

Increasing RES uptake through Microgrids in the Alps

Dear Reader,

Welcome to the first edition of the ALPGRIDS Newsletter. In these pages we would like to introduce you to our project and its activities, our project partners and some of our partners pilot areas.

This newsletter contributes to the commitment towards a more sustainable and carbon neutral Alpine region and we hope that you find it just as interesting as we do. If your interests lie in the area of renewables, energy autonomy, network resilience, energy communities and microgrid solutions, we invite you to follow us and participate in our project activities.

We hope you enjoy learning more about ALPGRIDS!



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ALPGRIDS AT A GLANCE

The general objective is to create a transnational enabling environment to foster microgrid solutions supporting in particular the creation of local energy communities.

DURATION:
01/10/2019 – 30/6/2022

ERDF: €1,599,511



LOW CARBON

Read more about ALPGRIDS at:

www.alpine-space.eu/projects/alpgrids

What is ALPGRIDS?

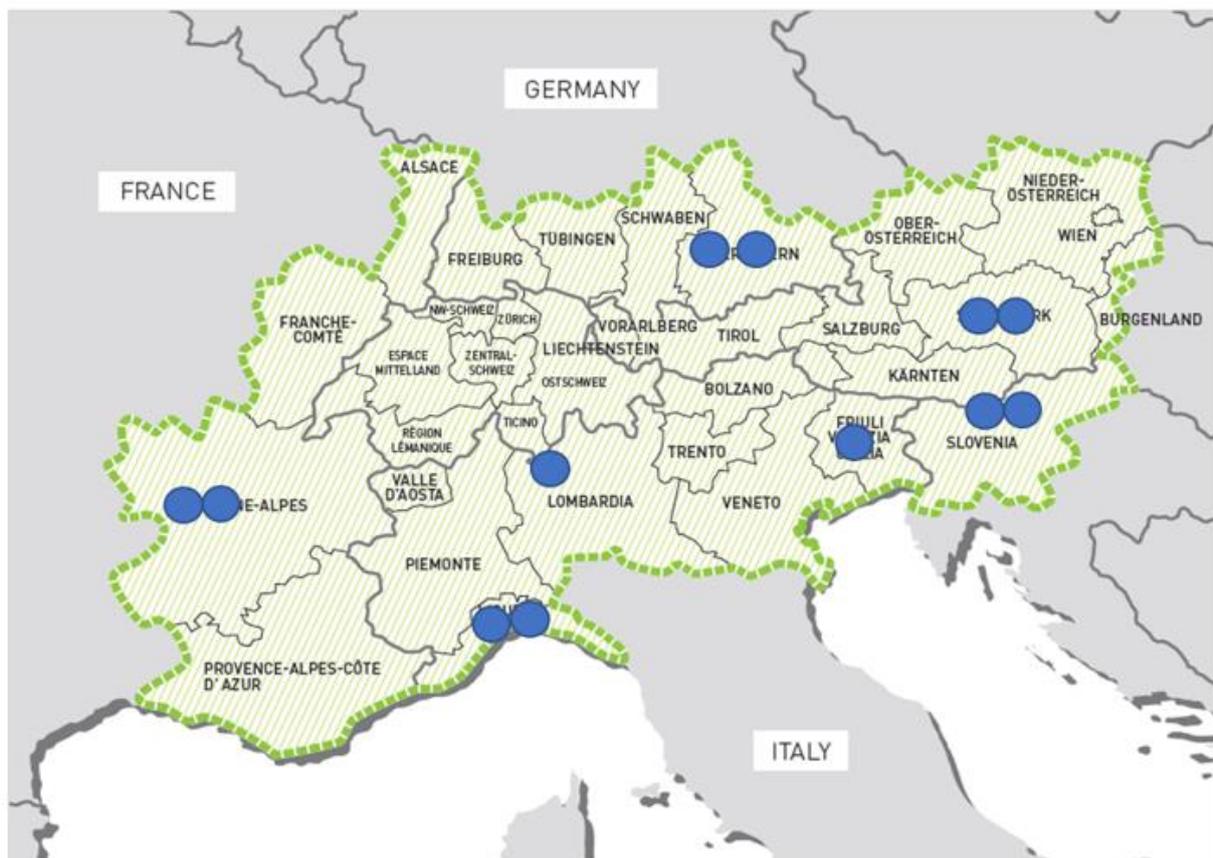
We are a project group of twelve project partners, coming from five Alpine regions and we are coordinated by the Auvergne-Rhône-Alpes Energy Environment Agency (AURA-EE). The project's main objective is to focus on creating a transnational enabling environment to foster microgrid solutions supporting in particular the creation of local energy communities.

