



## FEDECOM project Newsletter #3



### Welcome to our project newsletter #3

*FEDECOM project - FEDErated "system of systems" approach for flexible and interoperable energy COMmunities completed its first of four years on October 4th, 2023.*

*FEDECOM is a 48-month Horizon Europe project focusing on the implementation of integrated local energy systems through sector coupling and cross-energy vector integration. FEDECOM will provide a scalable and adaptable cloud-based platform consisting of analysis, modelling, and optimisation services for the planning, monitoring, and control of integrated local energy systems. Our partnership revolves around three large scale pilots in Spain, Switzerland, and Benelux region, involving all relevant stakeholders in the design, implementation, and evaluation of the FEDECOM Platform: service providers, grid operators and energy consumers.*

*In this newsletter, you'll find a description of the FEDECOM approach in relation to the energy community concept, a selection of our recent past activities, an update on our public deliverables which will be published on the project website, and news from our pilot sites.*

*We will also present some of our latest participation in events as well as the main upcoming events in which we will participate.*

*And finally, a special mention of our General Assembly, which took place in Brussels, the 18th and 19th of October 2023. Through 8 internal workshops during the two days, we evaluated our progress and planned the activities for the next 6 months.*

*Do not hesitate to contact us to find out more or join in future activities.  
Happy reading.*



# FEDECOM's contribution to energy communities

The concept of energy citizenship is an essential component of EU Climate Change Policy, necessary for ensuring a just and fair low carbon transition. The evolution of citizens from passive to active users of energy has started, supported by pan-European initiatives such as the Citizens' Energy Forum and the Energy Communities Repository. Making energy citizenship ubiquitous will require the development of supporting tools and platforms. The EU project FEDECOM is developing a cloud-based platform that will allow citizens to participate in energy communities and better optimise use of local renewable generation and storage assets. The platform accommodates cross sector energy vectors, allowing thermal and electrical loads to be managed, building and mobility uses to be optimised and electricity and hydrogen fuels to be managed. The platform is being applied to a range of communitarian approaches, that includes residential and commercial sector led initiatives. The platform is also anticipating electricity market reform in Europe and, as a proof of concept for cross-border transactions, it's developing a blockchain-based virtual energy market.

## Focus on operational, regulatory and societal challenges across EU

The deliverable D2.1 "High-impact challenges and pilot technical characterization" is structured in two main parts. The first part explores the nature of the regulatory, social and data security barriers, considering actions to mitigate their impact and reduce the adoption obstacles for the citizen. This part is divided in three sections: (i) reviews of the Regulatory and Operational challenges for the development and multiplication of smart residential environments, (ii) identification of the social barriers associated with Citizen Energy Communities (CEC) / Renewable Energy Communities (REC) through systematic literature review of relevant academic and grey resources and (iii) consideration of data privacy and security barriers, exploring the psychological and social origins of how digital data is viewed as a risk by citizens and how useful learnings may be generated for technology developers working in the CEC/REC sector.

The last chapter gives a technical characterization of the different demo sites that configure the three different large-scale pilots along three different EU countries/group of countries: Spain, Switzerland, and Benelux. Each pilot has a different number of demo sites with a different nature (residential, tertiary, commercial, industrial) and size. The characterization of the demo sites include data regarding structure, components, operation, control and data availability/storage/access.

## News from our pilot sites and related activities

Deliverable 2.2 "Pilot specific demonstration". A method article on "Demonstrating Clean Energy Transition Scenarios in Sector-Coupled and Renewable-Based Energy Communities" has been prepared based on the FEDECOM project. The first version of the article has been submitted to [Open Research Europe](#).

Over the past 6 months, our pilot sites have been engaged in gathering and collating essential data required for the creation of energy system models. These models will serve as the foundation for conducting comprehensive scenario analyses of highly renewable energy communities in the future. Our primary objective is to assess the potential for harnessing renewable energy and exploring sector coupling opportunities at these pilot sites. We have conducted an exhaustive analysis of a wide array of renewable energy sources, including solar, wind, geothermal, and more. The ultimate goal is to pinpoint the most viable integration options. In our evaluation, we take into account a variety of factors, such as technical feasibility, economic viability, environmental considerations, and adherence to legislative requirements. The outcome of this extensive effort will be a comprehensive portfolio of feasible renewable energy technologies and sector coupling opportunities, setting the stage for a sustainable and resilient energy future (D3.1 - RES and sector coupling potential assessment).

