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Boosted by the war, the Swiss solar energy sector is now eyeing mountain pastures

In Switzerland, photovoltaic energy represents around 6% of electricity consumption. This is a rather mediocre figure by European standards. The war in Ukraine has delivered an electric shock. Solar projects are springing up everywhere, including in the Alps. But the controversy is growing.

STÉPHANE HERZOG

Swiss photovoltaic solar energy specialists have been taken by surprise. Since Russia invaded Ukraine, installing photovoltaic panels has suddenly become a priority. Firms cannot keep up with demand. “Our headcount has doubled since 2021,” says Yvan Laterza, owner of I-Watt, a small company based in Martigny (VS), which is currently wrestling with supply issues. “Forty years ago, our message fell on deaf ears. Now, the conditions are in place for renewable energy, and for photovoltaic solar in particular,” states Jean-Louis Scartezzini, who runs the Solar Energy and Building

Physics Laboratory at the Swiss Federal Institute of Technology Lausanne (EPFL).

The engineer describes a Switzerland that was ahead of the curve for solar between 1985 and 1995 but that ended up resting on its laurels, and failed to train enough professionals in the field. Stéphane Genoud, a professor of energy management at the HES-SO Valais-Wallis, thinks this delay is a pity. “In Europe, there is legislation to say that all new buildings have to be fitted with solar panels, and existing buildings will soon have to be as well,” he points out. “We were a bit slow with the transition,” admits



ity produced partially by burning Russian natural gas. Electricity prices shot up, with increases of over 30 per cent. In central Valais, inhabitants saw the price of kWh go from 20 to 28 centimes, breaking 20 years of stability, according to Arnaud Zufferey, whose consulting firm advises local authorities on the energy transition. The whole process is gaining pace, “but solar power was already profitable five years ago”, he emphasises. His house is fitted with solar panels. The current produced costs 15 centimes per kWh and charges an electric car. The surplus energy produced will, in the near future, be purchased at the same price by Valais electricity distributor Oiken. One solar panel of ten metres square can provide enough energy to drive 10,000 kilometres a year, he says.

Swiss Federal Parliament speeds up introduction of solar

Another major boost was observed in September 2022, when the Federal Parliament passed an emergency law to facilitate the construction of large-scale solar installations in the Alps. These power stations, which will have an annual yield greater than 10 gigawatt hours, will qualify for easier planning permission and a subsidy from the Confederation. Whenever a

new building with a surface area greater than 300 m² is built, a solar installation will have to be fitted to the roof or the facades. These installations will not be subject to the rules set down by the Federal Act on Spatial Planning: the purpose of building them will benefit other national, regional and local interests.

The provisions were voted into law with help from the Green Party and have stirred up some heated discussions in Valais, where an Alpine solar megastation project is being drawn up (see box). For Green MP Céline Dessimoz, these decisions are a sign of excessive haste. “Parliament is being extreme, and ignoring the laws on spatial planning and the environment that we fought so hard for,” she complains. The ecologist believes that installing solar panels in mountain pastures is being done for purely commercial reasons. “Now that towns have recognised the potential of such projects, everything is going full speed ahead. But we cannot promote photovoltaic power at the expense of the countryside and biodiversity.” Jacques Bourgeois is amused by this statement. “We’re being told we have to get out of nuclear power, and as soon as we can do so, people oppose it,” he says. The Liberal politician believes that the Alpine projects enabled by the Federal Act on Spatial

Member of the National Council for the Liberals, Jacques Bourgeois (FR), who cites the example of southern Germany, where solar power has a firm foothold.

Fresh interest in solar was sparked by Federal Councillor Guy Parmelin, amongst other people. In September 2021, the minister mentioned the possibility of an electricity shortage, based on a report on the security of the electricity supply in Switzerland. This triggered a wave of panic. When Ukraine was invaded, the Swiss became aware of their energy dependency, especially on French nuclear energy, but also on German electric-

The solar offensive in Switzerland now means that large photovoltaic power plants can be built outside building zones, such as in high-altitude areas in the Alps. Photo: iStock

The order books of Swiss solar firms are full to bursting, but they are short of personnel: there is a massive skills shortage in the sector. Photo: Keystone



Planning are a step in the right direction. “Solar panels are twice as effective at high altitude,” he explains.

Solar panels on train tracks and motorways

In the view of engineer and professor at EPFL, Jean-Louis Scartezzini, the focus must be on fitting solar panels to roofs, railways and motorways. All these potential locations are already connected to the power grid and are in close proximity to consumers. The building physics expert cites the fact

“Forty years ago, our message fell on deaf ears. Now, conditions are favourable for renewable energies, and for photovoltaic power in particular.”

Jean-Louis Scartezzini
engineer and professor at EPFL

that there are 850 square kilometres of roads in Switzerland and 500 square kilometres of roofs. Scartezzini also emphasises the need to strike a balance between producing energy and protecting the environment. “Switzerland has lost two-thirds of its insect mass since 1990, which is having incalculable consequences on biodiversity and on life in general. We have to take this into account.” Converting alpine pastures into industrial solar energy sites would therefore involve a risk disproportionate to the reward, he believes.

Grengiols solar megastation: a case in point

This was a planned solar power station in the Valais Alps, launched in an article published by a local newspaper. The article’s author was politician and former chairman of the Swiss Social Democratic Party (1987-1997) Peter Bodenmann. The article, titled “Make Grengiols Great Again!” and published in the “Walliser Bote” in February 2022, sang the praises of a potential facility that would generate a billion kilowatt hours of electricity, mainly available during the winter. The Grengiols meadows, located in the Binn Valley natural park, were to host two-sided solar panels spanning an area equivalent to 700 football pitches. This site, supported by the town of Grengiols, would meet the electricity requirements of at least 100,000 inhabitants. As a bonus, these panels would be twice as effective as normal, owing to the altitude and the sunlight levels.

“This facility could be built right now,” centrist Valais Member of the Council of States Beat Rieder told the media, which conveyed Peter Bodenmann’s idea to the government in Berne. The government then passed September’s legislative programme at record speed in order to promote solar energy.

This project triggered a wave of protest from environmental organisations, especially from the Franz Weber Foundation. Even the Swiss Academy of Sciences urged caution. Member of the National Council for the Green Party Christophe Clivaz (VS) condemned the fact that no feasibility study had been carried out for the scheme. He believes that the operator Swissgrid will be unable to transport current to the valley within the deadline imposed by this urgent law, which makes the subsidies contingent on the facility being operational by 2025. “We can manage

to build gigantic installations on empty sites, but we don’t have the political will to fit them to roofs, car parks or motorways,” he laments.

When contacted in his hotel in Brig, Peter Bodenmann dismissed these arguments. What about the fact that the calculations of the University of Applied Sciences and Arts of Western Switzerland and the University of Geneva show that transporting electricity from Grengiols to the valley will pose technical problems? “Those people are misinformed,” replies Bodenmann. How about the impact on the environment? “The panels will promote biodiversity by creating areas that are protected from the heat.” “We have a problem in the winter. But the panels installed at high altitude will be able to generate four times as much power as those at ground level,” concludes the former Socialist Party chairman. (SH)

The Alpine countryside in Grengiols today (left picture) – and a simulation of the planned project by IG Saffischthal. It is critically opposed to the proposal.

Image materials:
IG Saffischthal