ALPGRIDS will focus on:

- Developing a common understanding of microgrids and their benefits
- Creating an enabling policy environment for microgrids
- Replicating the microgrid model in Alpine space

In five pilot countries (Austria, France, Germany, Italy and Slovenia) ALPGRIDS will implement seven microgrid pilot projects that will be built and run with the support of transnational exchanges of knowledge and experience involving local energy stakeholders and policy-makers, contributing to the following project results:

- Alpine microgrid model for local energy communities and project developers
- Policy package for national, regional and local policy-makers to improve their energy and climate plans
- Replication programme involving organisations outside the consortium areas



About microgrids

In a nutshell a microgrid is a small-scale energy system that can operate autonomously (islanded from the main grid) or connected to the main grid. It groups several distributed energy resources and interconnected loads in a defined geographic area.

Microgrids are becoming increasingly popular among local communities, businesses, universities, hospitals and others seeking reliable and cost-effective energy.

Key benefits of using microgrids are mainly two-fold:

- Increase the energy autonomy: by facilitating local energy transactions, local energy consumers can purchase electricity from local RES producers directly or indirectly at an acceptable price;
- Improve the resilience of energy networks in the case of emergencies and power outages.

Additional benefits may include:

- Reduction of energy losses and infrastructure costs;
 - Introduction of new services to the grid.
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Discover our pilot areas

Several pilot configurations will help develop ALPGRIDS outputs, among which the Alpine Microgrid Model. The Model will provide guidance and concrete tools for target groups in order to facilitate the development and implementation of new projects addressing local territorial goals. The model will address topics such as governance, regulation, financing, available technical solutions and market players.

ALPGRIDS Pilots will address at least one of the following local goals:

- **GOAL 1:** Creating the possibility for local energy consumers to purchase energy from local RES producers (directly or indirectly) at an acceptable price.
- **GOAL 2:** Improving the resilience of the electricity network in the case of emergency situations (blackouts, outages, ...)

City of Savona (Italy)

The pilot project, managed by IRE and supported by UNIGE, focuses on the development of a feasibility study of a microgrid in a neighborhood of the city of Savona in the north-western part of Italy.

The idea is to expand the microgrid architecture already existing inside the nearby Savona University Campus (University of Genoa) to a city district with the third aim of testing the application of sustainable power systems in the framework of a local energy community, decreasing the energy bills of users and improving the local resilience against blackout. Today, the area includes a public football field, a small public park and a swimming pool, but this project also incorporates the realisation of 3 buildings to host private companies and social housing.

The planned microgrid will consider different energy vectors:

- electricity, locally produced by PV plants;
- thermal energy, supplied by traditional heat pumps, geothermal heat pumps, solar collectors and electric boilers;
- cooling energy, produced by traditional heat pumps and geothermal heat pumps.

Moreover, electric storage batteries and thermal storage systems are also considered in order to maximise the use of renewable energy. Two different control levels will be applied:

- at higher level, the Energy Management System (EMS) of the microgrid will optimally operate and control the microgrid through a centralised approach;
- at lower level, Building Energy Management Systems (BEMSs) will operate optimally and control each building. There will be a bidirectional communication between EMS and each BEMS.