## Update on PILOT 1

*Virtual Green Hydrogen Federation (ES)*

Over the last six months the Spanish teams have been focusing on two main activities across the 8 pilot sites:

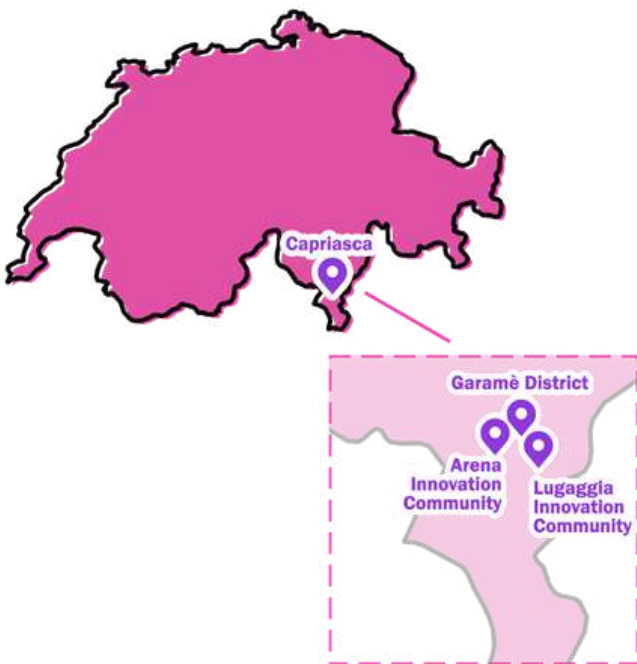
- Evaluating the state of the installations' equipment and operations protocols in order to identify and assess the most relevant action points. With this information, the engineering teams have developed detailed upgrade plans and designs for the installation and integration of new equipment with the existing ones, as well as collecting offers from providers and defining a final budget. The industrial sites at Puertollano and Barcelona, which are already fully operational, have been running tests and optimisations at increasing capacities.
- Upgrading the data gathering and storage systems. Aiming to have it up and running by the end of the year, the new cloud infrastructure is in place and the migration of existing databases has started.



During the coming weeks, the upgrade works, and the integration of new sensors will start.

## Update on PILOT 2

*Residential Hydropower Federation (CH)*



Over the past six months, activities at the Swiss pilot site have seen important developments towards the consolidation of the energy communities and readiness for the use case studies envisaged in the project. Flexo, our data management platform developed in collaboration with Hive Power, is now operational within AEM and we expect to complete the integration of data into the platform within the next six months. It will then be possible to provide data on the equipment installed in the energy communities to the project's technical partners via an API. In the Arena Innovation Community, the installation of a new 83kWp photovoltaic system on the roof of the public swimming pool has been completed, in addition to the installation of a new 20kWh/20kW district battery in the neighbourhood. In the Lugaggia Innovation Community, the already operational district battery was upgraded by adding 10kWh capacity, reaching 70kWh/50kW.

Finally, two grid monitoring devices were installed, one on the distribution cabinet and the other on the low-voltage side of the transformer in the local secondary substation. In the case of the Garamè district, we have completed the asset and flexibility inventory and are ready to start contacting end users in the coming months to formally establish the energy community. Iterations with technical partners are underway and some historical data has already been shared to allow them to start testing and training their models.

# Update on PILOT 3

Cross-country E-Mobility Federation (BE-NL)

Over the preceding six-month period, Pilot 3 has been remarkably active, engrossed in the acquisition of data from various sites and the implementation of increasingly comprehensive measures for the management and oversight of these assets. Furthermore, there has been a significant deployment of new battery systems and electric vehicle charging infrastructure, with an ongoing commitment to expansion over the forthcoming half-year. Although this endeavour remains a formidable challenge, we maintain our unwavering confidence in its success.

On the technological front, the Ecoscada application has undergone a substantial revitalization, with Aug-e presently dedicated to the development of an enhanced and more scalable iteration. This process will persist to facilitate the incorporation of communities and the realisation of our ultimate objective: the augmentation of renewable energy sources' production and consumption within our energy portfolio.



## Upcoming events FEDECOM will participate in

**28-29 November 2023 - ENLIT 2023, Paris, France.**

Dr Ana Trbovich, co-founder and CEO of Grid Singularity, FEDECOM project partner, will participate at ENLIT 2023, European largest energy conference (<https://www.enlit-europe.com/>). She will be a panellist at the session on "Financing Energy Communities" as part of the EU Projects Zone Hub scheduled for 29 November 2023. For more information, visit <https://www.enlit-europe.com/programme/hub-sessions>



**10th November 2023 - Joint Final Conference for the European Commission's RECAH and ECR, Dublin, Ireland**

FEDECOM will participate in the Joint Final Conference for the European Commission's Rural Energy Community Advisory Hub (RECAH) and Energy Communities Repository (ECR), Friday, 10 November 2023 from 09:30-16:00 (GMT) in the Royal Dublin Society (RDS) – Merrion Room, Dublin. Dr Andrew PEACOCK from Heriot Watt University will participate in Dublin and Stéphane POUFFARY from ENERGIES 2050 will also participate online (FEDECOM' project partners). Visit our News page for more detail: <https://fedecom-project.eu/fedecom-will-attend-the-joint-final-conference-for-the-european-commissions-recah-and-energy-ecr/>



# Past events FEDECOM has participated in

**24-26 October 2023, 4th edition of CI2C 2023, International Congress on Climate Change, Essaouira, Morocco.**

FEDECOM has been presented in this large international conference on the theme: Climate, Security and Development: Challenges and Opportunity for a Just Transition organized by the International Center for Research and Capacity Building (CI2RC) under the Higher School of Technology of Essaouira (ESTE), Cadi Ayyad University (UCA) of Marrakech ; the ENERGIES 2050 association ; the Friedrich Naumann Foundation for Freedom (FFN) and in collaboration with their partners, this edition placed under the Presidency of Mr. André AZOULAY, Advisor to His Majesty King Mohamed VI. Stéphane POUFFARY and Laurence HALPHEN from ENERGIES 2050 (project partner) have presented the concept of energies communities and the FEDECOM research. Exchanges were very creative and positive especially with the broader research community.



