DISCOVER

D.2.3 Assessment of National Energy Policies and Support Schemes

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Deliverable Information Sheet

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List of Abbreviation and Acronym

Abbreviation	Meaning
CEP	Community Energy Projects
PPE	Multiannual energy plan (Programmation Pluriannuelle de l'Energie)
CSC	Collective Self-Consumption
MTE	Ministry of Ecological Transition
TURPE	Tax for the use of the public grid
CEE	Energy Economy Certificates
REC	Renewable Energy Communities
CEC	Citizen Energy Communities
EC	Energy Communities
DSO	Distribution System Operator
IMED	Internal Market for Electricity Directive (EU) 2019/944
RED	Renewable Energy Directive (EU) 2018/2001

1 Introduction: DISCOVER Project

1.1 Overview

DISCOVER is an innovative LIFE project with the strategic aim to support the transition to a renewable energy-driven society. By fostering Community Energy Projects (CEPs), DISCOVER will empower stakeholders and citizens and mobilize significant investments in renewable energy generation in pilot regions across Europe. DISCOVER will catalyze the launch of CEPs in 5 diverse European regions respectively in Austria, Bulgaria, Croatia, France and Italy. Local hubs will be set up to pilot innovative support mechanisms for CEPs. The hubs will deliver guidance and practical services on the technical, economic, financial and legal aspects and will help connect CEPs to local service and technology providers. The services will cover all developmental stages of CEPs, accompanying them throughout their entire lifecycle.

Considering the diverse socio-geographical-legislative and market maturity levels across these 5 pilot regions, DISCOVER will follow a regionally specific approach with four local service hubs. Also, an interactive online tool will be designed to provide extensive support to local communities embarking on Renewable Energy Projects.

DISCOVER aims to simplify decision-making processes and reduce operational barriers by connecting projects with local service/technology providers and relevant authorities.

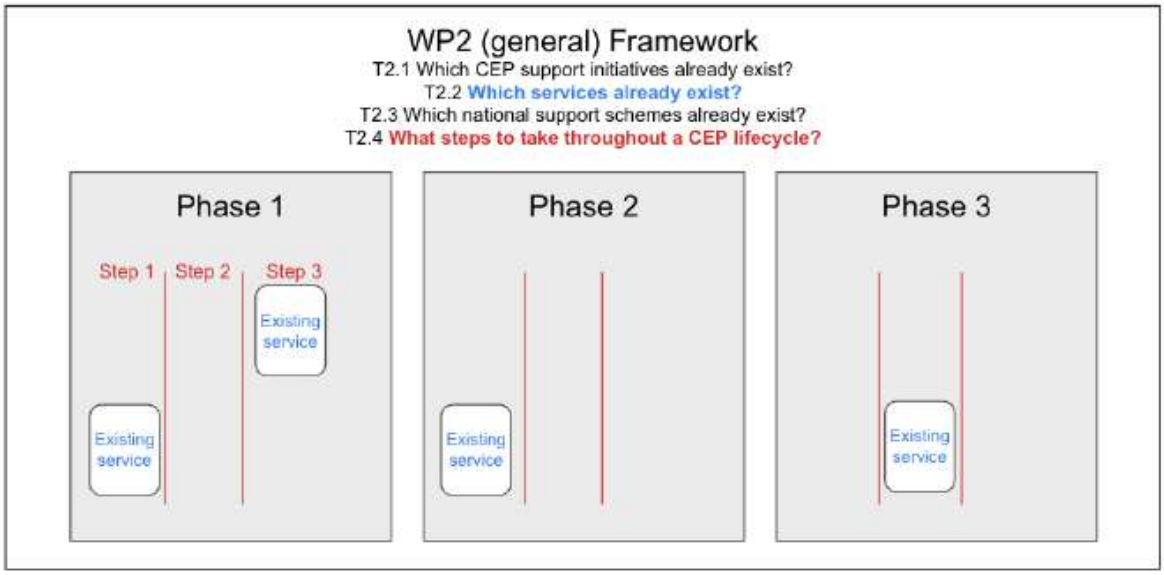
During the 3-year timeframe (2023 – 2026), DISCOVER is expected to reach more than 20,000 citizens, support 20 new initiatives (focusing on community PV installation), and trigger a total investment of more than 7.7millions of euros. The project will promote and facilitate the recreation of future service hubs in other regions to ensure replication across other European regions.

The DISCOVER consortium stands as a collaborative force spanning over five European countries, each committed to driving the vision of CEPs within their respective region. The consortium comprises active national / regional leaders in the CEP initiatives, well-connected to citizens, local authorities, and stakeholders.

1.2 “WP2 – Setup of Community Energy Project framework/ guidebook" activities

Work package 2 lays the foundation of the DISCOVER project, which starts with desktop research focusing on existing support initiatives and services addressing CEPs. As the outcome of this research the potential for synergies with existing initiatives is evaluated to make best use of existing support services and schemes. Furthermore, as the basis

for the WP3 (Preparation phase of CEP services) & WP4 (Implementation of support services in service hubs/OSS in pilot region), the CEP framework/guidebook is elaborated. It is a step-by-step manual for realizing a CEP. It will be used by the service hubs in each pilot region and bundles all support services. The guidebook outlines the life cycle of a CEP and describes all the steps required to realize a CEP. The guidebook links each step to existing support services.



2 Overview of the document

One crucial aspect for energy communities looking to initiate or establish a project is understanding their options within the existing regulatory framework. Energy communities often face a complex array of applicable laws, making it challenging to navigate the legal landscape for their specific project.

The report presents the results of the comparative analysis of the set of policies, currently being implemented in partners' Countries to facilitate CEPs building processes.

The starting point is the European legislation related to Renewable Energy Communities (RECs).

By discussing similarities and territorial differentiations between country policies, the report aims to trigger a reflection on the enabling and disabling factors for the diffusion of RECs in partners' countries, while facilitating multi-stakeholder mutual learning across European policy networks.

Deliverable 2.3 analyses the national framework and the support schemes in the 5 DISCOVER countries, namely Austria, Bulgaria, Croatia, France and Italy, providing a

review of the enabling frameworks for RECs and support schemes for renewable energy sources, focusing on PV.

2.1 Structure of the document

The report is structured as a main document and three annexes. The main document consists of two parts:

- The legislative overview at European level regarding RECs and main findings in each partner country
- Summary of support schemes for each pilot region.

Annex 1 describes in detail the outlined energy policy at national level and Annex 2 illustrates in depth the existing support schemes at national level. Finally, Annex 3 provides for the main findings for each country translated into the national languages.

2.2 EU strategy and policy framework

2.2.1 Climate - energy plan and policy

The most relevant legislative acts for energy communities include:

- The “Clean Energy Package”
- Governance Regulation (EU) 2018/1999
- Renewable Energy Directive (EU) 2018/2001 (RED II), with the transposition deadline for Member States on 30th June 2021
- Internal Market for Electricity Directive (EU) 2019/944 (IMED), with the transposition deadline for Member States on 31st December 2020

“The Clean Energy for all Europeans Package” defines the objectives and energy strategy of the European Union. The Clean Energy Package places consumers at the heart of the Union’s energy policies, entrusting them with a key role in achieving the challenging decarbonization targets set in Paris during COP 21 (Conference of the Parties to the Convention on Climate Change) in 2015.

The package focuses on the role of final consumers in the energy market, giving them the opportunity to freely choose sources of supply, produce and sell energy independently. For the first time it is recognized not only the role of the individual actor (as a self-consumer or active customer), but also collective action to achieve environmental and social results that can facilitate the energy transition from fossil fuels to renewable.

The Governance Regulation establishes the foundation for the adoption of integrated National Energy and Climate Plans (NECPs). The NECPs outline policies, objectives, and measures for a country's climate and energy trajectory from 2025 to 2030. These plans encompass five dimensions: decarbonization (addressing greenhouse gas

emissions and renewable energy), energy efficiency, security of supply, the internal energy market, and research and innovation. While energy communities can be relevant in all these dimensions, two are particularly pertinent to them: decarbonization and the internal energy market. Specifically, RECs primarily contribute to the deployment of renewable energy, and hence fall under the decarbonization dimension.

The Clean Energy Package's implementing measures include Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources ("RED II"), which promotes the active involvement of final customers through the following types of self-consumption:

- individual self-consumption
- collective self-consumption
- RECs.

The notion of RECs enhances the role of end users, as they cease to be mere consumers and become active participants in the management of energy flows.

Simillarily, the Directive (EU) 2019/944 on common rules for the internal market for electricity, introduces the notion of Citizens Energy Community (CECs). It aims at supporting the uptake of energy communities. It introduced new rules to enable active consumer participation, individually or through citizen energy communities, in all markets, by generating, consuming, sharing or selling electricity, or by providing flexibility services through demand-response and storage.

Both Renewable Energy Communities (RECs) and Citizens Energy Community (CECs) are, therefore entities participating in the internal electricity market. RECs are regulated by RED II, while CECs are addressed in the IMED.

RED II and IMED are essential to conceive how RECs might emerge at an early stage of development and how they can develop in future phases following their deployment.

While the current legal framework in the Energy Community encompasses legislative acts from the Clean Energy Package, the new Energy Efficiency Directive (EU) 2023/1791 and Renewable Energy Directive (EU) 2023/2413 adopted within the "Fit for 55" package in the EU enhance even more the role of energy communities in achieving energy savings and renewable energy targets, as well as educating and increasing citizens' awareness of the need for the energy transition. As they have not been yet incorporated in the Energy Community, this report only analyses the concepts contained in the Clean Energy Package.

2.2.2 Definition of CEC and REC

"Citizen energy community" (CEC) is defined in Art. 2 of IMED as a legal entity that:

- is based on voluntary and open participation, and is effectively controlled by members or shareholders that are natural persons, local authorities, including municipalities, or small enterprises;

- has for its primary purpose to provide environmental, economic or social community benefits to its members or shareholders or to the local areas where it operates rather than to generate financial profits;
- may engage in generation (including renewable sources), distribution, supply, consumption, aggregation, energy storage, energy efficiency services or charging services for electric vehicles or provide other energy services to its members or shareholders.

An **"Active customer"** is defined as a final customer, or a group of jointly acting final customers, who consumes or stores electricity generated within its premises located within confined boundaries or, where permitted by a Contracting Party, within other premises, or who sells self-generated electricity or participates in flexibility or energy efficiency schemes, provided that those activities do not constitute its primary commercial or professional activity.

RED II defines in art. 2 a **"Renewable Energy Community"** as a legal entity:

- which, in accordance with the applicable national law, is based on open and voluntary participation, is autonomous, and is effectively controlled by shareholders or members that are located in the proximity of the renewable energy projects that are owned and developed by that legal entity;
- the shareholders or members of which are natural persons, SMEs or local authorities, including municipalities;
- the primary purpose of which is to provide environmental, economic or social community benefits for its shareholders or members or for the local areas where it operates, rather than financial profits.

Article 2 paragraph 14 of RED II defines ***"Renewables self-consumer"*** as:

- a final customer operating within its premises located within confined boundaries or, where permitted by a Contracting Party, within other premises

This customer generates renewable electricity for its own consumption and has the option to store or sell self-generated renewable electricity. However, for a non-household self-consumer, those activities do not constitute its primary commercial or professional activity. Article 2 paragraph 15 of RED II defines ***"Jointly acting renewables self-consumers"*** as a group of at least two jointly acting renewables self-consumers in accordance with the definition of "renewables self-consumer" who are located in the same building or multi-apartment block.

The concepts of CECs and RECs are very similar, and they overlap to a certain extent; however, crucial differences exist.

In the following table, a summary of the main similarities and differences is shown. It takes into consideration the results from "Policy guidelines on the concepts of energy communities" by the Energy Community Secretariat.

Feature	CECs	RECs

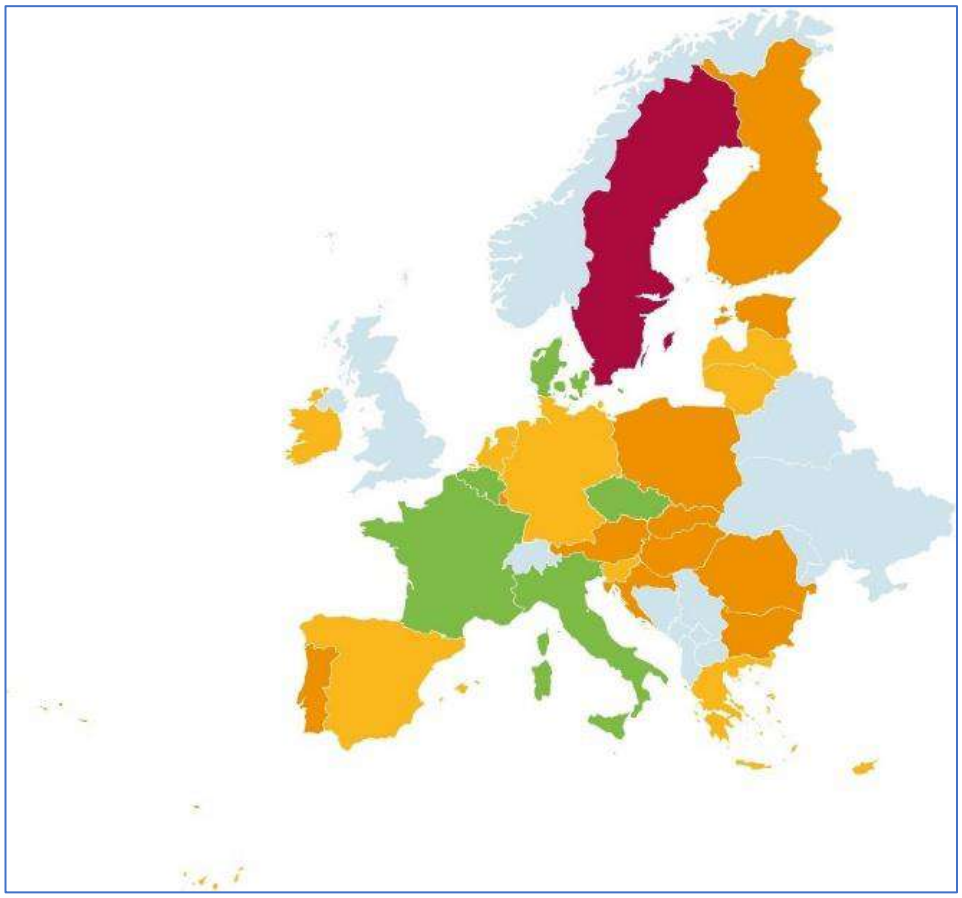
<table>
<tr><td>Legal form</td><td colspan="2">Both types must be established as legal entities.
National authorities can define the legal form of an energy community in two ways within national legislation:
1. Flexible Legal Forms: Legislation may allow energy communities to be established in any legal form recognized under national law, without mandating a specific form. While this approach offers flexibility, it has drawbacks such as profit-oriented forms. Additionally, regulating and monitoring various legal entities can be complex.
2. Restricted to Specific Forms: Authorities can restrict the establishment of communities to specific forms that are more suitable for achieving the community's purpose, such as cooperatives, non-profit associations, partnerships, etc., explicitly excluding commercially oriented forms.</td></tr>
<tr><td rowspan="2">Participation</td><td colspan="2">In communities, involvement can be through membership or shareholding, depending on the legal entity. Membership should be open and voluntary, free from unjustified or discriminatory conditions. Participants should be able to join or leave the community without facing such conditions. In shareholding structures, participants are shareholders and should be able to trade or transfer their shares if they wish to leave. Setting a standard participation fee or requiring a specific number of shares is not against open participation principles. However, requiring members to stay for a set period could undermine voluntariness. If necessary for investment stability or capital retention, a reasonable duration may be set to balance community and member interests.</td></tr>
<tr><td>CECs
There are no restrictions: any individual, private or public legal entity, is eligible to become a member of CECs.</td><td>RECs
The potential membership in RECs is provided to natural persons, local authorities, including municipalities and SMEs, as explicitly mentioned in RED II, with a specific emphasis on accessibility for low-income and vulnerable households.
Private enterprises can only be members of RECs if participation is not their primary commercial or professional activity. This prevents businesses involved in existing energy activities from joining RECs for commercial gain. Consequently, large entities, energy companies, or individuals directly affiliated with energy companies should not establish RECs. However, collaboration between energy companies and RECs is allowed through private agreements for specific commercial services or knowledge sharing.</td></tr>
</table>