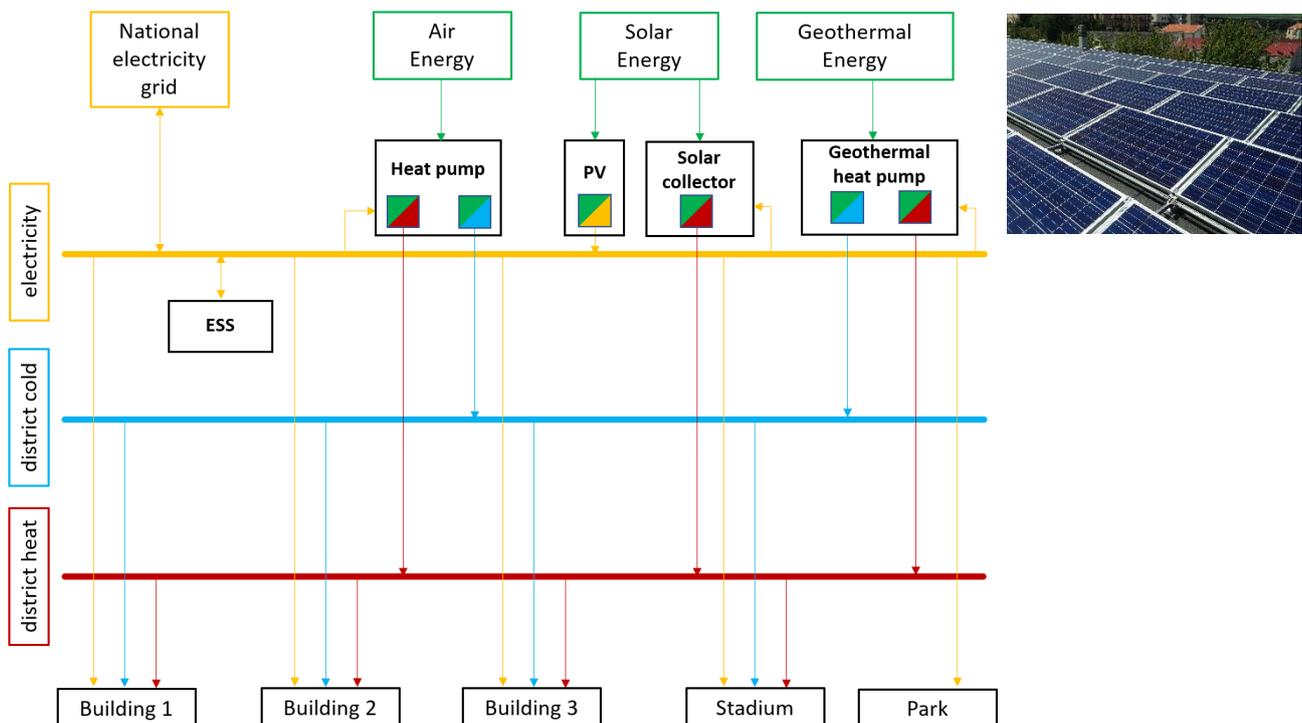


Illustration of the connection scheme of pilot site in Savona

WEIZ Campus and Municipality of Thannhausen (Austria)

The focus of WEIZ pilots is the exchange of electricity within a neighborhood of different consumers.

For the first pilot, the WEIZ Campus, it is the goal to implement an intelligent Energy Management System for the direct connection between WEIZ I and WEIZ II as well as to implement an energy storage with a capacity of about 200 kWh. The W.E.I.Z. II electricity is generated by the installed PV system and is primarily used for general electricity in the W.E.I.Z. II. The excess electricity is either used to charge the battery storage in the building or, as soon as it is fully charged, transferred via a direct electricity connection to the neighboring building W.E.I.Z. I. The second pilot is the direct connection between the PV plant of the Municipality of Thannhausen with their neighborhood.

The project results will be (1) a functional demonstrator for a shared use of PV generation via point-to-point connections, (2) simulation models for dimensioning the system's components, (3) a validated measurement and control system, (4) business models and clearing system considering the needs of users and providers as well as insight on the economic feasibility of the approach, (5) insights on the reproducibility of the approach and finally (6) a technology-service-tender for shared use of local PV-generation via point-to-point connections.

