

# Overview of Renewable Energy Communities (RECs)

# Content

- Definition and applications of a Renewable Energy Community (REC)
- European regulatory framework for RECs

# What is a REC?

- Associations of citizens, businesses, local governments, or small and medium-sized enterprises sharing their renewable energy production for self-consumption.
- RECs are considered the key elements to shifting the energy production/consumption concept, i.e. moving from a centralised energy production to a distributed one.



# Benefits of a REC?

- **ECONOMIC:** feed-in tariffs provided by the Ministry of the Environment (MASE) based on shared energy within the REC.
- **ENVIRONMENTAL:** reduction of polluting emissions using renewable sources that produce clean energy locally.
- **SOCIAL:** fight against energy poverty that currently exists in some remote and rural areas.



# Principles of RECs

- **Voluntary Participation:** Any individual or entity can join or leave the REC freely.
- **Local Control:** Decisions are made by community members who prioritize local energy needs.
- **Non-Profit Nature:** Revenues are reinvested in community services, energy projects, or shared among the REC's members.
- **Focus on renewables:** Promotes renewable energy technologies such as PV, wind, hydropower, etc.

# Protagonists of RECs

- **Producers:** Those who generate renewable energy, e.g. through photovoltaic systems, wind turbines or hydroelectric power plants. They can be private citizens, companies, public bodies or cooperatives.
- **Consumers:** Individuals, households or companies that consume the energy produced within the community. They benefit from lower tariffs and greater sustainability.
- **Prosumers:** Participants who produce energy and consume part of it, sharing the excess with other members of the community.

# Renewable energy source

The main renewable energy sources that can be used in a CER are:

- **Photovoltaic:** Conversion of sunlight into electricity through solar panels.
- **Wind:** Use of wind to generate electricity through wind turbines.
- **Hydroelectric:** Energy derived from the exploitation of moving water masses (rivers, dams).



# EU Regulatory Framework for RECs

- Italy has currently transposed the EU Directive 2018/2001 (RED DIRECTIVE II), published in the Gazette on 21/12/2018, through Legislative Decree 08/11/2021 no. 199 “Implementation of Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources”.
- On 31/10/2023, EU Directive 2023/2413 (RED DIRECTIVE III) amending Directive 2018/2001 was published. Entered into force on 20/11/2023, it must be transposed by 21/05/2025.



Renewable Energy Directive EU



# Main differences between the Directives

	RED II	RED III
The share of energy from renewables in the EU's gross final energy consumption by 2030 shall be	<b>32 %</b>	<b>42.5% (up to 45%)</b>
The share of energy from renewables in the transport sector by 2030 shall be	<b>14%</b>	<b>29%</b>



Renewable Energy Directive EU

## The rules contained within the RED II Directive are functional:

- **Financial support** for the electricity produced by renewables (Articles 4-6 and 13).
- **Self-consumption** of electricity from renewables (Articles 21 and 22).
- Use of **energy from renewables**, also in the heating and cooling sector and the transport one (Articles 23-24 and 25-28).
- **Cooperation** between Member States and third countries on electricity production from renewables (Articles 9-12 and 14).
- **Guarantee the origin** of energy from renewables (Article 19) and administrative procedures for production, information, and training on renewables.

# Overcoming Obstacles for RECs in Europe

## Regulatory Challenges

- **Complex Permitting Processes:** In many countries, local and national regulatory frameworks are not yet fully aligned with the new EU directives concerning RECs: this results in lengthy and complicated permitting processes for renewable energy projects.
- **Lack of Clear Guidelines:** While the EU provides a framework, many member states have still to develop clear guidelines or procedures for the establishment of RECs; this leads to uncertainty and slows the implementation at the local level.
- **Bureaucratic Delays:** The bureaucratic processes required to register RECs and ensure their legal recognition are often slow, preventing many communities from accessing the benefits of RECs promptly.

# Overcoming Obstacles for RECs in Europe

## Financial Barriers

- **Limited Access to Funding:** Smaller communities and local energy groups often lack financial resources to develop renewable energy infrastructure. While EU funds and programs are available, their access can be challenging due to complex application processes, competition, and the need for substantial initial investment.
- **High Upfront Capital Costs:** Developing renewable energy infrastructure, such as solar or wind farms, requires significant upfront capital, which a few communities and businesses find difficult to start.
- **Uncertainty in Financial Support:** While there are EU programs like Horizon Europe or national funds available for RECs development, there is often uncertainty regarding long-term financial support. This instability discourages investment in the long-term development of renewable energy projects.

# Overcoming Obstacles for RECs in Europe

## Technical Barriers

- **Grid Integration Issues:** Integrating decentralized energy systems into the existing energy grid remains a major challenge. Many local grids are outdated and not equipped to handle the variability and decentralized nature of renewable energy generation. RECs face difficulties when trying to connect to national grids, especially in rural or isolated areas.
- **Balancing Supply and Demand:** RECs typically rely on intermittent renewable energy sources (e.g., solar and wind), which can create challenges in balancing/supplying the energy demand. Energy storage systems and smart grid technology are still in the early stages of development, making it difficult for communities to ensure a reliable and stable energy supply.
- **Technical Expertise:** Communities may lack the technical expertise needed to design, implement, and maintain renewable energy systems. This can result in an inefficient use of resources or operational failures, hindering the success of RECs.

# How the EU Supports RECs:

## Funding programs:

- Horizon Europe: Grants for REC projects.
- Just Transition Fund: Support for local energy transition.

## Technical assistance:

- European Energy Agency resources.
- Best practices database.





# Thanks for your attention!

## Q&As?



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