<table>
<tr><td rowspan="2">Effective control</td><td colspan="2">Control means having the ability to exert decisive influence over a community, including its composition, voting, or decisions, through ownership or contractual rights. The type of legal entity chosen affects how control is exercised, with laws for cooperatives, corporations, associations, and similar entities providing specific provisions. For CECs, members affiliated with large energy companies should not have effective control. In RECs, control should be exerted by members located near the installation.</td></tr>
<tr><td>CECs

Effective control within CECs can be exercised by natural persons, local authorities or small enterprises. Those members who are engaged in large-scale commercial activity and for which the energy sector constitutes a primary area should not exercise effective control in CECs</td><td>RECs
Effective control over RECs should be exercised by members located near the community's project. This ensures that those most affected by the installations have decision-making power. Additionally, RED II emphasizes that RECs should remain autonomous from individual members and external partners.</td></tr>
<tr><td>Location of members</td><td>No geographical limit.</td><td>Members of RECs could also be those not located in the proximity of the installations; however, RED II requires that members who exercise effective control need to be located in the proximity of the renewable energy projects, including generating and/or storage units of RECs.</td></tr>
<tr><td>Purpose</td><td colspan="2">Both types should be established with the aim of generating environmental, social, and economic advantages for the community, rather than focusing solely on financial gains.</td></tr>
<tr><td>Activities</td><td>National legislation shall allow CECs to perform any of the following activities: generation of electricity, consumption, storage, supply/sell, sharing of electricity, distribution, aggregation, provision of energy efficiency services, charging services for electric vehicles, other energy services.</td><td>National legislation shall allow RECs to perform any of the following activities: generation of renewable energy, consumption, storage, supply/sell, sharing of energy, distribution, aggregation.</td></tr>
<tr><td rowspan="2">Technology and project size</td><td>CECs can use any type of technology for electricity generation, including technology for renewable electricity</td><td>RECs can use only technology for renewable energy, including electricity, gas and heat production.</td></tr>
<tr><td colspan="2">Directives do not set limitations on the capacity of community projects. However, some Member States have set the limit of the capacity of individual plants to a certain threshold</td></tr>
<tr><td>Registration and monitoring</td><td colspan="2">Communities are generally required to adopt a legal entity structure and register in a national business registry or an appropriate registry. This registration might not include all the criteria set by national legislation for</td></tr>
</table>

	CECs and RECs. If not, a separate procedure will verify these criteria and grant REC or CEC status. A dedicated registry for energy communities might be considered. Registration and monitoring ensure adherence, transparency, and predictability. Entities that grant REC and CEC status should have the authority to request documents to verify compliance with national legislation, including internal acts to assess profit distribution decisions. Any changes in internal acts should be reported to the monitoring authority, and authorization can be revoked for non-compliance. For transparency, internal acts should be easily accessible to members and monitoring authorities

In addition, taking into consideration the results from the RESCOOP tracker to assess the progress of the transposition of the provisions on definitions for RECs and CECs, (updated April 2024), the picture shows the assessment concerning country's REC and CEC definitions. The assessment, based on the comparison of some indicators, shows a green light for France and Italy, while Austria, Bulgaria and Croatia still have substantial deficiencies.



2.2.3 Necessary elements in national policy and legal framework

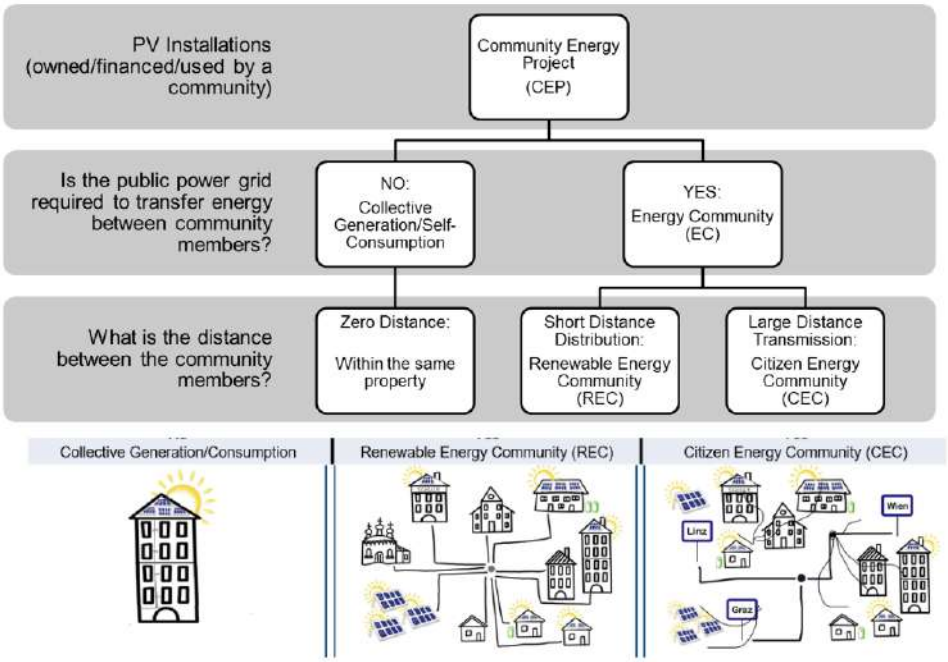
As stated in the report "A roadmap to developing a policy and legal framework that enables the development of energy communities" by the Energy Communities Repository, five elements are necessary for developing a national policy and legal framework, consisting of the following building blocks:

1. **Clear Definition**: A detailed conceptualization of RECs and CECs is necessary to provide stakeholders with clarity on their purposes and opportunities, and to prevent abuse or corporate capture. Definitions also determine eligibility for financial, regulatory, and public support, and set validation criteria.
2. **Access to Information and Awareness**: Raising awareness among stakeholders about the capabilities of energy communities and the steps to start or join one is crucial. This includes capacity building, access to technical support (legal, financial, project development), and facilitating external expertise through financial aid.
3. **Access to Finance and Support Schemes**: Programs should provide financing for communities to develop and invest in initial projects through EU or national funds. Energy communities face challenges competing with market actors, so support schemes must consider their specific needs, coupled with quality assurance to develop sustainable business models and avoid overreliance on support.
4. **Minimum Regulatory Conditions**: Rules should enable new initiatives to operate. For emerging activities like energy sharing and flexibility provision, a temporary experimental regulatory framework or sandbox may be needed. Basic regulatory conditions should already exist for well-regulated activities like production and supply.
5. **Monitoring Framework**: A system to monitor initiatives and persistent barriers is vital. This system, linked to the identification and registration of energy communities, helps identify barriers, assess impacts, monitor sector growth, and detect abuses. A feedback loop to stakeholders, including system operators, regulators, and policymakers, can address barriers and inform policy and regulation adjustments over time.

This report will focus only on blocks one, three and four. In fact, to promote and facilitate the development of communities, it's necessary to adopt an enabling framework that should provide a favorable environment for the development and operation of communities and the removal of administrative and regulatory barriers, as well as support schemes.

The present report synthesizes key findings of five individual country assessments, which compile information collected by the DISCOVER partners and reflect the status by 30th June 2024.

These country assessments are based on a common template, which has been developed by the task leader AGENA in close cooperation with PIXEL and the other project partners. Partners were asked to assess the transposition process in general, the legal definitions of RECs and their compliance with RED II, the technical requirements, the formal requirements, the restriction for becoming a CEP member.



NO	Is there a definition for <CEP> in your country?
YES	Does your country distinguish between <Energy Communities> and <Collective Generation/ Consumption>
YES	Does your country distinguish between <Renewable Energy Communities> and <Citizen Energy Communities>?

Legislation

What is the status of the national legislation in you country regarding community energy projects (CEPs), renewable energy communities, and citizen energy communities?

Well established

Please reference the corresponding law and a provide a brief summary

BG - Elektrizitätswirtschafts- und -organisationsgesetz (ElWOG) 2010 - 58/02 Energierecht
§ 16. Organisation des Netzzuganges

BG - Erneuerbaren-Ausbau-Gesetz (EAG)

Requirements

What technical requirements does a CEP need to fulfill before it can be connected to the power grid?

Smart meter - 15 min intervalls

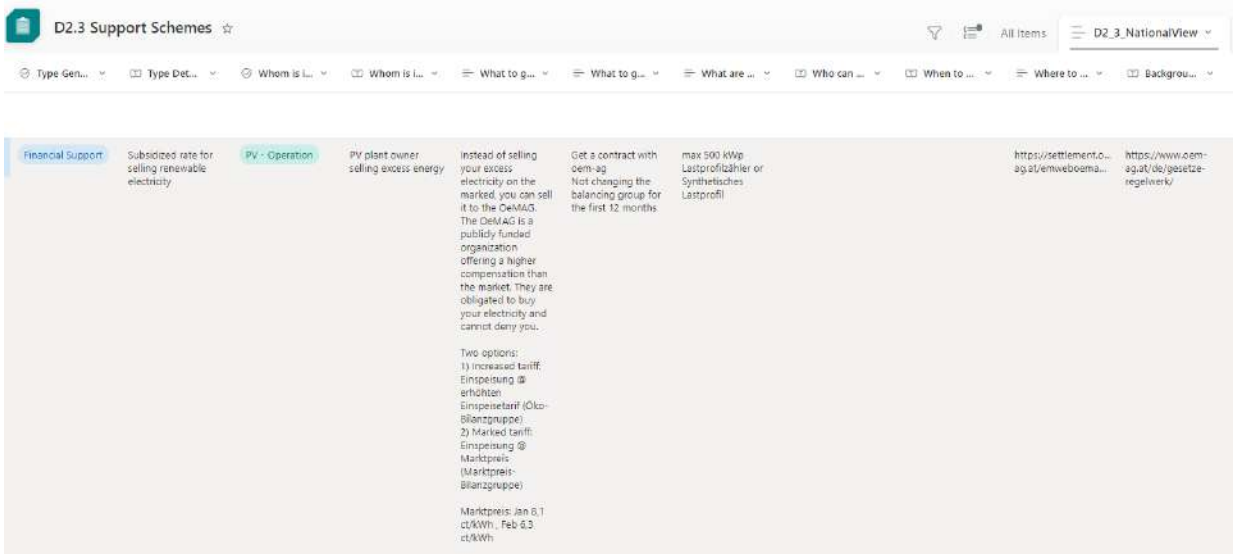
What are the formal requirements to operate a CEP (legal status, contracts, permits,...)?

Grid Operator - Contract
EDA Portal - Registration

The main purpose of the CEP may not be to make profit

What are the restrictions for becoming a CEP member (natural person, legal person,...)?

Only small businesses can join



As well, partners were asked to identify the support schemes for PV available at National level, assessing addressed target groups and the main features.

Furthermore, project partners provided brief overall assessments of their policy framework and support schemes described in the following chapters.

3 Overview of policy framework

The overview of policy framework results from desktop research. In particular, the gathered information starts from the results of ResCoop project, that have been updated by Partners.
In Annex 1, there is a more detailed version of the framework for each country, considering also the results from the Repository website.

3.1 Policy framework - Austria

3.1.1 Overall assessment REC and CEC definitions

Austria has made significant strides in adapting its policy and regulatory framework to meet EU requirements. Renewable Energy Communities (RECs) in Austria are classified into local and regional communities, depending on the grid sections needed to interconnect the members, rather than their geographical distance. Citizen Energy Communities (CECs) allow for members from all over Austria, but they do not receive incentives in terms of grid fee reductions. Additionally, Austria supports collective electricity consumption, where all community members share the same power grid access point. In this case, no power grid fees apply for electricity shared within the community.

Since the introduction of Renewable Energy Communities in 2021 and Citizen Energy Communities in 2022, with further improvements in 2023, additional innovations have occurred. In 2024, energy community members (consumers and generators) were enabled to participate in multiple energy communities. Looking ahead, future plans include allowing one legal entity to be used for multiple energy communities.

3.1.2 Overall assessment enabling frameworks

Type	EU level	National level
Plan	The “Clean Energy Package” (2019)	Renewable Expansion Legislative Package adopted in July 2021
Regulation	(EU) 2018/1999	Amendments to ElWOG and the Integrated National Energy and

		Climate Plan for Austria 2021–2030
Directive	(EU) 2018/2001 (RED II)	EAG and amendments to ElWOG

Austria is actively promoting Renewable Energy Communities (RECs) and Citizen Energy Communities (CECs) as part of its implementation of the Clean Energy Package. With a supportive legal framework, financial incentives, and successful pilot projects, Austria is making significant strides in empowering local communities to participate in the renewable energy transition. As of now, 3.912[1] energy communities are registered, with 17,500 metering points participating.

Significant effort has been put into defining clear rules for the interaction between grid operators and energy communities. Communication between market actors is coordinated through a central platform, which ensures transparent and up-to-date data aggregation and exchange.

An administrative contact point, as stated in the Renewable Energy Directive (RED), aims to provide guidance and reduce complexity for REC project developers. In Austria, the Koordinationsstelle für Energiegemeinschaften offers a virtual service point along with nine local service points to support these initiatives.

3.1.3 Obstacles for development of ECs

Challenges in Austria include the modernization of the energy infrastructure. The power grid needs to be upgraded to handle the increased renewable energy capacity and the intermittency of electricity production. In some regions, delays in the rollout of smart meters have created bottlenecks in the establishment of energy communities.

Establishing and managing RECs and CECs requires technical expertise. Navigating the regulatory landscape can be complex for new Renewable Energy Communities (RECs) and Citizen Energy Communities (CECs).

RECs in Austria are incentivized, among other things, by a reduction in grid tariffs for electricity transfer between participants. This reduction was evaluated in 2024, and it was concluded that the tariffs did not need to be adjusted. However, the possibility of future changes in grid tariffs for electricity transfer within RECs in 2024 has caused uncertainty.

Besides the reduced grid charges, Renewable Energy Communities (RECs) are incentivized by exemptions from levies such as the renewable energy surcharge and the electricity surcharge. However, some of these levies were temporarily suspended

[1] As of June 30th 2024 https://www.eda.at/fakten

for the years 2022, 2023 and 2024. This reduction diminishes the financial attractiveness of RECs compared to the conventional concept of purchasing electricity from the market. Similarly, the "Stromkostenbremse" introduced on December 1, 2022, undermines the attractiveness of sharing electricity within energy communities. This incentive was designed to offset high electricity prices and aims to keep electricity costs low for end users. As a result, the electricity price under this scheme is even lower than what can typically be offered within energy communities.

