Press Release

SUN-WAYS

WORLD PREMIERE IN SWITZERLAND

Installation of the first removable solar power plant on rails.

Switzerland may be the first country in the world to use removable solar power plants, mechanically placed between the rails of railroads, to produce up to 1TWh of solar electricity, i.e., 30% of all current solar production in Switzerland.

Climate crisis, electricity shortage, environmental protection, energy dependency - the media remind us of every day of these challenges that will continue to weigh on our economy, our security, our health and our morale for a long time to come. The patented technology of the Vaud-based start-up Sun-Ways contributes in a simple and quick way to the energy transition towards a massive production of clean and local electricity. This innovation aims to use the "unexploited" space between the two rails of a railroad track to mechanically place removable solar power plants, without disrupting rail traffic and allowing for essential maintenance work.

The idea is not new and there are already initiatives to try to exploit this type of surface, but Sun-Ways is the only one, with its removable system, to be able to meet the technical constraints imposed by the maintenance needs of the railway infrastructure.
All experts agree that solar energy is the best solution to overcome all these crises. However, due to the lack of willingness of landowners or because of the shortage of qualified workers, this sector is only growing by 1% to 2% per year, which is incompatible with the objectives of the Confederation (2.8 TWh in 2021 and 17 TWh in 2030).

The exploitation of the 7'000'000 m2 of surface available between the railway tracks in Switzerland offers an exceptional opportunity to accelerate the energy transition in our country; it is the equivalent of 350'000 house roofs equipped with solar panels. This solution also offers other advantages: centralized decision making at the level of the Confederation and the railroad companies, a mechanized installation process with little need for manpower, no visual or environmental impact, and an economically interesting cost per kWh produced, in the order of 10ct (LCOE).

After the mechanical design, carried out in collaboration with the EPFL and with the support of Innosuisse, the Alliance association and Venturelab, the project is now entering the prototyping phase of the technical elements that make it possible to install photovoltaic panels between the rails. These elements represent the heart of this innovation, as the entire device will be pre-assembled in the workshop and then loaded onto a special train that will drop the solar power plant between the rails, like a carpet being unrolled. This technology is truly unique in that all or part of the installation can be removed at any time to allow for maintenance work on the tracks such as tamping, grooming or grinding; then the solar panels are put back in place.

Of course, the development of Sun-Ways faces technical and regulatory challenges. However, the energy and climate challenges are so great that the federal political institutions recently decided that certain legal provisions should be relaxed to facilitate the development of clean, local electricity production. It is therefore to be hoped that a major

innovation like Sun-Ways will be able to benefit from this new dynamic that favors the development of renewable energy in Switzerland.

Currently, a dozen companies are participating in the realization of a first pilot project, and the first removable solar power plant on a railroad track should see the light of day in May 2023, on a section of the railroad network of transN, the Neuchâtel public transport company, near the Buttes station. A series of mechanical tests will be carried out to analyze the technical constraints related to rail traffic, and the CSEM (Swiss Center for Electronics and Microtechnology) in Neuchâtel will conduct analyses to evaluate the resistance of the solar panels in this new environment.

Several well-known companies are already collaborating and supporting this project, which has a budget of around CHF 400,000: **transN, Scheuchzer, Romande Energie, Viteos, DG-Rail, RM voie ferrée, Meccad and GESTE Engineering**. The financing of the pilot project is already assured by these various partners and by a financial contribution of CHF 100,000 granted by the **Vitale Innovation Fund of the Industrial Services of Geneva**.

While the pilot project in Switzerland will only be completed in a few months, Sun-Ways is already aiming for international development after being invited by the Huawei group to its stand at VivaTech Paris in June 2022. This is an opportunity for Sun-Ways to establish valuable contacts with European and American investors for a large-scale development of its innovation. However, the energy crisis and soaring electricity prices have also aroused the interest of major Swiss energy companies who see in this solution a simple and quick way to increase the production of electricity from renewable sources, locally, without impacting nature and the landscape, and in complete independence.
Switzerland has nearly 7,000 km of railroad tracks (260,000 km in Europe and 1,160,000 km worldwide).

10 km of solar track means:
- 10'000 m2 of available surface
- 5'000 PV panels
- a power of 2 MWp
- an annual production of 2 GWh (2'000'000 kWh)
- the annual consumption of 400 households
- an investment of CHF 2'600'000.00
- reduction of 10'000 t of CO2 emissions (over 25 years)
- zero impact on the environment and nature
- zero nuisance for the population
- zero impact on agricultural areas and the landscape