Microgrid-Thannhausen

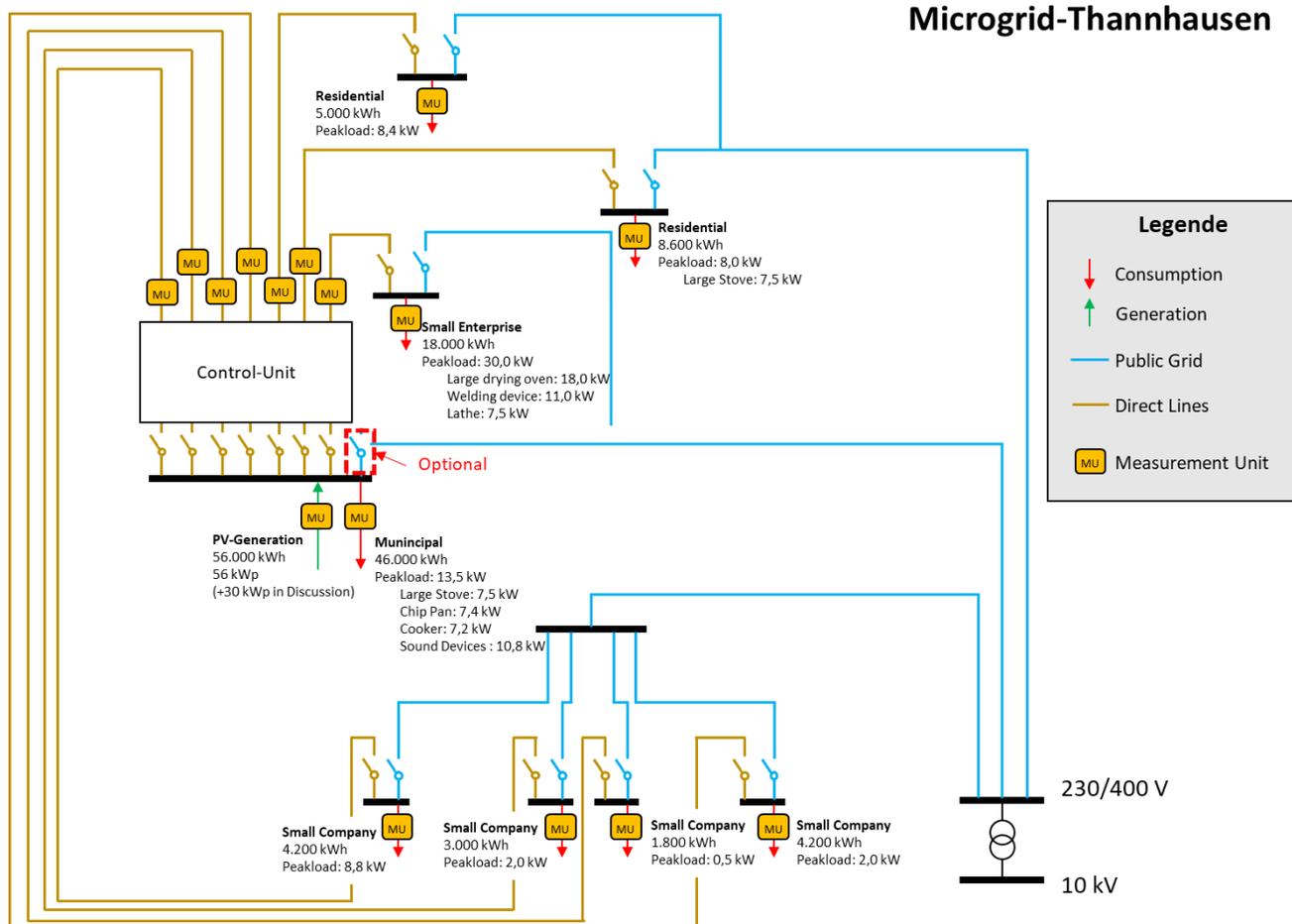


Illustration of the second pilot Municipality of Thannhausen made by 4ward Energy research

Val de Quint valley (France)

The “Val de Quint” valley is a rural area of about 760 inhabitants. Mostly a residential area, it is also concerned by agricultural and touristic activities and a few very small enterprises. Saint-Julien-en-Quint, one of the 6 villages located in the Val de Quint valley, is already involved in microgrid activities, with shared PV self-consumption. This village will form a first pilot site considering realised data and existing energy facilities. As the local stakeholders aim at extending the microgrids activities to the entire Val de Quint area, this will form an extended pilot site relying on simulated data, allowing us to consider various microgrid configurations, including energy storage options and cogeneration of heat and electricity. On both sites, the studies will mainly focus on economic issues related to the energy consumption flexibility provided by the microgrids.