3.2 Policy framework - Bulgaria

3.2.1 Overall assessment REC and CEC definitions

With the adoption of the amendments to the Law on Energy from Renewable Sources on October 13, 2023, Bulgaria tried to bring national legislation in line with the provisions of Directive 2018/2001 and Directive 2023/2413 to promote the use of energy from RES. The main goal of the changes is to enable Bulgarian citizens to become the engine of the energy transition, taking advantage of the advantages of decentralized production and storage of renewable energy. A decentralized energy transition model would contribute to achieving decarbonisation goals by changing the energy monopoly and empowering citizens and local communities to engage in energy production and consumption. Despite the initial intention, the application of the adopted regulations remains unclear, and the possibility of active participation of citizens in the energy transition remains difficult to implement.

With the adoption of the amendments to the Law on Energy from Renewable Sources, Bulgaria defines the term "renewable energy communities" (RECs) and "civil energy communities" (CECs). The Energy Act, which was also amended in November 2023, made several references to CEC. However, the details of how to ensure the autonomy of the RES have not been clearly worked out. The geographical proximity requirement for RES is also unclear and limits them to urban areas. This limits the ability of RES to scale up or use different technologies (e.g. wind), and citizens living in rural areas may not have access to the same rights.

Further clarity on principles, including autonomy and decision-making control, geographic proximity for RECs in both urban and rural areas, and how to enter and exit the community, would help enable their development. Nevertheless, there are requirements for the statutes or founding documents of CECs to elaborate the rights, responsibilities, and conditions for participating in an energy community, as well as provisions on the purpose/objective, conditions for the raising and use of funds, and the distribution of dividends.

Furthermore, companies whose participation in a CEC or REC relates to their main commercial or professional activity are not allowed to participate. While this could prevent corporate capture of energy communities by energy companies, it could also prevent RECs and CECs from collaborating. No authority has been assigned to oversee, register, or monitor RECs or CECs. This creates a risk that new initiatives, potential and

barriers cannot be properly monitored and fed into further policy making, and that abuses corporate capture, and non-respect for the non-commercial principles that should relate to energy communities, cannot be deterred.

3.2.2 Overall assessment enabling frameworks

Type	EU level	National level
Plan	The “Clean Energy Package”	Integrated National & Climate Plan (INPEC)
Regulation	(EU) 2018/1999	INPEC
Directive	(EU) 2018/2001 (RED II)	The Energy Law, the Res Act
Directive	(EU) 2019/944 (IMED)	The Energy Law, the Res Act

Amendments to the Law on Energy from Renewable Sources were finalised in October 2023. These amendments lay out requirements for the development of an enabling framework for both RECs and CECs, although most of these provisions simply replicate EU rules.

As such, a national legal basis for an enabling framework for RECs exists, but concrete policies and measures to realize this framework still need to be put in place. Interestingly, the enabling framework for CECs is identical to that of RECs, which goes beyond the requirements of the Electricity Directive. This will allow for a coherent enabling framework for RECs and CECs together. The Ministry of Energy, involving other relevant Ministers has been given the duty to propose how to remove existing barriers based on an assessment of existing barriers and potential for the development of RECs prepared by SEDA (Sustainable Energy Development Agency). This assessment was already conducted, and proposals by the Ministry are planned for the first half of 2024.

3.2.3 Obstacles for development of ECs

Despite the norms introduced in the European legislation for the development of energy communities, both as Civil Energy Communities and Renewable Energy Communities, and despite the changes introduced in the Law on Energy from Renewable Sources in Bulgaria from October 13th, 2023, introducing the term "communities for renewable energy” the development of this form of energy association in Bulgaria is weak. There are three groups of obstacles for the development of EC in Bulgaria:

- obstacles to the development of the EC sector, including the communities declared as such
- obstacles to the practical construction of EC

- ♦ obstacles for over-regulation of the EC

A. <u>Obstacles to the development of the energy community sector, including the communities declared as such</u>

1) The National Information System (NIS) for the potential, production and consumption of energy from renewable sources has not been implemented in the Republic of Bulgaria under Art. 52 para. 1 of ZEVI. The NIS in question represents a natural register for the reporting of active ECs without carrying unnecessary administrative functions for their registration or authorization.
2) The promotion of the development of the renewable energy communities by the state, under the RES Act, is carried out only through assessments of the executive director of SEDA about the existing obstacles and their development potential.

This single form of encouragement is insufficient and must be supplemented by:

- a flexible scheme of tax relief for properties in the Renewable Energy Community regime, with a parallel increase in the tax burden for properties whose owners did not invest in the construction of the REC;
- introduction of targeted schemes for EC credit and lease financing by the Bulgarian Development Bank and its subsidiaries;
- conducting an explanatory campaign by the Ministry of Energy for the benefit of municipal administrations, with the aim of facilitating the administrative procedures for the construction of energy installations in sites and properties operating in the energy community mode.

3) Introduction of incentives for building owners in energy-related legal acts, including

- when renting out a building or premises from the building;
- when building charging points for electric cars;
- when building heat pump and microclimate installations, etc.

B. <u>Obstacles to the practical construction of energy communities</u>

1. Absence of financial instruments to provide end users of electricity with low incomes or vulnerable customers with the opportunity to consume their own electricity from renewable sources within the EC.
2. Absence of targeted measures aimed at the banking sector to remove administrative and technical obstacles to EC project financing.
3. Absence of measures to facilitate access to bank financing of EC projects;
4. Absence of information measures on the part of ERD and the municipalities to increase the awareness of their customers and residents about the possibilities and practical benefits of building an EO.
5. Absence of targeted information measures by the municipalities, aimed at the sector of specific construction services, in EC.

6. Absence of municipal practical policies and programs aimed at the development of electromobility.

C. Risk of over-regulation and introduction of licensing or registration regimes

A serious risk for the development of the REC sector is the drive for over-regulation in the following areas of action:

1. The introduction of additional regulatory obstacles, through new difficult-to-implement reporting or measurement mechanisms, for example, through a virtual "net metering" mechanism that is mandatory for consumers.
2. Introduction of compulsory REC registration or licensing as a condition for access to financing, including through a special common EC register.
3. Lack of communication from the state regarding the danger of the future introduction of new taxes and fees for EC participants, including regarding the use of registration regimes for future taxation.
4. Introduction of a mandatory legal form or procedures for the establishment of RECs or CECs.
5. The absence of a state strategy regarding REC and the imputation of special functions regarding REC to professional condominium managers, municipalities and owner associations, without such a strategy, which may create a sense of uncertainty and risk among investors from introducing financial burdens.
6. Linking the operation of RES installations to the EC regime for obtaining guarantees of origin for the produced energy for own consumption.
7. Introduction of standardized officially approved technical solutions for the EC, which limit the development of the market.

3.3 Policy framework - Croatia

3.3.1 Overall assessment REC and CEC definitions

The Croatian government has transposed the CEC and REC definitions through the Electricity Market Act and the Renewable Energy Law, respectively. All participation and governance principles from the EU definitions are mentioned, and CECs even require autonomy and limit participation from medium and large enterprises. CECs must also state in their founding documents how they will ensure open and voluntary participation. The legal form for energy communities is limited to non-profit organizations, although it is unclear whether this covers cooperatives. This creates legal uncertainty, which could hinder uptake. Interestingly, governance and participation principles are not as elaborated for RECs as they are for CECs. There is also regulatory oversight, at least for CECs, to ensure transparency around conformance to the principles by energy communities.

There are substantial limitations on eligibility in terms of geographical scope for RECs. This potentially risks being overly restrictive in allowing participation, and it is likely that it will artificially impact energy communities' ability to undertake different activities,

essentially limiting their right to operate across the market. Furthermore, there is no official clear relationship between the REC and CEC definitions. While both definitions are almost fully aligned on eligibility, and governance/participation principles, the principles are elaborated more for CECs than they are for RECs. Yet, RECs are also very geographically restrictive, creating confusion around the difference between RECs and CECs, and hence two definitions. As such, the relationship between these two definitions deserves clarification. Otherwise, citizens and communities that want to use these concepts will need further clarity or certainty. These two aspects hold back an otherwise rather sound and useful definition that has the potential to promote social innovation. Overall, the transposition of the definition can be perceived as a box-ticking exercise. However, the framework poses several restrictions that could disincentivize citizens from engaging with the concept.

3.3.2 Overall assessment enabling frameworks

Type	EU level	National level
Plan	The “Clean Energy Package”	Energy Development Strategy until 2030, with a perspective extending to 2050 (OG, No. 25/2020)
Regulation	(EU) 2018/1999	Energy Regulation Act 2012 (OG, 120/2012)
Directive	(EU) 2018/2001 (RED II)	Act on Renewable Energy Sources and High-Efficiency Cogeneration (hereinafter referred to as the RES Act), which was enacted in December 2021
Directive	(EU) 2019/944 (IMED)	Electricity Market Act (OG, No. 111/21), which establishes regulations governing the production, transmission, distribution, and storage of electricity

Croatia has adopted provisions on RECs and CECs in its national legislation. Rules for the registration of energy communities have also been adopted. However, despite copy-pasting requirements for an enabling framework, the Government has not yet undertaken an assessment of barriers or potential for the development of RECs. Furthermore, it has not articulated in detail any of the elements of the enabling framework. Indeed, some provisions in the new law, particularly on the geographic restrictions for conducting activities and membership, as well as the registration and licensing process, are disproportionately burdensome for energy communities and represent significant barriers to their establishment. No support schemes have been designed. While some of the rules around energy sharing have been developed, there are no incentives attached to this activity and due to other barriers to registration and

licensing, this activity is so far not possible. Non-profit accounting (which is being pushed by the legislature) and related legal forms are not an ideal choice for energy communities because they limit the activities that communities can carry out. This restriction reduces the diversity of legal forms of emerging energy communities, and hinders their potential for growth, innovation, and economic benefits. Economic benefit is the main motivation for citizens, companies and municipalities to join energy communities.

Overall, the conceptual and regulatory framework for RECs, CECs, and energy sharing needs to be clarified. Furthermore, a dedicated enabling framework and a dedicated support mechanism that can help energy communities to emerge, is still missing.

3.3.3 Obstacles and potential for development of ECs

Key obstacle is lack of precision and clarity in definitions and legal provisions, which causes a lack of understanding of key stakeholders in the energy sector.

The transposition of directives into the legislative framework is not accompanied by clear guidelines and a more detailed definition of the key elements of legal provisions. Also, the necessary bylaws and ordinances are not clear in practical aspects or include the specifics of energy communities. This lack of clarity makes it difficult and impossible for interested groups of citizens and small businesses to comply with the applicable legal framework in the process of establishing energy communities, thus stopping the development of energy initiatives in the initial stages of development.

Ambiguity in energy laws and bylaws affects all stakeholders in the energy sector, including professionals, contractors, regulators, suppliers, distribution system operators, support organizations and others interested in starting renewable energy projects, consumers and the general public. In addition, there was a lack of effective communication and coordination between all relevant stakeholders involved in the law-making process and the actual implementation of the introduced concepts in practice (energy sharing, active customer groups, energy communities).

The Electricity Market Act stipulates that legal entities wishing to register as an energy community must operate on the basis of the law governing financial operations and accounting of non-profit organizations. The predominant focus of energy communities (EC) in Croatia, in line with examples from the EU, revolves around launching energy projects for joint self-consumption, selling energy on the market or participating in feed-in tariffs or market premium prices. However, the requirement to conduct non-profit accounting limits the variety of activities that energy communities can engage in. Operating as a non-profit organization significantly limits the way in which excess income from energy projects is distributed among members.

This forces energy communities to operate in a "grey area" where disposable revenues are distributed indirectly, through the supply of services or payment of services from their members, rather than through the provision of direct financial returns. This creates

inefficiencies in the distribution of resources, diverting efforts that could otherwise be used to improve the services or business models of energy communities.

As a result, more than two years after the transposition of the concept of energy communities and other related concepts into national legislation, only one small energy community has been officially registered, and not a single kWh of energy has yet been distributed within that community. There is a lack of practical and technical solutions for energy sharing and there is no insight into the model of calculating network tariffs for communities and common self-consumption, which makes it impossible to implement an economically feasible business model.

Finally, dedicated support mechanisms for energy communities do not exist more than two years after the transposition of directives and the entry into force of the law.

3.4 Policy framework - France

3.4.1 Overall assessment REC and CEC definitions

France's policy intervention in favour of local and citizen initiatives started before the discussion and implementation of the Clean Energy Package, around participative projects, collective self-consumption (CSC) and crowdfunding in renewable energy projects. According to the Energy Communities Repository, the policy framework combines this former approach of participative projects and energy communities, resulting in a somehow complex framework.

France published an Ordinance in March 2021, with provisions on both renewable energy communities and citizen energy communities. This has been followed up by an important act, the Tariff Order S21 on 8 October 2021. A Law in March 2023 related to the acceleration of the production of renewable energies has given planning tools to Local Authorities and it has detailed definitions and rules on access to support schemes for PV. Its Application Decree published in December 2023 has given details on key definition criteria for ECs.

The subsequent definition of ECs does reference a strong standard of Autonomy, which is based in France’s existing company law. It also elaborates effective control and geographical proximity in detail. One significant distinguishing feature between RECs and CECs is eligibility: for RECs, there are strong restrictions on companies, whereas for the CEC definition it explicitly states that there are no restrictions to participation. This could create a risk that CECs become highjacked by traditional energy sector market actors. For the most part, the definitions are copy-paste of the EU directives. Furthermore, there is no monitoring role assigned to the regulatory authority – this could raise risks of abuse of both the REC and CEC definitions, leading to a lack of trust.

3.4.2 Overall assessment of enabling frameworks

Type	EU level	National level
Plan	The “Clean Energy Package”	The path towards carbon neutrality by 2050 is given by the National Strategy for Low Carbon (SNBC).
Regulation	(EU) 2018/1999	The objectives for Energy and Climate over a 10-year period are given by the Multiannual Energy Program (PPE) (currently 2019-2028, according to the Law Energy and Climate n°2019-1147 of 8 November 2019).
Directive	(EU) 2018/2001 (RED II)	The Law Energy and Climate of 2019 has defined RECs, among other means for the development of renewable energies.
Directive	(EU) 2019/944 (IMED)	The Ordinance n°2021-236 of 3 March 2021 has defined CECs, adding to the existing definition of RECs. The Law n°2023-175 of 10 March 2023 has clarified the definitions of both RECs and CECs.

While France has taken some significant legislative steps to transposing RECs and CECs, in particular to operationalize the activity of energy sharing, this process has not yet extended concretely to most elements of the enabling framework that must be in place. The French government has put in place some lofty policy objectives for the development of energy communities, but these proposals need to get more concrete.

The Ministry of Ecological Transition convened a stakeholder group in 2021, bringing various people across the energy sector together, to propose enabling measures. The Ministry communicated in November 2021 that the pluriannual energy programme will account for the development of energy communities via the inclusion of a Roadmap for the development of energy communities. The Roadmap itself sets an objective of 1,000 citizen initiatives by 2028 and communicates 10 different measures.

Information about the deployment of measures has to be put forward, while other measures still need to be deployed, such as the national campaign in favour of citizen engagement to equipe local authorities. Ministry website lacks a monitoring of the 10 million euros Enercit fund.

A common enabling framework for both RECs and CECs has been outlined in the law. Details have been clarified by the Law passed on 10 March 2023.

The distribution system operators (DSOs) for electricity, as well as gas and district heating, must cooperate with ECs for energy sharing. To the extent that energy sharing is considered as Collective self-consumption (CSC) the regulator establishes specific network tariffs for consumers participating in self-consumption operations so that those consumers do not pay for access fees that do not reflect the costs of the DSOs. ECs benefit from a proportionate and non-discriminatory treatment for their rights, activities and obligations as final consumers, producers, suppliers and market operators.

