieder, parish priest Saas-Fee

The municipality of Saas-Fee is also more than satisfied with the final result. According to municipal clerk Bernd Kalbermatten, the municipal council was heavily involved in the conversion from the outset and was able to contribute ideas for the PV systems. With the conversion of the church roof, Saas-Fee is regarded throughout Switzerland as a beacon project for solar roof conversions on sacred buildings and the municipality is planning to promote further projects and equip properties with PV systems. For example, individual mountain restaurants are currently evaluating solar projects, says Bernd Kalbermatten. According to Saas-Fee's energy and climate vision, the municipality wants to use 100% renewable energy by 2050 and, among other things, significantly expand solar power production.

"We are proud that our modern, yet over 50-year-old parish church has been fitted with a solar roof and that the church is making a sustainable contribution to the energy strategy." Bernd Kalbermatten, municipal clerk Saas-Fee

