

GOOD PRACTICES OF ENERGY COMMUNITIES IN THE EU READY FOR REPLICATION

29th April 2025



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This project is a LIFE project, co-funded by the European Union under contract n° 101120998.

Introduction

The energy sector moves towards a more sustainable and decentralized model. Energy communities have emerged as a clear commitment to take advantage of distributed renewable sources empowering citizens to take a central role in the energy system.

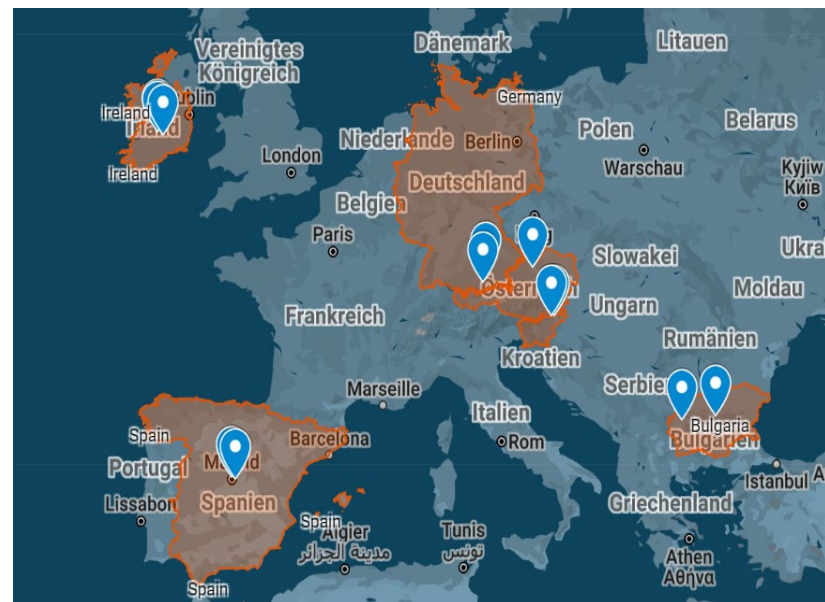
Objectives

The POWER-E-COM project fosters the development of energy communities by providing support and guidance to municipalities, existing energy communities and engaged citizens.

How?

- 1 It develops models and supports the creation and development of viable energy communities.
- 2 It provides training for citizens, public authorities, SMEs and other relevant stakeholders.
- 3 It establishes energy community offices / OSS as the central place that provide overall support and guidance
- 4 Facilitates the exchange of knowledge and experience across the EU

Geographical Scope



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The Renewable Energy Communities Landscape in Europe

Variety of Market/Regulation implementation



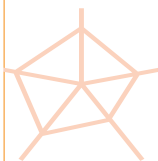
- Significant differences across Member States
- Rollout of smart metering
- Electricity sharing

Financial incentives



- In some countries, dedicated
- These include funding, tariff, taxes, etc.

How electricity exchange is done



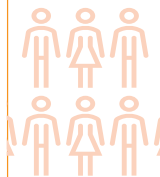
- Simple collective self-consumption
- Dynamic

Definition of proximity



- by substation
- by geographic
- by municipal borders
- a mix of these

Key actors



- municipalities, energy communities, regional/national governments, associations, cooperatives, citizen groups, businesses providing solutions



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Good Practices of Energy Communities in the EU

Austria – General Context

Market/Regulation implementation



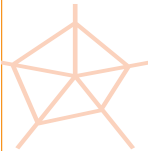
- 95% rollout of smart metering
- DSO plays an active role and enables dynamic electric energy sharing

Financial incentives



- Tax exemption for self-generated and self-consumed electrical energy

How electricity exchange is done



- Dynamic (with internal tariffs), more active role of DSO and smart metering

Definition of proximity



- by substations of the electric grid (e.g. same substation)



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Good Practices of Energy Communities in the EU

Austria – Case Study - Regional REC Ennstal

Main types of renewable energy communities are possible:

Local RECs, which are served by the same low-voltage substation.

Regional RECs, served by the same mid-voltage substation.