Overall, France has communicated a number of objectives and supportive measures. However, it needs to put turn these commitments into concrete action, as well as finalise a proper support scheme that helps RECs overcome existing barriers to accessing renewables support.

3.4.3 Obstacles for development of ECs

The Roadmap established by the Ministry in November 2021 hinted at the obstacles for the development of Energy Communities:

- The lack of an enabling framework. It was addressed by the Ordinance of March 2021, the Law of March 2023, and their Application Decrees. The multiannual energy program (PPE) for the period of 2024-2028 states the objectives for the country.
- The need for adaptation and monitoring of the national support schemes and how they can be articulated with regional and municipal support schemes. Tariff Order of 8 October 2021 (“S21”) has set Feed-in Tariffs and Premiums, including self-consumption operations, but tariffs and premiums being exclusive to other financial aids to investments in PV installations, it constitutes an obstacle in some situations. So far for that reason, in Paris region, several PV installation projects have been abandoned.
- The need to increase the number of energy governance advisors in the administrative regions. The network of energy governance advisors called Les Générateurs, which was active before 2021, has been developing since then. It counts today 70 advisors in 12 regions of France. It acts as a real catalyst of local policies.
- The need for a national campaign to promote the engagement in favour of citizen energy that will also equip local elected representatives to disseminate information. A national campaign is still to be launched. For example in Paris, citizens generally lack a sense of their power to develop Energy Communities.

- The need for an observatory for renewable energy projects with local and citizen governance and an impact assessment on local support and appropriation for renewable energy. The observatory and assessment are still to be developed. Energie Partagée is playing part of this role, but it was active before 2021. An observatory was created by Decree on April 7 of 2024, with the goal to measure the impact on biodiversity of renewable energy projects.
- The need for a specific working group with financial stakeholders to identify and remove financial barriers for projects with local governance. Access to financing and support schemes is an important obstacle. No information is available whether the working group is active or nor. The Ministry website states that by November 2021 there was already a financing tool: *"The development phase is the riskiest phase in the life of a citizen project. Therefore, the Caisse des Dépôts, Ircantec, and Crédit Coopératif have established a financing tool named EnRciT. This financing involves taking shares in the project (up to a limit of 49% of the equity)."* Energie Partagée is the coordinator of EnerCit fund. However, no information is given by the Ministry on its spending.
- The need for a lower fee for grid access connection for all installations under a certain capacity (500kW), in a way that the grid tariff covers up to 60% of the connection fee; The continuation of the working group on citizen renewable energy to discuss new possible legal and regulatory changes to support local engagement in renewable energy. No information could be collected by APC on these matters.

The vast majority of CSC operations are situated in rural or periurban areas. Their relative absence in city centres may question the existing enabling frameworks. Obstacles in dense urban centers such as Paris are the focus of WP3 for France.

3.5 Policy framework - Italy

3.5.1 Overall assessment REC and CEC definitions

Italy has transposed the REC definition with the legislative decree 199/2021 and the CEC definition with the legislative decree 210/2021. In particular, the REC is a legal entity that is controlled exclusively by natural persons, SMEs, local authorities, including municipalities, research and training entities, religious entities, third sector and environmental protection associations, as well as local administrations included in the list of public administrations published by the National Institute of Statistics - ISTAT. Those members should be located in the same local area of the production plants. Since 2022, the Ministry of Defence, port authorities, the National Real Estate Agency and farmers' groups can also set up RECs.

Consumers connected under the same medium voltage station can be members of a REC and share the renewable energy produced by the REC's plants, that cannot exceed 1MW capacity for each REC's plant.

Participation in RECs is open and voluntary. A REC must also be autonomous. Companies whose main commercial or industrial activity is in the energy sector cannot participate in RECs.

RECs mainly aim to provide environmental, economic or social benefits to members/shareholders or local communities rather than financial profits.

Community members share the energy using the existing distribution network. Shared energy is equal to the difference, in each hourly period, between the electricity produced and fed into the grid by renewable energy plants and the electricity withdrawn from all associated end consumers. Consumers' withdrawal points and plants' feed-in points must be located under the same primary substation.

Therefore, for the valid establishment of a REC, several elements must exist: a subjective one (the will to pursue a common goal other than financial profit), an objective one (the use of renewable sources), and a topographical one (the submission of the energy withdrawal and feed-in points to the same electrical voltage transformer cabin).

On the other hand, a CEC is a legal entity of any form under private law that may or may not have a legal personality and may or may not be solely responsible for its actions. It implies that in some situations, a legal entity may not be able to represent the members before the law, but the members are responsible (e.g. a partnership).

Members must exercise effective control. Members that control the CEC can be natural persons, small businesses, local authorities, including municipal administrations, research and training bodies, third sector and environmental protection bodies, religious bodies, as well as administration premises contained in the list of public administrations. Participation is open and voluntary. The geographical scope of the CEC is the market bidding zone.

The production plants used for electricity sharing by the CEC must be available and controlled by the CEC. Installation, operation, data management and maintenance can be delegated to a third party only if this does not affect the control by the members of the community.

Similarly to RECs, CECs should have as their primary purpose to provide environmental, economic or social benefits to members/shareholders or local communities rather than financial profits.

Interestingly, both REC and CEC provisions explicitly promote inclusiveness by mentioning the need to ensure participation is open to low-income or vulnerable households.

Three are the main identifiable differences between RECs and CECs. A first difference relates to the type of energy and sources involved. RECs involve power from renewable energy alone and its conversion into different energy carriers, such as electricity, thermal and cooling energy, while CECs can operate with any source (including non-renewable ones) but can produce only electricity. RECs also are restricted to the geographic perimeter of all energy withdrawal and input points to the same electrical voltage transformer cabin, while CECs are not subject to this constraint. Finally, another distinction concerns the possible activities performed and CECs' additional operational faculties in the electricity market. In fact, RECs are expected to make mandatory use of facilities coming into operation after the legislative change, while CECs are generally allowed to use the grid – both existing and newly built – to operate as a full-fledged energy distributor (possibly by leasing or purchasing portions of the grid). From the perspective of achieving European decarbonization goals, however, surely RECs seem to be the more useful energy communities because of the exclusive use of renewable sources.

3.5.2 Overall assessment enabling frameworks

Type	EU level	National level
Plan	The "Clean Energy Package"	National Sustainable development Strategy; National Energy Strategy; National Resilience and Recovery Plan 2021-2026; National Strategy on long term on Reducing Greenhouse Gas Emissions; Ecological Transition Plan to 2050; National Plan for electricity grid development.
Regulation	(EU) 2018/1999	National energy and climate plan
Directive	(EU) 2018/2001 (RED II)	Legislative decree 199/2021
Directive	(EU) 2019/944 (IMED)	Legislative decree 210/2021

Italy adopted a first set of transitional rules in 2020 on RECs through the Article 42-bis of the Law 8/2020 allowing REC members to share energy under the same low voltage distribution substation. The size of each powerplant owned by REC was initially set up at 200 kW and then increased to 1 MW with the legislative decree 199/2021. CECs has been defined through the Decree 210/2021. Both definitions are similar and enjoy benefits from the same rights, although the sector of RECs is renewable energy, while CEC are limited to electricity. Their rights and enabling frameworks correspond to those of the Directives. Implementing acts (CACER decree) and operational rules were provided by ARERA (Independent Energy Authority), the Ministry of Environment and Energy Security and GSE (Energy Services Manager) in 2024 and clarify further the applicable framework.

3.5.3 Obstacles for development of ECs

The publication of the CACER decree and the operational rules decree have marked a decisive step in the long complex process of promoting the development of RECs and collective self-consumption in Italy. At National level, the enabling framework is advanced and the support schemes and economic incentives, which in many cases can also be cumulated, provide favorable conditions for RECs development.

Otherwise, the obstacles to the development of Renewable Energy Communities are mainly cultural and temporal, but also technical. Among the identified issues, one is the perception of the REC concept, understood merely as a tool to save on bills rather than as an innovation that can produce social, environmental, and territorial development changes.

This cultural obstacle fosters a simplistic view and does not promote a correct understanding of the real advantages of RECs. This can lead to false expectations about purely short-term economic benefits and solutions to the energy crisis.

Another obstacle is the role of public administrations, which are not able to manage energy communities due to either the under-sizing of internal resources or limited technical expertise in project development or navigation of administrative and licensing procedures. Regarding temporal obstacles, the long time between the activation of a REC and the time needed to quantify its positive impacts on the territory can dampen the interest of the involved parties.

In terms of technical aspects, data collection is one of the critical issues. Choices related to the sizing of the plants are connected to data collection (hourly load and production curves representative of possible types of Prosumers) and the ability to monitor consumption. These actions are relatively simple for large companies and energy-intensive enterprises, but for citizens and SMEs operating in some sectors, they are time demanding.

Another relevant aspect concerns the use of storage systems, which offer the advantages of greater self-consumption, higher autonomy in managing locally produced energy, and a reduction in both the peaks of power fed into the grid and the imbalances due to the unpredictability of renewable sources. However, high costs and the lack of specific economic incentives make installation difficult.

Finally, bureaucracy. The lengthy times and procedures necessary for creating the REC, such as choosing the legal model have been deemed very problematic as they require specific expertise.

4 Overview of support schemes

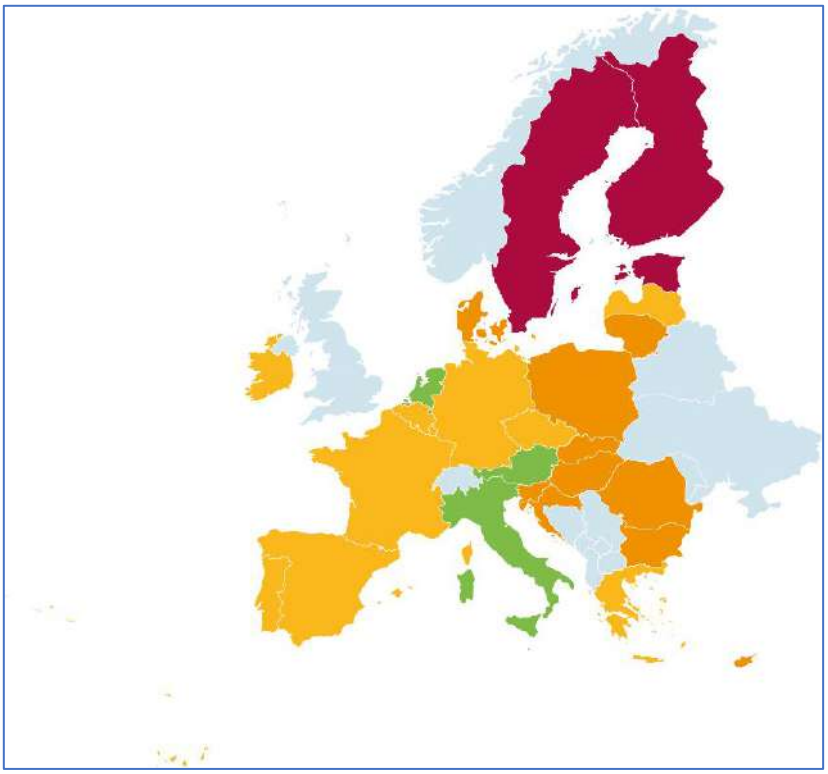
The RED II directive provides the definition of “support scheme”. A **“support scheme”** means any instrument, scheme or mechanism applied by a Member State, or a group

of Member States, that promotes the use of energy from renewable sources by reducing the cost of that energy, increasing the price at which it can be sold, or increasing, by means of a renewable energy obligation or otherwise, the volume of such energy purchased, including but not restricted to, investment aid, tax exemptions or reductions, tax refunds, renewable energy obligation support schemes including those using green certificates, and direct price support schemes including feed-in tariffs and sliding or fixed premium payments.

Artcle 4 of the RED II Directive states that 'Support schemes for electricity from renewable sources shall provide incentives for the integration of electricity from renewable sources in the electricity market in a market-based and market-responsive way while avoiding unnecessary distortions of electricity markets as well as taking into account possible system integration costs and grid stability. Support schemes for electricity from renewable sources shall be designed to enhance the integration of electricity from renewable sources in the electricity market and to ensure that renewable energy producers are responding to market price signals and maximizing their market revenues. To that end, concerning direct price support schemes, support shall be granted in the form of a market premium, which could be, inter alia, sliding or fixed'.

In the following paragraphs, support schemes from project partners countries are shown. The focus is on support schemes for PV and their features, including restrictions and shortcomings.

Moreover, taking into consideration the results from the RESCOOP tracker to assess the progress of enabling frameworks and national support schemes, the picture shows a green light for Austria and Italy, for France it is indicated an average progress, whereas Bulgaria and Croatia have still substantial deficiencies.



4.1 Overview of support schemes for Austria

Part of the support measures put in place by Austria is applicable to both RECs and CECs. The Austrian government will provide up to EUR 4 million to support the establishment of RECs and CECs. The EAG requires an evaluation of the support schemes by December 2024 (§91 of EAG).

Up to 50% of the renewable electricity generated and not consumed within a REC can be supported through a market premium (§ 80 of EAG). The calculation of the market premium is based on the amount of electricity sold by a REC and fed into the public grid. The energy shared and consumed by the members or shareholders is not eligible for this premium. However, the quantities of energy generated and consumed within a REC are not taken into account when determining the renewable levy to be paid by the consumer on electricity and gas (This levy has been suspended for all consumers with the current energy crisis).

Austria is transitioning towards tendering procedures. From 2023, operators must apply for the market premium solely through competitive tendering. However, the tender procedure will only apply to a limited extent to wind power plants under 20 MW and those operated by either a REC or a CEC. (§ 43a of EAG)

In addition, RECs are eligible for automatic direct price support. According to EAG, installations owned by REC are also eligible to apply for investment grants to produce electricity and gas from renewable energy sources.

4.2 Overview of support schemes for Bulgaria

Renewable energy project development is primarily influenced by policy factors, lack of obstacles factors and resource factors. Policy drivers encompass direct and indirect instruments aimed at promoting renewable energy adoption.

The most effective support instruments are the direct policy instruments aimed at immediately stimulating renewable energy development: tax credits, low-interest loans, and support mechanisms. In Bulgaria, key direct policy instruments include the guaranteed purchase based on Feed-in Premium (FiP) which is replacing since 2018-2021 the Feed-in Tariff price system (FiT).

In Bulgaria the Feed-in Premium (FiP) mechanism includes signing of long-term buy-off contracts with producers of energy from renewable sources:

- 20 (twenty) years for electricity generated from geothermal and solar energy, and for electricity generated from biomass;
- 12 (twelve) years for electricity produced from wind energy;
- 15 (fifteen) years for electricity produced from hydropower plants with an installed capacity of up to 10 MW, and for electricity produced from other types of renewable energy sources.

The FiP mechanism reduces the Weighted Average Cost of Capital (WACC) compared to situations lacking revenue stabilization. Unfortunately, average WACC in Bulgaria ranks unfavourably within the EU with high financing costs compared to other member states.

Indirect policy instruments aim at long-term improvement in renewable energy project development. These include measures such as carbon taxes, ambitious energy strategies, and setting long-term renewable energy capacity targets.

There are no provisions addressing energy communities in the context of accessing support schemes. However, an assessment of the effectiveness of support schemes for renewable electricity and its impact on different user groups and on investments must be prepared. It will be important to ensure that energy communities are one of the groups considered in this assessment.