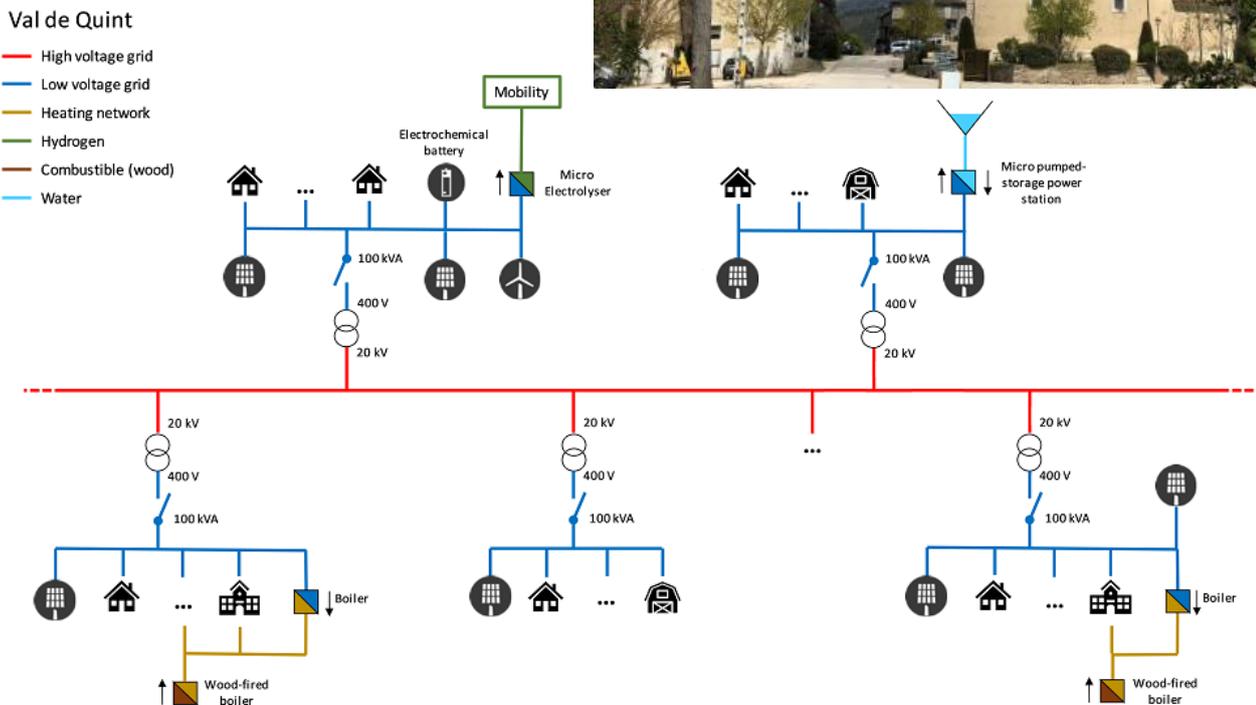


Illustration of the pilot in “Val de Quint” valley

Four of the pilot areas will be presented in Newsletter #2. Follow us.

ALPGRIDS News & Events

Get started seminar in Munich

In October 2019, ALPGRIDS lead partner took part in the “Get started” seminar in Munich where they received the basic information on how to get started with the work on the project activities (steps, tips, things to know, live demonstration of eMS), financial and management rules, project reports....

Kick-off meeting in Grafing

ALPGRIDS was officially kicked off in January during a 2-day meeting held in Grafing-München, Germany. All 12 consortium partners with their observers and a Project Officer from the Alpine Space Joint Secretariat, attended the meeting and shared their ideas and plans



Project quarterly webinar meeting in March

The meeting was held online due to the travel restrictions imposed to combat the COVID-19 virus pandemic. It was chaired by the leading partner the Auvergne-Rhône-Alpes Energy Environment Agency (AURA-EE). The focus of this meeting was on the progress status, the potential impact of COVID-19, plans, communication activities and pilot updates. All project partners were represented at the meeting.

Upcoming events

- Next project group meeting will be organised on 17 June 2020 by means of a webinar
- From 23 to 26 June, the EU Sustainable Energy Week will take place online
- EUSALP AG9 meeting in Chamonix/FR on 29 September
4th EUSALP Energy Conference in Chamonix /FR on 30th September
- ALPGRIDS Project and Transnational workshop in Lyon/FR on 6-7th October
- EU week of Regions and Cities in Brussels on 13-15th October

We cooperate

Cooperation activities have already started with the following projects.

	<p>e-Mobility Smart Grid for Passengers and Last Mile Freight Transport in the Alpine Space</p>
	<p>SHifting towards Renewable Energy for Transition to Low Carbon Energy</p>
	<p>From Local Trials Towards a European Knowledge Community</p>

What is new on the ALPGRIDS website?

Our project website was launched in April. It is constantly updated with new information.

Follow us on www.alpine-space.eu/projects/alpgrids.

Partners & Contacts

- Auvergne-Rhône-Alpes Energy Environment Agency (AURA EE)
- Regional Agency for Infrastructures, building Renovation and Energy of Liguria (IRE spa)
- Energy and Innovation Centre of Weiz (W.E.I.Z.)
- Energy Agency of Podravje - Institution for sustainable energy use (ENERGAP)
- 4ward Energy Research Ltd. (4ER)
- Design and Management of Electrical Power Assets (DeMEPA)
- B.A.U.M. Consult GmbH München (BAUM)
- Rothmoser GmbH & Co. KG (ROTH)
- Compagnie Nationale du Rhône (CNR)
- Municipality of Udine (UDINE)
- Municipality Selnica ob Dravi (SELNICA)
- University of Genoa (UNIGE)



LET'S STAY IN CONTACT!



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This Newsletter provides information about the Interreg Alpine Space project ALPGRIDS as well as other information about news, events and initiatives in thematic areas covered by or connected with the project and the Alpine Space programme.