



Press Release

Zizers, 19th November 2020

Innovative solar folding roof system above the ARA sewage treatment works in Davos to increase winter electricity generation

Davos, the "Energy City", is counting on the power of the sun to take another step towards energy self-sufficiency. The first alpine solar folding roof system has been constructed over the ARA sewage treatment works in Davos at more than 1,500 m above sea level. In future, the Davos sewage treatment works will produce its own energy locally and independently using HORIZON's solar folding roof, developed by dhp technology in Zizers, including in winter.

ARA operations manager Markus Wendler officially started up the system on 19th November 2020 in the presence of Landammann Tarzisius Caviezel and community representatives. This is now the second solar folding roof system in Graubünden canton after Chur. The Davos solar folding roof has an installed PV capacity of 252 kWp and – once the test phases are complete – will produce an average of 255,000 kWh of electricity per year, around 93 percent of which ARA Davos will use itself.

Solution to the winter power gap

"The community of Davos is constantly examining the use of local renewable energy sources," says Landammann Tarzisius Caviezel. "Since photovoltaics are particularly efficient in alpine mountain areas, we are promoting their expansion in Davos." Due to the altitude at 1,560 m above sea level and the generally low temperatures, solar systems are particularly efficient here. Since snow reflects sunlight, the conditions for photovoltaic systems are ideal in Landwassertal.

Efficient electricity production even after snowfall

The HORIZON solar folding roof offers another advantage: while conventional PV systems remain covered by snow after snowfall and so don't produce any electricity, the unique, patented folding mechanism of the HORIZON folding solar roof has a solution to this problem. Operations manager Markus Wendler explains: "A weather algorithm automatically retracts the solar folding roof in the event of snowfall, storms and hail. This protects the modules and keeps them free of snow. In addition, the shade beneath the system reduces the formation of algae in the clarification tanks and increases comfort for employees during summer maintenance".



Market outlook

By the end of 2020, dhp will have built seven HORIZON solar folding roofs over sewage treatment plants. The first project covering a parking area was put into operation in Appenzell Innerrodten in June 2020, and many other possible sites are currently being assessed for feasibility. This includes three sewage treatment plants in Germany. Companies in Austria and other European countries are also showing interest in the innovative solar folding roof.

About dhp technology and the HORIZON solar folding roof

The young Graubünden-based company dhp technology develops and builds the HORIZON solar folding roof, which is unique in the world. For the first time, infrastructure areas such as sewage treatment plants or parking areas can serve an additional use for solar power production. This is thanks to the lightweight construction and the patented folding mechanism: The solar folding roof is retracted fully automatically using a weather algorithm to protect it in the event of storms, hail or snow. The wide spacing between the supports and its great height above the ground keep the traffic routes free for maintenance, vehicles, logistics and goods. Combined with charging infrastructures for electric and P2G mobility, it offers a decentralised energy solution for parking areas that makes maximum use of the available space and infrastructure and thus increases self-consumption.

The HORIZON solar folding roof was supported by the Federal Office of Energy, the Swiss Climate Foundation and the European Commission. In 2019, it won the Watt d'Or and the Swiss Solar Prize.

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