4.3 Overview of support schemes for Croatia

The Law on Renewables specifies that when the support scheme is created, the peculiarities of RECs are taken into account in order to enable them to compete for support under equal conditions with other market participants. In addition, the provisions of the Law on Renewables ensure that information on support measures is available to all relevant actors, including consumers, namely vulnerable and low-income consumers, RECs, builders, installers, architects, suppliers of equipment and systems for heating and cooling and the use of electricity and suppliers of means of transport that use renewable energy and intelligent transport systems.

National legislation copy-pastes the Renewables Directive: The design of support programs shall take into account the specificities of renewable energy communities in order to enable them to compete for support with other market participants on equal terms. However, there have been no concrete measures or policies communicated in order to operationalize this requirement.

4.4 Overview of support schemes for France

CECs and RECs are not at the center of French support schemes of photovoltaic production but they do benefit from general policy objectives (PPE) and from indirect support through the support given to CSC operations. Since 2021, CSC operations of less than 100 kWp are supported by Premium for investment costs, and Feed-in Tariff for the collective surplus injected into the grid. Larger CSC operations are to compete within calls for tenders to benefit from such a Premium (see D2_3_Annex2).

Citizen movements, and energy and climate-conscious associations have been promoting citizen renewable energy projects in France before the emergence of ECs in the Energy Code in 2018 and 2019. Energie Partagée, or Enercoop, leaders among these actors, are supporting CEPs with technical and organizational assistance and, for

large projects, co-funding programs under governance conditions (see D3_1). Energie Partagée is co-funded by the French State and ADEME National Agency. ADEME is also playing a role of networking these supporting third-party actors.

Support schemes specific to Energy Communities have been announced by the Ministry in November 2021 Roadmap, and since then partially put into practice. The next Multiannual energy Program (PPE), first announced at the end of 2024, is expected to enforce the full package.

With the Law on the Acceleration of Renewable Energies of 10 March 2023, Local Authorities have been put at the forefront of the energy transition. Municipalities are supported in all aspects of their local policy by Les Générateurs network of energy advisors funded by the Ministry and ADEME, and by ENEDIS advisors (French DSO for 95% of the territory).

Promoted since July 2023, Acceleration zones are expected to drive a surge in the number of PV projects, especially in rural areas. A third of the 36 000 municipalities in France have proposed an Acceleration Zones so far, showing a real interest. However, Acceleration zones do not address the case of ECs, and it is too recent to conclude on their effectiveness (rural municipalities are still lacking engineering forces according to CLER association; city centers like Paris are not much concerned by this scheme and still have to face unaddressed obstacles. See D3_2).

Coherent support schemes do not exist for the information of the population (National campaign announced in 2021), the engagement of citizens, or the inclusion of low-income users. Also, access to financing is not monitored (what about the EnerCit fund created in 2021).

In Paris Region, DISCOVER pilot site, Ile-de-France Region is supporting citizen projects for both studies and investment. Greater Paris Metropolis is supporting Municipalities in their PV projects and possibly in building CSC operations, in relation to Les Générateurs local advisors. Paris City is also working to equip its public properties with PV plants and extend its support to private residential buildings.

4.5 Overview of support schemes for Italy

GSE provides information on the support schemes on its website. The DL 199/2021 specifies under what conditions RECS are eligible to support schemes. RECs are eligible to specific support schemes for the electricity from renewable energy sources they self-consume instantly. Power plants of less than 1 MW owned by a REC can access a direct and specific incentive, which can also incentivise the self-consumption rate. The incentive is awarded directly, with a request to be made by the installation to GSE. In addition, RECs are eligible to participate in tenders.

RECs, including those controlled by local authorities, are also eligible for support schemes for renewable heating, provided that their production is not supported by another means.

The valorisation of shared electricity for the RECs (and CECs) now refers to the area under the primary substation (and no longer to the secondary substation), with the possibility of also including power up to 1 MW (and no longer 200kW), against a slight reduction in the self-consumption valorisation contribution on the grid tariffs.

RECs and CECs are eligible for incentives composed of:

- Premium rate on shared energy for 20 years;
- valorisation of the electric energy self-consumed, through the restitution of the tariff components (as states by the ARERA Resolution 727/2022/R/eel)
- compensation for the withdrawal of electricity fed into the network (RID) by the GSE, if required.

In addition, for RECs and CECs in municipalities with less than 5000 inhabitants can have a capital contribution up to 40% of eligible expenses, which include technical and technical-scientific assistance for purchasing all the components that are essential to realise production, distribution and sharing facilities, the purchase costs of storage systems, and legal and administrative assistance for the definition of agreements.

The capital contribution is due thanks to the Italian Recovery and Resilience Plan, that finances with €2,2 billion should finance energy communities and Collective self-consumption in municipalities with a population of under 5000 inhabitants and help them produce up to 2.500 GWh per year. Recovery funds in Italy are also used to incentivise energy renovation (Superbonus 110%), but these tax incentives cannot be cumulated with those for shared energy.

Structural funds have also been used by several Regions (i.e. Lombardia, Emilia Romagna, Lazio, Campania, Sicily and Sardinia) to fund feasibility studies and establishment of RECs. These funds are primarily aimed at financing feasibility studies and establishment of the REC itself, much of which are targeted at municipalities.

5 Conclusions

Various elements can play a crucial role in expanding energy communities: a supportive regulatory environment, financial incentives, strong local connection and leadership, promotion of social values, transparent decision-making, and access to capacity building and expertise. To encourage and support the growth of communities, both Directives mandate the adoption of enabling frameworks for Renewable Energy Communities and Citizen Energy Communities. These frameworks should create a favorable setting for the growth and functioning of communities, eliminate administrative and regulatory obstacles, and support the purposes of energy communities.

The comparative assessment among PP countries highlights that the regulatory framework is crucial to provide clear guidelines for individual projects, enabling energy communities to design their initiatives effectively. These guidelines should define parameters such as the size of renewable energy production facilities eligible for energy sharing, the geographic scope within which consumers can join an energy sharing initiative, the duration of energy sharing among community members, and the ability for the energy community to set the sharing coefficient for distributing shared production among members. Additionally, the framework should encourage the creation of sustainable business models that attract investments from citizens, businesses, and local authorities.

Taking into consideration the assessment of the progress of the transposition of the provisions on definitions for RECs and CECs, Austria, France and Italy have a quite clear framework, while Bulgaria and Croatia still have substantial deficiencies. In particular, in Bulgaria a national legal basis for an enabling framework for RECs exists, but concrete policies and measures to realise this framework still need to be put in place. On the other hand, in Croatia, the CEC and REC definitions are transposed in national acts, but there are still uncertainties on the legal form for energy communities as well on substantial limitations on elegibility in terms of geographical scope. This can affect the participation and engagement of citizens.

Concerning the access to support schemes, one of the main challenges in building renewable-based installations by energy communities is a lack of finances, especially at the early stage of development. RED II requires that the specificities of RECs should be taken into account when designing support schemes.

Typically, support for electricity from renewable sources should be provided through open and competitive bidding processes. Nevertheless, Renewable Energy Communities may struggle to meet the criteria for these auctions, as citizen-led initiatives like these often have limited financial and human resources.

In line with the regulatory framework, also for support schemes, Austria, France and Italy are transitioning towards tendering procedures and have put in place different additional measures such as automatic direct price support and support for excess self – production fed into the grid (Austria), feed in premium and feed-in tariff (France), premium rate on shared energy, valorisation of self- consumed energy, capital contribution (Italy).

In Bulgaria, there are no provisions addressing energy communities in the context of accessing support schemes. However, an assessment of the effectiveness of support schemes for renewable electricity and its impact on different user groups and on investments must be prepared. It will be important to ensure that energy communities are one of the groups considered in this assessment.

In Croatia, national legislation copy-pasted the Renewables Directive: The design of support programs shall take into account the specificities of renewable energy communities in order to enable them to compete for support with other market participants on equal terms. However, there have been no concrete measures or policies communicated in order to operationalize this requirement.

The remaining obstacles for the development of ECs are plentiful among all partners. They can affect the different phases of REC (development, execution and operation) and they vary from the need to modernize the energy infrastructure, to the lack of technical expertise, uncertainty in terms of financial support, legislative unclearness, lack of effective communication and coordination among all relevant stakeholder, lack awareness around energy communities, data collection and monitoring, lack of clarity on how duties or responsibilities should be shared between market actors relevant for energy sharing, including energy communities, system operators, suppliers and third party service providers.

In particular, the absence of a clear and consistent national legal definition for energy communities leads to legal uncertainty. The definitions of Renewable Energy Communities and Citizen Energy Communities include governance and participation principles (such as proximity, effective control, autonomy, and social, economic, and environmental benefits) that can be interpreted in various ways, complicating their implementation and monitoring at the national level.

Additionally, citizens, businesses, and local authorities may not be fully aware of energy communities, necessitating efforts to build understanding and trust. They often lack the technical expertise needed for project development or navigating administrative and licensing procedures. To address this, for example Austria has established one-stop shops (OSS) (i.e. Austrian coordination office for energy communities) and other networking platforms (i.e. GSE in Italy). These facilitators operate through public entities

to raise awareness, provide technical advice to emerging energy communities, organize workshops, offer guidance, and facilitate access to professional expertise.

Moreover, energy communities face difficulties in securing funding for their projects, especially during the early stages of development, and are vulnerable to frequent or sudden changes in regulations and public support. To address this, governments are increasingly establishing dedicated public funding mechanisms at the national level to help energy communities, particularly to reduce risks in the preliminary and early development stages where private financing is hardest to obtain. Additionally, local and regional authorities can provide their own forms of financial assistance.

DISCOVER

D.2.3 Assessment of National Energy policies and Support Schemes

Annex 1

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1 Overview of the policy framework for Austria

1.1 Climate - energy plan and policy

Austria's new policy agenda (Regierungsprogramm 2020–24) aims for carbon neutrality by 2040. Announced on January 2, 2020, the plan also targets sourcing 100% of the nation's electricity from renewable sources by 2030, with photovoltaic (PV) generation capacity projected to reach 11 TWh. A key component of this agenda is the installation of solar panels on one million Austrian homes.

1.2 Legislative national laws/ acts/decrees

1.2.1 Relevant EU acts

- Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action:
  This regulation has been incorporated into Austrian law through amendments to the Electricity Industry and Organization Act (ElWOG) and the Integrated National Energy and Climate Plan for Austria 2021–2030.
- Directive (EU) 2018/2001 on the Promotion of the Use of Energy from Renewable Sources (RED II):
  It introduced Renewable Energy Communities (Erneuerbare-Energie-Gemeinschaften) to support collective renewable energy projects. This directive has been primarily transposed into Austrian law through the Renewable Energy Expansion Act (EAG) and amendments to the Electricity Industry and Organization Act (ElWOG).
- Clean Energy for All Europeans Package:
  In June 2019, the EU co-legislator passed the final acts of this package. It has been implemented into Austrian federal law by the Renewable Expansion Legislative Package adopted in July 2021.

1.2.2 Renewable Expansion Act (EAG)

The adoption of the Renewable Expansion Act (Erneuerbaren-Ausbau-Gesetz, or EAG) in July 2021 marks a significant milestone in implementing Austria's new policy agenda for renewable energy. The EAG replaces the Green Electricity Act 2012 (Ökostromgesetz 2012, or ÖSG) and the Federal Biomass Promotion Act, introducing a new support scheme for renewable energy sources.
The EAG transposes the Renewable Energy Directive II (RED II) and establishes a framework for Renewable Energy Communities (Erneuerbare-Energie-Gemeinschaften), as outlined in the 6th section of the act.

Reference: Bundesgesetz über den Ausbau von Energie aus erneuerbaren Quellen (Erneuerbaren-Ausbau-Gesetz – EAG)

1.2.3 Electricity Management and Organisation Act (ElWOG)

The federal state-level Electricity Management and Organisation Act (Elektrizitätswirtschafts-und-organisationsgesetz 2010, or ElWOG) stands as the principal law governing the ownership and structure of the power industry. Within its provisions, outlined in - 58/02 "Energierecht" § 16, the organization of power grid access is detailed.
The amendment of the ElWOG in July 2021 encompasses significant aspects, particularly in relation to Citizen Energy Communities (CECs). CECs adhere to a regulatory framework delineated from Section 6a onwards. This framework also includes provisions applicable to both CECs and Renewable Energy Communities (RECs), with a specific focus on facilitating energy sharing.

1.2.4 Renewable Expansion Acceleration Act (EABG)

The revision of the UVP-G aimed to expedite procedures for "energy transition projects". Coupled with the Renewable Expansion Acceleration Act (Erneuerbaren-Ausbau-Beschleunigungsgesetz, or EABG), introduced in 2023, this legislative change is geared towards streamlining approval processes for the establishment of power plants and grid infrastructure.
Focused particularly on projects that do not meet the criteria for mandatory environmental impact assessments, the EABG endeavours to hasten and simplify permitting procedures, thereby facilitating the rapid expansion of renewable energy infrastructure.

1.2.5 Ordinance on Grid Usage (SNE-V)

The Regulatory Commission of E-control renewed the Ordinance on Grid Usage in 2018 (Novellierung der Systemnutzungsentgelte-Verordnung - SNE-V 2018), which outlines the reduction of dynamic grid fees for local and regional Renewable Energy Communities. This amendment came into effect on November 1, 2021.

1.2.6 Electricity Costs Settlement Act (SAG)

Electricity consumers in Austria bear several financial obligations, including the electricity levy, green power support payments, the community levy, and VAT. In June 2023, the adoption of the Electricity Costs Settlement Act (Strompreiskosten-Ausgleichsgesetz 2022, or SAG 2022) introduced a legislation change, that enables

subsidies to be granted to market participants under the EU Emissions Trading System. The aim is to offset the escalation in electricity expenses experienced by these entities.

Sources:
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2 Definition and features of CEC and REC

2.1.1 Forms of Energy Communities

In Austria, three distinct models facilitate the shared use of one or more energy generation facilities:

- GEA (Gemeinsame Eigenversorgungsanlagen) - established since 2017, applies to consumers who share the same grid connection point.
- Renewable Energy Communities (RECs) - introduced since 2021, applicable to consumers in close proximity, with definitions outlined in ElWOG and further elaborated in the EAG.
- Citizen Energy Communities (CECs) - also introduced since 2021, applicable to consumers regardless of distance between them, with definitions outlined in ElWOG.

All three entities - GEA, REC, and CEC - serve as legal frameworks facilitating energy generation and sharing within communities, operating as legal entities. They differ in terms of the maximum allowable distance between their community members, the types of energy they can share (electricity, renewable electricity, heat), and the subsidies they receive.
Members typically include natural persons, municipalities, legal entities, and small to medium-sized enterprises. Energy suppliers are excluded, as participation in the community must not constitute the member's primary commercial or professional activity. The primary objective of an energy community is to enable energy sharing, prioritizing social or economic benefits over financial gain.
A GEA allows for electricity sharing among community members without reliance on the public power grid, often found within multi-family housing complexes.
For RECs, members must share the same power sub-grid. There are two subcategories: regional and local. Regional communities share the same medium-voltage section of the power grid, while local communities have all points of connection within the same low-voltage section.

In contrast, CECs are not restricted by the geographical proximity of power plants and consumers. While they do not receive a discount on power grid fees, they may qualify for a market premium of up to 50% for renewable electricity generated but not consumed within the community.