Requirement

- **Generation and consumption in RECs** are only allowed within the grid of one DSO (there are about 20 DSOs in the region, 2 big ones dominate).
- **Local RECs** are defined by being served by the same low-voltage substation.
- **Regional RECs** can be established when being served by the same mid-voltage substation.
- For **CECs**, no proximity requirement is given, they can even cover the concession area of several DSOs.

The regional REC Ennstal

Founded in December 2022.

It currently has **+100 members** with **+200 meter points**.

Members include private individuals, **municipalities and local businesses**.

It has an ideal energy mix of wind power, photovoltaics and hydropower, which generates a certain amount of electricity every hour of the year.

This allows the **electricity self-supply rate** reaching between **75 and 85%** of the **total consumption** of all electricity meter points.



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Good Practices of Energy Communities in the EU

Spain – General Context

Market/Regulation implementation



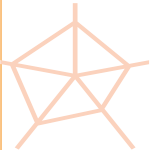
- 100 % rollout of smart metering
- REC sends the energy share agreement to DSO

Financial incentives



- Some public funding available
- Taxes reduction at national or local level

How electricity exchange is done



- Static based on a fixed share of the electricity

Definition of proximity



- 2.000 m from the **PV installation in a roof**
- 500 m for any other renewables or PV situated in other places



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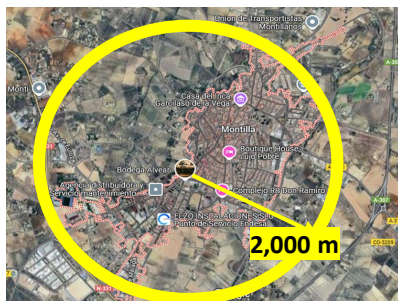
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Good Practices of Energy Communities in the EU



Collective self-consumption is used as a facilitating tool.

Electricity can be **shared** up to **2,000m** distance.



2022 A community **motor group** was constituted by **6 people** supported by the Municipality of Montilla and Escan.

2022 The main driver was the interest of **producing PV locally**, supplying citizens and, in a smaller extent, to the municipality. The **municipality** is **strongly involved** by **giving up roofs** to install the EC PV systems and providing **political support**.

2023 The **legal constitution** of the REC as association with **support** from **Escan** under **Power-e-com** (PEC). Aprox 100 members attracted. 2 PV installations were designed (70 and 40 kWp) and it was requested a subsidy to the national government which was not successful.

2024 - 2025 Several **meetings, workshops and a training** with the REC members. A second request for funding requested is **on-going for a 75 kWp installation, which includes 41,4 kWh storage**. There are several other investment projects foreseen.

It maintains the support from **Department** of the Environment of the **City Council of Montilla**.

Good Practices of Energy Communities in the EU

Slovenia – General Context

Market/Regulation implementation

- Developing first pilot projects with strong leadership from the local authorities
- +90% rollout of smart metering



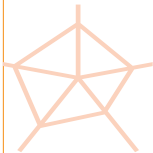
Financial incentives

- No financial incentives at the moment
- There are movements to get these incentives, as subsidies for the PV installations



How electricity exchange is done

- Only surplus electricity produced in the municipal building
- Vulnerable families will be included.



Definition of proximity

- For collective installations members associated are within the same substations
- For RECs and CECs, no proximity requirement is given



Good Practices of Energy Communities in the EU

Slovenia – Case Study



2024 –
2025

The REC will be implemented in Selnica, a Municipality with 4.600 inhabitants (in the year 2023) in Slovenia. Legal form is established as an agreement between members.

Design of the energy community and PV project was mainly in 2024

The REC is foreseen to start sharing in Q4 2025

The REC will be constituted starting with at least 4 members, including municipality, private association (Firemen brigade) and 2 households.

Two solar PV installations on the roofs of two municipal public buildings with a total of 65 kWp installed, producing 100.000 kWh/y.

Environmental benefits: 30 t CO₂/y

Social benefits: Firemen brigade will get free electricity what will give them possibility to buy lifesaving equipment

Others: pilot and showcase in the region

Investment plus first-year expenses: 80.000 €

Pay-back: 8 years without subsidies, 3-4 with subsidies.



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Contacto:

Francisco puente

fpuente@escansa.com



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