



SWEET Call 1-2020: EDGE

Deliverable report

Deliverable n°	6.3
Deliverable name	La Stadera ¹ Business Plan
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Delivery date	04 2023

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¹ La Stadera replaces «Davos» since in Davos not enough progress has been made



Summary

This deliverable is related to the business plan of a de-centralized renewable energy production plan for La Stadera, a mountain site, which would produce energy for a local consumer at Piz Scopi. The project is chosen as an alternative to the originally suggested plan “Davos”, which had been foreseen in the proposal. However, progress in Davos towards a joint project was too slow, while a new opportunity at La Stadera has matured sufficiently. In a fruitful collaboration between Armasuisse, Planair and EDGE, a plan has been put forward, which will lead to a pilot installation of a combined wind – solar PV system, a so-called wind flower. In a first installation in winter 2022/23, the performance of a static PV installation mimicking the wind flower installation is tested. For the next winter, a detailed plan has been made for a first installation of a wind turbine. The associated business plan for pilot installation and potential extension is not public but has been accepted by Armasuisse and the green light for the turbine installation has been given.



1 Introduction

The leading idea of the EDGE project is to promote de-centralized installations of renewable energy sources such that specific landscape characteristics (Alps, Midlands, Cities) are optimally respected and such that local to regional demand is best served. Generally, in mountain regions, more energy is produced than consumed. However, the production does not (always) qualify as de-centralized production, at least not for big hydropower installations. Thus, the concept of producing renewable energy for local consumers still applies in the Alpine context. And in general, the combination of wind- and solar production has advantages with respect to stability of supply.

Following these considerations, EDGE has been a partner in the planning and realization of a de-centralized hybrid solar-wind demonstration and production installation at La Stadera (Medel, Lukmanier). There is a local consumer at Piz Scopi, who is interested in local and renewable production. Based on this, a technical implementation plan and business plan have been generated.

2 Deliverable content

The non-public business plan foresees the investment in the La Stadera combined generation of solar and wind electricity mainly for own consumption through installations close to Piz Scopi. A certain budget has been allocated to the pilot and test phases and if first experiences will be successful the installation of up to eight combined systems has been planned and budgeted with a business plan that foresees the delivery of renewable on-site energy at a certain acceptable cost over the lifetime of the installation.

3 Conclusion

The overall plan “La Stadera” is an example of a hybrid solar-wind renewable energy installation suitable for high-alpine terrain. The distinguishing feature is the reuse of old wind turbine blades as a support structure for solar panels and the moveable mounting of these wings on the wind turbine mast such that they have a protected “rest” position in case of snow- or icefall. Uncertainties for the business plan evolve around new components to be tested for fixation of the panels or whether the turbines produce reliably and sufficiently under the high-Alpine conditions.

4 References

5 Appendix