2.1.2 Energy Community Roadmap

The roadmap for energy communities in Austria is developed in collaboration with utilities, the information platform of the Austrian energy industry. The innovations include:

- Q4 2021: Introduction of renewable energy communities, consisting of both local and regional types.
- Q2 2022: Launch of Citizen Energy Communities.
- Q3 2022: Expansion allowing Citizen Energy Communities to incorporate multiple electricity generation units.
- Q3 2023: Facilitation of data exchange among citizen energy communities across different concession areas without geographical limitations.
- Q1 2024: Enablement for energy community members (consumers) to participate in multiple energy communities.

Feature	CECs	RECs	Collective Generation
Legal form	Requires establishing a legal entity. Association, co-operative. Other forms are possible.		None. Contract according to §16a Abs 4 (ElWOG) sufficient
Participation	All natural and legal persons may participate.	Natural persons, companies (small and medium-sized enterprises), municipalities, other public corporations	all natural and legal persons may participate
Effective control	only natural persons, municipalities and small companies may exercise control		
	The operational and control authority over the generation facilities lies with the energy community.		
Location of members	No restriction, Austria-wide (network levels 1 to 7)	Local: Supply area of a transformer station (grid levels 6 and 7) Regional: Supply area of a substation (grid levels 4 or 5)	Share one and the same access point to the public grid

Purpose	Primarily to bring ecological, economic, or social community benefits. Primary purpose must not be financial gain.		
Activities	Generate electrical energy and consume, store, or sell the energy it produces. Furthermore, it may engage in aggregation and provide energy services for its members, such as energy efficiency services or charging services for electric vehicles.		Share Electricity
Technology and project size	Electricity	Renewable Electricity and Heat	Electricity
Registration and monitoring	Load profile meter or smart meter. Registration required.		

3 Overview of the policy framework for Bulgaria

3.1 Climate - energy plan and policy

3.1.1 Integrated Energy and Climate Plan 2021 -2030

In accordance with the requirements of the "Regulation (EU) 2018/1999 on the governance of the Energy Union and climate action", the "Integrated Energy and Climate Plan 2021 -2030" was adopted, according to which Republic of Bulgaria aims to achieve by 2030 at least 27.09% share of energy from RES in gross final energy consumption. The national target thus set in the IPEC should be achieved by increasing the consumption of energy from RES in all three sectors: **electricity, heating and cooling, and transport.**

According to IPEC, in the period 2020-2030 the share of energy from RES in gross final energy consumption will increase from 20.18% to 24.73%. Between 2020 and 2025, the increase is mainly due to the construction of new RES capacities, while the growth from 2025 to 2030 is due to measures for increasing energy efficiency in final energy consumption. Further development is expected after 2030, with the share of RES energy in 2040 at almost 28%.

The largest increase is expected in the electricity sector, where the share of electricity from RES could reach 29.60% in 2030 and 32.02% in 2040.

In terms of heat generation, an increase in installed capacity is expected in 2025, followed by a significant decrease due to decommissioning of capacity (combined heat and power plants), resulting in a net installed capacity of 5.7 GW in 2030. The ratio between combined heat and power plants and heating plants is expected to remain stable (80% for combined heat and power plants and 20% for heating plants) until 2030. Between 2030 and 2040, capacity from combined heat and power plants and heating plants is expected to be decommissioned, with a net installed capacity in 2040 of 3.4 GW from this type of plant.

In terms of renewable energy used in the transport sector, diversification of sources is expected through the introduction of new generation biofuels (30.3 Kote in 2030) and hydrogen (3 Kote in 2030). The share of electricity from renewables is projected to almost triple in 2030 compared to the level in 2020.

In terms of the use of energy from RES, it is expected that new hydroelectric power plants and Photovoltaic power plants will be constructed by 2030. Thus, the electricity production from hydroelectric power plants will reach almost 15% of the gross electricity production from RES, while that from FPPs will be over 37%. In addition, new biomass capacities are also expected to be introduced, with electricity generated from them reaching 1 347 GWh by 2030. Electricity generation from hydropower is expected to remain unchanged until 2030. Beyond 2030, only development is expected in the case of hydroelectric power plants in the outlook to 2040, while installed capacity from other RES is maintained.

Although the use of solar installations is expected to increase, the share of solar energy in heating remains low (around 2.6% in 2040). The use of biomass will increase in absolute terms throughout the period, but its share in total heat consumption from RES will decrease, reaching 82% in 2040 from almost 88% in 2020

3.2 Legislative national laws/ acts/decrees

3.2.1 Strategy for Sustainable Energy Development

The leading national policy document guiding the energy sector of Bulgaria, including the increase of the share of RES' projects is the Strategy for Sustainable Energy Development until 2030 with a horizon until 2050. This Strategy encompasses a broad spectrum of energy policy measures aimed at accelerating the growth of the RE sector, as well as measures aimed at strengthening energy supply security, curbing energy losses, enhancing energy efficiency, reducing reliance on fossil fuels, and amplifying domestic generation.

To achieve the national target for the share of renewable energy in gross final energy consumption by 2030 (27.09%), the following sectoral distribution is planned:

- 30.33% share of renewable energy in the electricity sector;
- 42.60% share of renewable energy in the heating and cooling sector;
- 14.2% share of renewable energy in the transport sector.

In the period 2020-2030, renewables are expected to increase the net installed capacity for renewable electricity generation by 2645 MW. This growth is accompanied by an increase in the net installed capacity of PV by 2,174 MW, with WtHP by 249 MW and biomass-fired EGUs by 222 MW.

To achieve the 14.20% share of renewable energy in the transport sector, the uptake of new generation biofuels, renewable liquid and gaseous transport fuels of non-biological origin, recycled carbon fuels and renewable electricity supplied to the road and rail transport sector will be promoted.

For the use of electricity from renewable sources in transport, efforts will focus on deploying electric mobility, renewable sources and stimulating the use of public electric transport, as well as accelerating the integration of advanced technologies in the rail sector.

With the latest amendments to the Energy Act (EA) and the Renewable Energy Act (REA), an attempt was made to bring the national legislation of Bulgaria in line with the

provisions of the European Directive on the promotion of the use of RES electricity (2018/2001).

3.2.2 Law on Energy

The pivotal legislation governing projects within the energy sector is the Law on Energy. The Law on energy sets the basis for the development of the different subsectors of the energy sector, including the sector of renewable energy.

The leading political role in the national transition to green energy and the establishment of stimulating conditions for community energy projects belongs to the Minister of energy. The Minister of Energy has the power to implement measures to develop efficient heating and cooling infrastructure and/or to support the development of high efficiency cogeneration and the use of waste heat and cooling generated from waste heat and renewable energy sources. The Minister shall also determine the new electricity generation capacity required to meet the renewable energy share of gross final energy consumption obligations.

The National Energy Regulator - the Energy and Water Regulatory Commission determines annually, by 30 June, premiums for electricity from renewable sources and from high-efficiency combined production of electricity and heat produced by power plants with a total installed electrical capacity exceeding 500 kW. The Commission shall lay down measures for access to the grid for electricity storage facilities, including the removal of barriers that hinder access to the electricity market for the operators of those facilities and for renewable energy producers.

To financially incentivize and sustainably develop the renewable energy sub-sector, a premium mechanism was introduced in the Energy Act to replace the previous feed-in tariff mechanism. Producers of electricity from renewable energy sources with a total installed capacity of 500 kW to 1 MW, and 1 MW to 4 MW, enter a contract with the Electricity System Security Fund to be compensated with a premium for the electricity they produce up to the amount of their determined net specific electricity production. The premium shall be granted until the expiry of the term of the relevant long-term purchase contract.

3.2.3 Renewable energy law

The Renewable Energy Act is the main legal act regulating public relations in renewable energy. It transposes Directive 2009/28/EC on promoting the use of energy from renewable sources.

The Law defines:

- The national renewable energy target. statistical transfers, joint projects and joint schemes;
- Conditions to produce energy from renewable sources;

- Administrative services for the investment process for the construction of renewable energy facilities;
- Connection of renewable energy power generation sites;
- Purchase, transmission and distribution of electricity from renewable sources;
- Guarantees of origin for renewable energy;
- Requirements for the production and consumption of renewable energy in transport, renewable liquid and gaseous transport fuels of non-biological origin, recycled fuels in transport, biomass fuels, electricity from gaseous and solid biomass fuels.

The Law formulates the obligations of officials, state authorities and local self-government bodies in renewable energy production.

3.2.4 The Electricity Trading Rules

Another significant legislative framework relevant to energy projects are the Electricity Trading Rules issued by the Energy and Water Regulatory Commission and regulating the structure of the electricity market and the conditions for participation in the electricity market of all participants, including renewable energy producers.

The rules include provisions aimed at protecting the interests of consumers while promoting the development of an integrated, competitive, flexible, fair and transparent electricity market in Bulgaria that meets the norms of the broader electricity market in the European Union.

2.2.5. Important subordinate regulations

In addition to these acts specifically regulating projects in the energy and renewable energy sectors, several other legislative measures are pertinent to the implementation of renewable energy projects:

- Ordinance No. RD-16-1117 on the conditions and procedure for the issuance, transfer, revocation and recognition of guarantees of origin for energy from renewable sources
- Regulation No. E-RD-04-2 on energy efficiency audits, certification and energy savings assessment of buildings
- Ordinance No E-RD-04-2 on energy consumption and energy performance indicators for buildings
- Regulation on the circumstances subject to entry in the registers under the Energy Efficiency Act
- Ordinance on the conditions and procedure for issuing, transferring, revoking and recognising guarantees of origin for energy from renewable sources
- Regulation on the calculation of the total share of energy from renewable sources in gross final energy consumption and the consumption of biofuels and energy from renewable sources in transport
- Regulation No E-RD-04-1 on the calculation of the share of energy from renewable sources in gross final energy consumption and the share of renewable energy in transport

3.3 Definition and features of CEC and REC

Feature	CECs	RECs
Legal form	The Citizen Energy Community is **not** provided for in the Bulgarian legislation.	Any legal form.
Participation	n/a	All end consumers, without limitations
Effective control	n/a	Control by the members in accordance with the chosen legal form based on equal and non-discriminatory treatment.
Location of members	n/a	Members must be the end consumers, located anywhere in Bulgaria. If the participant is an enterprise, its main field of business must be different from the field of their activity in the REC
Purpose	n/a	The primary purpose is to produce, store and exchange energy from renewable sources and to access all energy markets.
Activities	n/a	RECs are focused on expansion and use of all forms of renewable energy sources: generation of renewable energy, consumption, storage, participation in energy markets.
Technology and project size	n/a	No limit on REC site or installed production capacity.
Registration and monitoring	n/a	There is no registration and monitoring mechanism for RECs.

4 Overview of the policy framework for Croatia

4.1 Climate - energy plan and policy

The primary strategic document guiding the advancement of Renewable Energy Source (RES) projects in the Republic of Croatia is the **Energy Development Strategy until 2030**, with a perspective extending to 2050 (OG, No. 25/2020). This strategy marks a

significant stride towards realizing the vision of a low-carbon economy. It encompasses a broad spectrum of energy policy measures aimed at bolstering energy supply security, progressively curbing energy losses, enhancing energy efficiency, reducing reliance on fossil fuels, and amplifying domestic generation and utilization of renewable energy sources.

The strategy delineates the pace of transition for the energy sector, envisioning a transformation in current technologies, apparatus, transportation, energy consumption, and other pertinent factors. By the conclusion of the strategy's timeframe, energy generation, transportation, transmission, distribution, trade, and management are anticipated to evolve substantially from present practices, signalling a gradual shift towards a decentralized, digitalized, and low-carbon system.

This development in the energy sector aligns with global imperatives to mitigate the impacts of climate change. The strategy serves as Croatia's contribution to global efforts aimed at reducing carbon dioxide (CO2) and other greenhouse gas emissions, in accordance with its international commitments.

In December 2019, Croatia submitted its integrated National Energy and Climate Plan for the 2021-2030 period to the European Commission, as mandated by the Regulation of the Governance of the Energy Union. Subsequently, in April 2021, the Croatian Government endorsed the proposal for the Low-Carbon Development Strategy, which received approval from the Croatian Parliament in early June 2021.

4.2 Legislative national laws/ acts/decrees

4.2.1 Energy Act

The pivotal legislation governing projects within the energy sector is the **Energy Act** (OG, No. 120/12, 14/14, 95/15, 102/15, 68/18). According to this act, energy generation entails the physical or chemical conversion of fuel or renewable energy into various forms of energy, including electrical or thermal energy.

An Energy Entity is defined as a legal or natural entity engaged in one or more energy activities and possessing the requisite license to conduct such activities. Energy activities, as outlined in the Energy Act, encompass a range of functions, including energy generation, transfer (i.e., transport), storage, distribution, facility management, supply, trade, and organization of the energy market.

Entities, whether legal or natural, are authorized to perform energy activities only upon obtaining a valid permit, commonly referred to as a license for electricity activity. This permit issuance is contingent upon several criteria, including the entity's registration for the intended energy activity, technical qualification, possession of the necessary professionally qualified workforce, access to requisite financial resources, absence of recent license revocations, and a clean criminal record for management board members or responsible individuals.

The specifics regarding the conditions for acquiring an electricity license, the duration of the license validity, and the procedures for maintaining a register of issued and revoked licenses are stipulated by the Ordinance on licenses for energy activities and the management of the license registry (OG, No. 88/15, 114/15, 66/18).

4.2.2 Electricity market Act

Another significant legislative framework relevant to energy projects is the **Electricity Market Act** (OG, No. 111/21), which establishes regulations governing the production, transmission, distribution, and storage of electricity. This act also includes provisions aimed at safeguarding consumer interests while fostering the development of an integrated, competitive, flexible, fair, and transparent electricity market within the Republic of Croatia, in alignment with the broader European Union electricity market.

Under this Act, licensed electricity generators are authorized to produce electricity in either base or variable modes, including the generation of electricity to cover losses in the transmission and distribution networks, as well as to balance the electricity system (referred to as balancing energy) and provide ancillary services.

However, certain legal or natural entities may engage in electricity generation activities without requiring a license for energy activities. This exception applies if they adhere to professional management and operation standards of power plants in accordance with technical regulations, requirements, and conditions. This exemption is limited to activities such as electricity generation using facilities with a combined installed capacity up to and including 500 kW, generation exclusively for self-consumption, or generation during trial operations of their facilities.

A significant amendment introduced by the Electricity Market Act, particularly impacting Renewable Energy Sources (RES) and electricity storage facilities, is the introduction of energy approval. Energy approval is now obtained through a public tender at the project's inception. Exceptions to the public tender requirement for energy approval include situations involving the reconstruction or revitalization of existing production or energy storage facilities, projects concerning geothermal power plants with contracts for exploiting geothermal waters, and instances where investors have resolved ownership disputes over the land designated for production plant construction.

4.2.3 Act on Renewable Energy Sources (RES) and High Efficiency Cogeneration (HEC)

The foundational legislation governing the realm of renewable energy is the **Act on Renewable Energy Sources and High-Efficiency Cogeneration** (hereinafter referred to as the RES Act), which was enacted in December 2021.

The RES Act aims to incentivize the production of electricity and heat from renewable energy sources (RES) and high-efficiency cogeneration (HEC). It seeks to promote the localized production of electricity and heat from RES and HEC while increasing their share in the total final energy consumption. Additionally, the RES Act endeavours to align with the objectives of the Republic of Croatia and contribute to the European Union's goals for decarbonization, in accordance with the EU's international commitments.