**16th October 2023 - Webinar in French - Achieving a Just Energy Transition: Myths & realities and challenges for Africa.**

FEDECOM project has been invited to participate in the 1st webinar in a series of 4 webinars organised by the Réseau Climat & Développement (RC&D), ENERGIES 2050 (FEDECOM project partner) and ENDA ENERGIE, to present key elements on energy communities and the project approach to support federation of energy communities. Quentin Donnette from SMARTEN Europe (FEDECOM project partner) and Stéphane POUFFARY from ENERGIES 2050 have presented the history of energy communities and explained the critical role of prosumers and innovation for the deployment of energy communities.

For more information, visit <https://fedecom-project.eu/fedecom-will-present-energy-communities-concept-and-opportunities-in-a-webinar-dedicated-to-african-countries/>

**LES ENJEUX DES NEGOCIATIONS CLIMATIQUES ET LES PRIORITES AFRICAINES**

Une série de 4 webinaires organisés par le Réseau Climat & Développement (RC&D) avec ENERGIES 2050 et ENDA Energie

**Webinaire 1**  
**Lundi 16 octobre 2023**  
**Réussir une Transition Énergétique Juste : Mythes & réalités et défis pour l'Afrique**

**Mot introductif**  
• Kossi A. ADZONYO (Directeur Exécutif, RC&D)

**Keynote speaker & Animation**  
• Stéphane POUFFARY (Directeur Général - ENERGIES 2050)

**Intervenants**  
• Samba FALL (Responsable Climat & Transitions Systémiques, ENDA ENERGIE)  
• Mawuse HOUNTONDJI (Secrétaire Général, JVE Bénin)  
• Brigitte E. ACAKPO-ADDRA Epse TSONYA (Ingénieur environnementale, Spécialiste genre climat)  
• Quentin DONNETTE (SMARTEN Europe, Projet FEDECOM)

**S'inscrire Webinaire 1**

<http://rcd.net/development.org>

**LES ENJEUX DES NEGOCIATIONS CLIMATIQUES ET LES PRIORITES AFRICAINES**

**Réussir une Transition Énergétique Juste : Mythes & réalités et défis pour l'Afrique**

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Directeur Général, ENERGIES 2050

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Quentin DONNETTE  
SMARTEN Europe, Projet FEDECOM

**FEDECOM**  
Projet invité

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ENERGIES 2050  
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## 28th September 2023 - 1st Technical Workshop “Unlocking Energy Innovation: market flexibility & decarbonisation of energy networks” organised by the SENERGY NETS project.

Stéphane POUFFARY from ENERGIES 2050 (FEDECOM project partner) has participated in the Workshop (in-person and online) organised by the SENERGY NETS project which is another Horizon Europe project working on related topics (<https://senergynets.eu/>).

For more information, visit: <https://fedecom-project.eu/fedecom-will-join-the-1st-technical-workshop-organised-by-the-senergy-nets-project-28-09-2023/>



## 27-29 September 2023, Annual FEMISE Conference; Barcelona, Spain

FEDECOM has been presented in the Annual Conference 2023 of the Euro-Mediterranean Forum of Institutes of Economic Sciences (FEMISE), co-organised by the European Institute of the Mediterranean (IEMed) and the Economic Research Forum (ERF) on the topic: Shifting paradigms: opportunities for a deeper Euro-Mediterranean integration in a changing world.

Stéphane POUFFARY from ENERGIES 2050 (project partner) has chaired the technical session on Economics of the Euro-Mediterranean Green Transition with key research. He has, among other, provided insight of paradigm shift toward the needed green energy revolution and explained energy communities' opportunities with a focus on federation of energy communities' challenges.



## 14-16 June 2023 - Sustainable Places 2023 (SP2023), Madrid Spain.

FEDECOM chaired a 3-hour workshop on energy communities and presented its E-Mobility solutions at the Sustainable Places 2023 Conference (<https://www.sustainableplaces.eu/>) last June both in Madrid and online. The workshop was chaired by Zia Lennard from R2M France and Aurelien Degrave from Aug.e (FEDECOM project partners) has made a presentation.

For more information, visit: <https://fedecom-project.eu/fedecom-chaired-a-workshop-on-energy-communities-and-presented-its-e-mobility-solutions-at-the-sustainable-places-2023-conference-last-june-in-madrid/>



## Stay in touch

For more information and to explore cooperation with FEDECOM, do not hesitate to contact us.

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[https://twitter.com/FEDECOM\\_project](https://twitter.com/FEDECOM_project)



For more information and to explore cooperations  
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