



Winter power direct from the dam

The first large-scale alpine solar plant is set for construction 2,500 metres above sea level at the Muttssee dam, and will boast an output of 2 megawatts. With this project, Axpo is driving the expansion of renewable energy in Switzerland and supplying a vital source of electricity for the winter.

More solar power thanks to the Glarus sun: with the pioneering project PV Muttssee, Axpo is planning a large-scale solar plant the size of one and a half football fields.

A solar plant with around 6,000 photovoltaic modules will be installed on the dam in the Glarus Alps. The plant will produce 2.7 gigawatt hours of electricity per year – enough to supply 600 average four-person households. In total, the solar plant will cover an area of 10,000 square metres, or about one and a half football fields.

Contribution to winter power requirements

The alpine location makes the solar plant particularly effective; high enough to avoid fog cover, the greater exposure to solar radiation means it will supply almost half its output in the colder half of the year.

In fact, solar plants actually prefer the cold, as photovoltaic modules are more effective at lower temperatures.

Then there's the albedo effect, by which sunlight is reflected off snow cover at high alti-

tude, leading to greater solar power output. The production profile below shows the difference between solar production in the Swiss Plateau and the Alps:

More electricity from Alpine solar plants, particularly in winter months

Production profile over the course of one year: Swiss Plateau solar v. Alpine solar

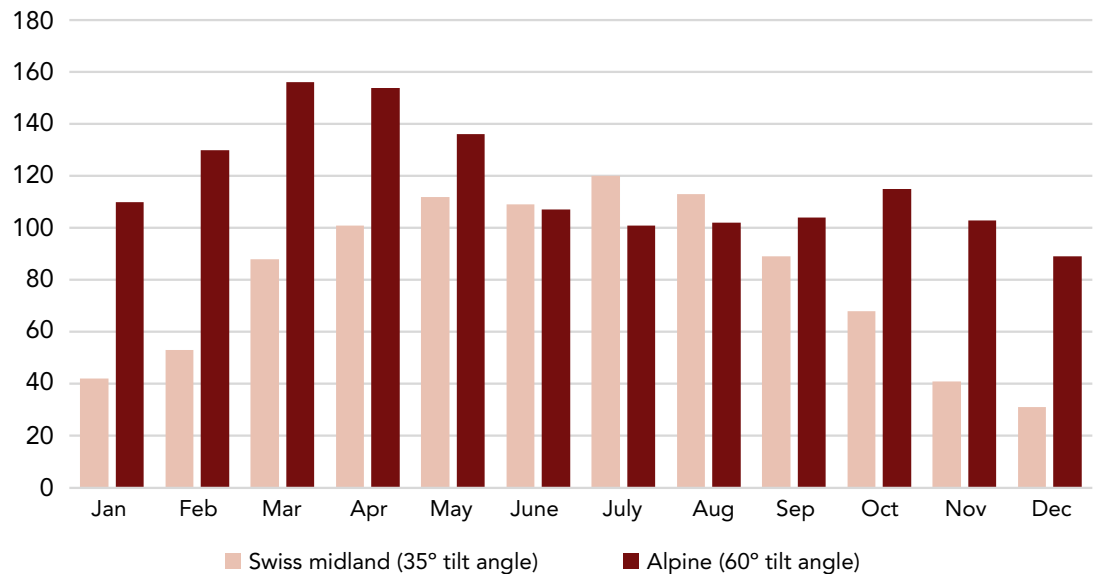


Illustration: During the winter months, high alpine plants deliver a significantly higher proportion of electricity than Solar plants in the Swiss midland. Source: ZHAW University of Applied Sciences Wädenswil, Switzerland

Optimal orientation

A further advantage of placing the solar plant on the Muttsee dam is that it has a south-south-east to south-south-west orientation. Thanks to the Limmern pumped storage plant's existing infrastructure, no further grid expansion is necessary, and attachment to the existing dam wall means no additional surface area is required.

The pioneering project PV Muttsee in figures:

- First major PV plant in the Alps
- Solar electricity at 2,500 m above sea level
- 2 megawatts of installed output
- 2.7 gigawatt hours of electricity production per annum
- 6,000 photovoltaic modules
- Inclination of top module level: approx. 77 degrees
- Inclination of bottom module level: approx. 51 degrees
- Solar plant totalling 10,000 square metres

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More information on this pioneering project is available at www.axpo.com/alpinesolar