It acknowledges the strategic importance of utilizing RES and HEC for the Republic of Croatia's interests.

The RES Act sets forth timelines for the adoption of subsidiary legislation, ranging from three to six months from its enactment. This includes regulations governing incentive quotas, methods for acquiring and terminating **Feed-in Premium** (FiP) and **Feed-in Tariff** (FiT) rights, utilization of RES and HEC, management of information in the RES Register, rules for the ECO balance group, among others.

For reporting, statistical purposes, and facility classification, renewable energy sources are categorized into distinct types, including solar energy, wind energy, hydropower, geothermal energy, biomass energy, offshore energy, and unspecified or other RES.

An RES Project is defined as a registered production project in the Register of Renewable Energy Sources, Cogenerations, and Privileged Electricity Generators (hereinafter referred to as the RES Register). The RES Register maintains records of RES and HEC projects, power plants utilizing RES and HEC, and privileged electricity generators within the Republic of Croatia's territory.

One of the key advancements introduced by the new Law is the establishment of **Energy Communities**, specifically focusing on renewable energy communities. These communities are defined as legal entities meeting specific criteria:

- They are established based on open and voluntary participation in accordance with national laws.
- They operate independently and are overseen by shareholders or members situated in proximity to renewable energy projects owned or developed by the entity.

Shareholders or members of these communities consist of natural persons, small and medium-sized enterprises, or units of local or regional self-government.

The primary objective of these communities is to deliver environmental, economic, or social benefits to their shareholders or members and the local areas in which they operate, rather than focusing solely on financial gain.

Renewable energy communities are granted several rights under the new Law, including:

The ability to produce, consume, store, and sell renewable energy, including through agreements for purchasing renewable energy.

Sharing renewable energy produced within the community among its members, subject to certain conditions, while preserving the rights and responsibilities of community members as users.

Accessing various energy markets directly or through aggregation in a fair and equitable manner.

Additionally, it's worth noting that according to the Regulation on the share in net delivered electricity of privileged electricity generators, electricity suppliers are obligated to acquire 40% of the net delivered electricity from privileged electricity generators through the electricity market operator. This regulation is subject to amendment following the enactment of the new RES Act within a three-month timeframe.

4.2.4 Other relevant Legislative Acts

Another crucial piece of legislation is the **Act on Exploration and Exploitation of Hydrocarbons** (OG, No. 52/18, 52/19), which governs the utilization of geothermal waters for energy generation purposes.

Geothermal waters encompass waters from which accumulated heat can be harnessed for energy production. However, this excludes geothermal waters utilized for medicinal, balneological, recreational, or other regulated purposes under water regulations, as well as groundwater employed via heat pumps for heating or cooling in low-temperature distribution systems, regulated under building regulations. Developers intending to utilize geothermal waters for energy purposes must secure a permit for geothermal water acquisition and enter into a contract with the relevant ministry for geothermal water exploitation, adhering to procedures outlined in the aforementioned law.

Furthermore, obtaining a concession for the economic use of water is imperative for hydropower utilization in electricity generation. This process is governed by the **Water Act** (OG, No. 66/19) and the **Act on Concessions** (OG, No. 69/17, 107/20).

In addition to these acts specifically regulating projects in the energy and renewable energy sectors, several other legislative measures are pertinent to the implementation of renewable energy projects:

Acts	Description
Act on Spatial Planning	Relevant for obtaining the location, construction and the use permit.
Act on Construction	
Act on Agricultural Land	Relevant for the use of state-owned agricultural land.
Act on Ownership and Other Real Rights	Regulates the right of land use based on a construction right.

Act on Concessions	Regulates the right of land use based on the use of a concession.
Act on Environmental Protection	Include provisions on the protection of the environment, nature and ecological networks and obtaining related permits.
Act on Nature Protection	
Act on Companies	Regulates how to establish a project entity that can be either a company or craft.
Act on Crafts	
Act on Civil Obligations	Regulates the provisions of contracts between legal and/or private parties.
Act on State Property Management	Regulates provisions on state property management, including real estate for possible project sites.

4.3 Definition and features of CEC and REC

Feature	CECs	RECs
Legal form	In the law of the Republic of Croatia, the Citizen Energy Community is a legal entity based on voluntary and open participation and is under the effective control of members or shareholders who are natural persons, local authorities, including municipalities, or small enterprises, and whose primary purpose is to provide environmental, economic or social benefits to its members or shareholders or local areas in which it operates, and not to generate financial profit and who can participate in almost all activities related to the production and use of electricity.	The renewable energy community encompasses and focuses on the expansion and local use of all forms of renewable energy sources (electricity and heat). Primary purpose is to provide environmental, economic or social benefits to their shareholders or members or the local areas in which they operate, rather than financial profits.
Participation	Entities performing energy activities (production, distribution, supply, consumption, sharing, storage of electricity, provision of energy services, etc.). Non-commercial players in the market. Organizers of joint citizens' actions to enable an impact on the energy system. CSC - collective switching campaigns,	Natural persons, small and medium sized enterprises, local or regional authorities

	actors collectively invest in solar power plants, are owned by energy supply companies, distribution networks, etc.	
Effective control	Effective control by shareholders and members of the community who are not medium-sized enterprises and large enterprises, and at the same time, the shareholders and members of the CEC exercise voting rights independently of the ownership of shares, according to the principle 'one member one vote'	Effective control by individual members, local authorities, and public entities not engaged in large-scale commercial activities and for whom energy is not the primary economic activity.
Location of members	Anywhere in Croatia	Near production facility, on the same substation.
Purpose	The primary purpose is to provide environmental, economic or social benefits at the community level. Control by production from low voltage to high voltage	The primary purpose is to provide environmental, economic or social benefits at the community level Control of production from sustainable energy sources and balancing of the power grid
Activities	CECs can execute following activities focused on electricity domain: generation, distribution, supply, consumption, aggregation storage, EV charging, flexibility and energy efficiency services.	RECs are focused on expansion and local use of all forms of renewable energy sources (electricity and heat): generation of renewable energy, consumption, storage, exercise home automation, energy efficiency, EV charging and supply and flexibility services.
Technology and project size	No limit on CEC site or installed production capacity. Can participate in all electricity markets directly or through aggregation in accordance with the rules governing individual electricity markets.	Up to 500 kW of total connected power of installed production capacity for REC.
Registration and monitoring	The registration and monitoring of CECs is in the register of CECs managed by HREA – national regulatory agency	The registration and monitoring of RECs is managed by HREA – national regulatory agency

4.4 Obstacles and challenges

Regardless of the justified or unjustified reason that there is not yet a single functional energy community in Croatia (Q1/2024), the fact is also that citizens bear the costs due to missed opportunities. This, of course, will not be a surprise in a country of enormous potential and opportunity, but it is necessary, in the interest of the entire community, to draw attention to only some authors of significant obstacles whose overcoming could significantly accelerate the emergence, development and growth of the energy community market in Croatia.

4.4.1 Low, politically determined, electricity price

The sale of electricity at a politically determined price below its minimum sustainable value, as is now case in Croatia, has at least two negative characteristics. The first negative feature relates to the inability to meet the any profitability parameters for the electricity supplier. This deficit in the supplier's business, which arises due to the disproportion of the structure of assets and sources of financing, will most likely be settled by recapitalization, borrowing or direct transfers from the budget, therefore, all citizens will be a source for settling the deficit, those same citizens who consume electricity at an unsustainable price.

The second issue is related to the potential of investments in renewable energy production systems - investment of citizens in the production and sharing of civic energy. Namely, the low (unsustainable and politically determined) price of electricity from the network does not stimulate citizens or energy communities to find a solution to the availability and affordability of electricity produced by their own infrastructure. Rational behaviour will be the one that prefers to "do nothing" and take advantage of the low-cost energy supply from the network. Unfortunately, the consequences of this "state concern for citizens with low prices for electricity" will be paid by these citizens themselves because they allowed the "state to take care of them" and failed to do what is really best on them – to invest in long-term sustainable solutions, improve resilience, and their own energy produced is certainly part of a set of these possibilities.

4.4.2 Obligation to establish a legal entity for citizens connected to the same transformer station

During the summer of 2023, the Government of the Republic of Croatia adopted amendments to ZTEE in the part related to the transformer connectivity of its members within energy community. Until these recent changes, members of the energy community could only be local entities that were connected to the same transformer station. Such a provision was contrary to the logic and meaning of establishing sustainable energy communities. However, this provision has changed (after almost 2 years since the entry into force of ZTEE and numerous NGO initiatives) and now members of the energy community can be located anywhere on the territory of the Republic of Croatia. But unfortunately, there remain limits that define the maximum

power of connected plants in the energy community, which is currently limited to only 500 kW, while in most EU member states this limit is significantly higher and is around 6 MW.

The size of the energy community is critical for achieving its financial sustainability and numerous recent articles show that small energy communities are simply not sustainable due to the limited amounts of energy exchanged and high operating costs caused by inadequate regulations of the Republic of Croatia (for example, the requirement that every energy community, independent of its size, must have at least one full-time employee).

4.4.3 The issue of compensation for the use of the distribution and transmission network

Although the sharing of energy among members of the energy community is virtual, i.e. accounting and there is no actual movement of electricity from one member of the community to another that may cause the wear and tear of the existing network, it is reasonable to accept that the price of sharing energy is burdened with a reasonable part of the cost of investing and maintaining the distribution and transmission network. Allegedly, the competent institutions must only calculate these prices for the use of the network and determine its fair value. In doing so, it would be truly incentive if the fees for the use of the transmission and distribution network for energy sharing within the energy community were generally reduced compared to the usual fees and the fees for the use of the network among community members connected to the same substation less than the fees for sharing energy within the community among members connected to remote substations. It is the general opinion of the energy communities that the possibility of establishing energy communities should not be understood as an opportunity for new revenues of the company managing the distribution and transmission network by charging energy sharing processes on the same basis that charge sourcing services to users who do not have any of their own sources of renewable energy and/or renewable energy storage systems and who are not members of energy communities.

Tariffs for the use of the transmission and distribution network should be incentive, at least slightly less than existing network charges. For example, the lowest tariffs could be for the use of the grid among members of the energy community connected to the same transformer station. Compared to these tariffs, they could be slightly higher for members who share energy in the administrative area of the city or county, and the third level of tariffs for members who share energy in the territory of the Republic of Croatia. As regards sharing costs, the provision of Article 26.16 of ZTEE, which stipulates that the distribution system operator provides energy sharing services, is particularly important. Indeed, the distribution system operator should not charge for sharing billing services because those accounts are provided to the operator by the energy community for each member individually.

Unfortunately, none of the mentioned issues have been resolved, which brings the energy community into a state of complete inability to perceive the economic viability of their establishment, as well as determining the basic economic parameters for the functioning of energy communities.

4.4.4 The key to sharing energy among members

The provision of Article 26.19 states that the energy community should provide the distribution system operator with the key to sharing energy among community members. In practice, this will mean that the energy community will agree on the key to sharing among its members, define this key somewhere, and according to this, predetermined key, the distribution system operator will calculate the monthly bill. Thus, the regulation implies a fixed relationship (key) of energy sharing. It implies that community members, e.g., hundreds of them, will share energy in the same way every day, every week, every month. That at any moment there will be known that member with excess energy that he shares with always the same members with a lack of energy. But in nature, different processes occur. Members of the community, in fact, have similar dynamics of energy production (members with the same production facilities), but can have distinctly different dynamics of energy consumption. The flows of those members who cede their surpluses and those who claim energy above their current consumption change from second to second. Today, there are various software solutions that enable the management and reporting of these real dynamics of energy sharing.

At the moment, the concept of dynamic keys that allow more efficient management of energy flows in communities and thus their economy is not defined at all in laws or accompanying acts.

4.4.5 Legal form of the energy community

In the Report on the conducted consultation with the interested public on the Draft Law on Amendments to the Law on the Electricity Market with the Final Draft Law (PZ 516), one of the proposals was focused on the legal personality of the energy community. It has been proposed that in addition to the text related to the action on the basis of regulations governing the financial operations and accounting of non-profit organizations, the possibility of legal forming cooperatives that are established and operate under the **Law on Cooperatives** should be added.

The proponent of the amendments to the law rejects the comment with the proposal because "*The Energy Community, on the principle of cooperatives, does not meet the conditions required and primarily because the cooperative as a way of organizing represents cooperatives or natural members, it is not possible to involve local communities and others that need to be enabled. How the concept of the energy community should be organized in such a way as to contribute to the wider well-being of the community and not to be focused solely on profit or profit. Therefore, we believe*

that it is not possible for the energy community to use the concept of a cooperative that can be organized on the principle of a company and as far as we know the company functions exclusively on the principle of earnings and here this benefit would of course be directed only to members of the cooperative. The goal of the energy community is designed to achieve broader social benefits and it is important that, in addition to citizens, some other organizational forms participate in it, i.e. some local community or even a regional community. This certainly achieves and ensures that social, environmental and sociological benefits will be above the well-being of the cooperatives themselves. Again, we note that the goal of the cooperative is the well-being of the cooperatives or their profit. Due to the fact that the goal of the energy community is not only the well-being of cooperatives, but also to improve life and better conditions for all citizens and not just cooperatives. It is precisely the promotion in a way that not only renewable sources are encouraged, which is sometimes the main goal of the renewable energy community here with the energy community, is a very important emphasis on the social component and encouraging the association of vulnerable and vulnerable groups of people with poorer social or health status, which would be impossible for the cooperative because only economic well-being for cooperatives should be in focus there."

This justification for the rejection of the proposal, except that it does not comply with Directive (EU) 2019/944, which has been in force since 5 June 2019, which on point 44 of the preamble states "*Member States should be able to ensure that citizens' energy communities are subject to any form, for example an association, cooperative, partnership, non-profit organisation or small or medium-sized enterprise, as long as such an entity may, acting on its own behalf, exercise rights and be subject to obligations*", it is also incorrect in some parts. Without going into a broader elaboration, several important determinants will be highlighted:

1. The legal form should be irrelevant. The energy community operates in accordance with the regulations, but in its business it also bears certain costs (for example, fees for the transmission and distribution network, business records, procurement and maintenance of sharing programs, management services of the community legal entity, perhaps salaries of employees if it is a community with a larger number of members, costs of purchasing energy devices, costs of preventive and reactive maintenance of the plant, insurance premiums and the like). These costs should be settled from certain sources.
2. The Directive draws attention to the fact that national rules should not restrict the legal form of the community (*'Member States should be able to ensure that citizens' energy communities are subject to any form, for example an association, cooperative, partnership, non-profit organisation or small or medium-sized enterprise'*), and Croatian public management explicitly denies the Commission's framework. Why this is so remains imaginary can only be guessed, but it is certainly a pity that Croatian citizens are at a disadvantage in relation to remaining EU citizens.

3. The public authority responsible for ZTEE justifies its rejection of the proposal that a cooperative may also be a legal form of the Energy Community by justifying that *"... because the cooperative as a way of organizing represents cooperatives or natural members, it is not possible to involve local communities and others that need to be enabled ...*". This really does not correspond to the practice of cooperatives in the Republic of Croatia because there are cooperatives whose members are public bodies. After all, the payment of excess income over expenditures to its members in no regulation is mandatory. The cooperative does not have to pay excess income over expenditures to its members if the rules of the cooperative so define it.
4. Cooperative (and company) as a legal form of the energy community is also rejected on the grounds that *"... here with the energy community is very important emphasis on the social component and encouraging the association of vulnerable and vulnerable groups of people with poorer social or health status, which would be impossible for cooperatives because there should be focus only on economic well-being for cooperatives.*" This claim is neither accurate nor life-like, and least sustainable. Social activities come at a price. It can be settled with donations, subsidies from public authorities, increased membership fees of community members, but also surplus revenues generated from the sale of some legally permitted activities over expenditures.

5 Overview of the policy framework for France

5.1 Climate - energy plan and policy

5.1.1 SNBC for carbon neutrality & PPE for the decarbonization of the energy sector

The path towards carbon neutrality by 2050 is given by the National Strategy for Low Carbon (SNBC). In compatibility with the SNBC, the Multiannual Energy Program (PPE) sets the path towards the decarbonization the energy mix and the development of renewable energies for 10-year periods.

SNBC and PPE were established by Decree in April 23 of 2020. Governmental work on energy and climate have taken importance with the Law for the Ecological Transition for the Green Growth of 18 August 2015, in the wake of the Paris COP agreement. Government guidelines were enriched by the Law on Energy and Climate of 8 November 2019, followed by a public consultation in February 2020.

SNBC provides guidelines for implementing, across all sectors, the transition to a low-carbon, circular, and sustainable economy. It defines a trajectory for reducing greenhouse gas emissions until 2050 and sets short- to medium-term targets: carbon budgets. Public decision-makers, both at the national and local levels, must take it into account. SNBC aims at decarbonizing and diversifying the energy mix, especially through the development of renewable energies (decarbonized heat, biomass, and decarbonized electricity).

First adopted in 2015, the SNBC was revised in 2018-2019 and raised the ambition by setting the aim for a carbon neutrality by 2050 (the first SNBC aimed for a factor of 4, i.e., a 75% reduction in GHG emissions by 2050 compared to 1990).

PPE is an “operational and engaging tool for public authorities” which “outlines the measures that will enable France to decarbonize its energy sector to achieve carbon neutrality by 2050”. It sets objectives over a 10-year period.

Currently objectives are set for the period 2019-2028 according to the Law for Energy Transition for Green Growth of 18 August 2015, and the Law on Energy and Climate of 8 November 2019.

5.1.2 Objectives of PPE for PV installations and self-consumption

According to the PPE, PV electricity is supposed to increase drastically, mobilizing both the State, companies, individuals, and citizen groups such as CEPs.

The PPE sets the priority of PV production on large roofs, carpots and ground plants because it is the most competitive sector today, particularly compared to small rooftop systems.

Small and medium-sized rooftop installations (less than 100 kWp) are less competitive, but they make the most of urban centre such as Paris. 300 MW of such installations should be installed each year by 2028, and projects should be directed towards self-consumption.

Self-consumption is recognized as a reality and a way to achieve PV production objectives in areas where small and medium-sized roofs are the norm. The PPE says:

> *"A significant trend is underway and will structurally reshape the energy landscape in France in the coming years: the decentralization of energy production, which will occur within local territories and directly at individual homes through the massive development of solar photovoltaics. These renewable and increasingly competitive sources (even though the cost of small photovoltaic installations remains high) will lead to self-consumption and self-production, rely on less used but smarter grids, and require new spatial planning as well as a rethought governance of energy systems. The development of self-consumption particularly requires that actors have visibility on the applicable framework and the various factors that could influence the profitability of self-consumption operations."*

Support measures for Collective Self-Consumption are taken. Relevant to dense urban centers are the two following measures:

- *"Clarify the framework applicable to the third-party investor model, where the consumer is not the owner of the installation but still benefits from the production, to align it with the individual self-consumption framework;*
- *Open new possibilities for collective self-consumption and facilitate their financing".*

Objectives of PPE	For 2023	For 2028
RE production	73,5 GW	101 to 113 GW
PV production	20,1 GW	35,1 GW to 44 GW
PV production by small and medium size building roof installations (< 100kWp)	NC	300 MW installed/year
Self-Consumption sites	200 000 sites in total Among which 50 sites of CSC	NC

Table: Summary of objectives from the 2022 French Multiannual Energy Program (PPE) relevant to DISCOVER. Source: Summary of the Multiannual Energy Plan - 44 pages. Last consulted in June 2024.

The PPE summary does not give objectives for Energy Communities, and measures in favour of the participation of citizens are not developed further than the following general

statement: "*support the development of participatory investment in projects by citizens and local communities".*

5.1.3 The introduction of Energy Communities in French policy

Before the European Clean Energy Package discussions started, there were projects in France referred to as "citizen energy projects based on governance models with local control by citizens and local authorities" by the Government. These projects were then mostly about participation, collective self-consumption (CSC) and crowdfunding.

The European Union directives of RED II in 2018 and IMED in 2019 harmonized these projects under the umbrella of Energy Communities. France has since then been taking steps to get the enabling framework for ECs into the domestic law.

The Energy Code was updated by the Law for Energy and Climate of **8 November 2019** (which gave a definition of RECs), the Ordinance of **3 March 2021** (which gave a definition of CECs) and the Law for the Acceleration of Renewable Energies of 10 March 2023 (which clarified both of their definition in order to facilitate their implementation).

The SNBC and the PPE mention citizen energy projects in broad terms but more specific policy measures were established by the Ministry of Ecological Transition in November 2021 within a dedicated Roadmap. The roadmap was the outcome of a working group of experts supervised by the Ministry.

According to the Energy Communities Repository, in its Overview of the policy framework of August 2023, "it results in a somehow complex framework" in France.

However, according to AMORCE association, in its interpretation note of February 2024 aimed at local authorities, Energy Communities are a strong asset for their policies.

> "*The energy community was conceived as the most accomplished and optimal participatory project because it is no longer just about participating in renewable energy production, but about considering a performant system coupling production, storage, consumption, management, and aggregation, on a larger scale. Energy communities are intended to go further than participatory renewable energy production projects and collective self-consumption projects. It's really about creating an ecosystem involving a plurality of local actors working towards the same goal: deriving environmental, economic, or social benefits for themselves and their territory."*

Let us look back at French policy towards so-called "citizen energy projects based on governance models with local control by citizens and local authorities".

5.1.4 The Ministry Roadmap for citizen renewable energy projects

The SNBC and the PPE do almost not mention citizen energy projects, but specific policy measures were established by the Ministry of Ecological Transition in **November**

2021 within a dedicated Roadmap. The roadmap was the outcome of a working group of experts supervised by the Ministry.

In November 2021, France counted 352 sites of local citizen energy projects. The Roadmap has set an objective of 1000 sites by 2028. It has taken nine other measures to achieve this objective, which can be summarized as follows in three blocks.

- The next PPE should include a roadmap that will account for the development of ECs. National support schemes should be adapted and monitored, and regional and municipal support schemes should be articulated with national ones, in order to avoid double funding.
- Local authorities are the focus of the Ministry Roadmap. They should benefit from a tailored support by energy governance advisors, which number should increase, and they should be equipped with a communication campaign about citizen energy.
- A working group should identify and remove the financial barriers. Grid connection should be accessible to a lower tariff for installations under a certain capacity (500 kWp). A working group should continue discussing possible legal and regulatory evolutions.

The D2_3_Assessment of National support scheme Main findings document gives a quick evaluation of theses 10 measures as of today.

5.2 Legislative national laws/acts/decrees

5.2.1 Climate and energy policy

Law on Energy Transition for Green Growth n°2015-992 of 18 August 2015 was discussed in the context of 2015 Paris COP negotiations. It has set a new framework for the energy transition in France. Objectives in favour of renewable energies and local initiatives were taken, and the Multiannual Energy Program (PPE) was created as a governmental plan for the energy policy.

The target for renewable energy production was set at 32% of the energy mix by 2030, representing a doubling of its share compared to 2012. A fund endowed with 1.5 billion euros was created for the support of local initiatives.

Greenhouse gas emissions were to be reduced by 40% by 2030 and quartered by 2050, final energy consumption was to be halved by 2050 compared to 2012, and the mix of energy production was to be diversified to ensure energy independence. Since then, new laws have raised these targets according to the Clean Energy Package.

Law on Energy and Climate n°2019-1147 of 8 November 2019 has strengthened climate and energy policy and recognized the ecological urgency. The target has been set to achieve carbon neutrality by 2050. PPE was revised according to it, and the National Low-Carbon Strategy (SNBC) was confirmed as a guiding tool.

The law was a transposition of the European texts from the "Clean Energy for All Europeans Package". It has defined objectives for the national energy mix, building energy efficiency, energy and climate governance, and electricity and gas markets.

Article 40 of the Law has defined RECs in the Energy Code. Collective self-consumption projects led by social housing organizations have been facilitated. An obligation to install solar panels on new warehouses, supermarkets, and parking lot canopies was adopted. The legal framework for the environmental assessment of renewable energy projects was simplified in order to facilitate their completion.

Decree n°2020-456 of 21 April 2020 related to the Multiannual Energy Program (PPE) has established the PPE which defines the government's priorities for managing energy in metropolitan mainland France for the period 2019-2028, with the aim of achieving the objectives defined in the Energy Code.

Decree n°2020-457 of 21 April 2020 related to national carbon budgets and the National Low-Carbon Strategy SNBC has revised the SNBC and established carbon budgets for the periods 2019-2023, 2024-2028, and 2029-2033 for each major sector of the economy.

Law on Climate and Resilience n° 2021-1104 of 22 August 2021 reinforced measures in favour of the ecological transition with a focus on social justice. It was a translation of a portion of the 146 proposals from the Citizens' Convention for Climate, which had been convened in the wake of the social protests known as "Yellow Vests".

The Law addressed a large range of activities: consumption and food, production and work, travel and transportation, housing and soil artificialization.

The development of CECs and RECs was pushed forward as part of an effort towards the development of decarbonized energy which also implied the establishment of regional objectives in the Multiannual Energy Programming (PPE) and new requirements for the expansion of PV panels or green roofs.

5.2.2 PV production and electricity market

Law on Modernisation and Public Service of Electricity n°2000-108 of 10 February 2000 **has defined the principle of purchase obligation** in the energy Code (article L314-1) and set that the conditions of purchase would be described in tariff decrees. Tariff decrees are adjusted to current economic conditions and public priorities, and so, regularly repealed and replaced over time.

This law transposes into French law the European Directive 96/92/EC of December 1996 concerning common rules for the internal electricity market. Its purpose is to organize the opening of the French electricity market, including the integration of electricity production from renewable sources.

Tariff Order of 6 Octobre 2021 (five time revised up to date) is the current applicable tariff order for the French metropolitan area. **It has changed access conditions to, and levels of feed-in tariff grids for PV plants**. It has been presented as a turning point in France by PV professionals' representatives.

According to the order, each trimester a new tariff grid is published by the Energy Regulation Commission (CRE). The order sets prices of kWh according to the number and size of projects connected to the grid in the past three months. Prices may vary subsequently from one period to another. It is supposed to be both an incentive for the development of PV and a controlling tool of its market dynamics.

Instruction 2022/D/21120 of 9 Decembre 2022 related to the acceleration of renewable energy production was issued by the three Ministries to State regional authorities to give them a framework to the application of heritage protection rules for PV projects in specific areas (heritage sites, monuments and their surroundings...).

The Ministry instruction was important in its ambition to **contribute to the development of photovoltaic energy while ensuring the preservation of heritage**, by providing better predictability to project developers in the processing of their authorization requests, and ensuring a coherent processing of requests across the entire territory.

5.2.3 Energy communities and self-consumption

Ordinance n°2016-1019 of 27 July 2016, issued pursuant to Article 119 of the Law on Energy Transition for Green Growth of 18 August of 2015, aimed at facilitating the development of electricity self-consumption. **It gave the Energy Code a legal definition of self-consumption,** which consist of a producer consuming all or part of the electricity produced by its installation.

Until then in France, there was no specific framework for self-consumption operations and it was being mentioned as one of the main obstacles to the spread of the model.

The ordinance has introduced the notion of collective self-consumption when several producers or final consumers participate in this operation; these individuals must then form a legal entity (association, cooperative, etc.) created specifically for this purpose. The ordinance has also provided for the development, by the Energy Regulation Commission (CRE), of specific tariffs for the use of public transport and distribution networks for consumers participating in individual or collective self-consumption operations.

Ordinance n°2021-236 of 3 March 2021 **has given the Energy Code a definition of CECs.** RECs had been given a definition already (by the Law of 8 November 2019, see above).

The ordinance aimed at promoting self-consumption, notably by allowing installations to be connected to the public distribution network, whereas they could previously only be connected to the low-voltage network.

The ordinance has transposed various provisions of Directive (EU) 2018/2001 RED II on the promotion of the use of energy from renewable sources, and Directive (EU) 2019/944 IMED on common rules for the internal market for electricity.

Law of Acceleration of Renewable Energies n°2023-175 of 10 March 2023 was to address the delay taken by France regarding the European objectives of renewable energy production.

The law has clarified the enabling framework of both RECs and CECs, stating which entity can participate and introducing the criteria of Autonomy and Effective control.

The law was to facilitate the installation of PV panels on already developed or non-environmentally significant lands, non-residential buildings included, and on agricultural lands. Territorial planning based on “acceleration zones” was put into force for that purpose and several tools were created to facilitate the work of Local Authorities that were made responsible of managing “acceleration zones” (see D2_3_Annex2).

Decree n°2023-1287 of 29 December 2023, issued pursuant to Article 28 of the Law of 10 March 2023, brought details to the definition criteria of ECs.

Autonomy was clarified for both RECs and CECs (so to avoid the financing and governing monopoly of one company within them), and **geographical Proximity** was clarified for RECs' members.

Figure: Timeline of recent main Laws and Acts for renewable energy, focusing on PV production and Energy Communities in France. Sources: photovoltaique.info, legifrance.fr, vie-publique.fr.

5.2.4 Collective Self-Consumption and Energy Communities legal frameworks

A large part of the development of Energy Communities in France is brought about by Collective Self-Consumption operations. It is interesting to delve into the similarities and differences of both legal frameworks.

In France, a self-consumption operation is termed "collective" when there are multiple producers or final consumers, and the supply of electricity is carried out among these actors.

These actors are interconnected within an organizing legal entity, known as a "PMO" in French (Personne Morale Organisatrice). They are situated within a limited perimeter., which is by default the building level connected to the low or medium voltage distribution grid. A CSC operation can be extended to a perimeter of 2 km between the two furthest consumption or production points, if the cumulative capacity of the production installations does not exceed 3 MW, and if all the connection points are connected to the low voltage distribution grid. By exemption in rural areas, the geographical scope can exceptionally be extended to 20 km.

The cooperation of the DSO is necessary to the realization of CSC operations. No licensing is required but the CSC operation needs to be registered by the DSO. The legal entity PMO, the producer and the consumers are contracting with the DSO. Enedis, DSO for the most part of French territory, holds an observatory of CSC operations in the country.

Considering that a REC entity or a CEC entity can be the legal entity in charge of organising a CSC operation (PMO), then, is an energy community different from a collective self-consumption project? AMORCE association answers as follow:

> "*There is not much difference. A collective self-consumption project can be considered a community energy project, but the conditions will then be stricter. A collective self-consumption operation is quite free; it can involve any type of member, and the legal entity in charge of organising the CSC (PMO) does not have any governance constraints. However, a community energy project is not just about self-consumption; it can do more, especially for the CEC: electric mobility, energy efficiency, and building performance.*"

Is a CSC project registered as an energy community, more profitable than a standard CSC project?

> "*Actually, energy communities can self-consume the electricity they produce only within the limits of the collective self-consumption scheme (2, 10 or 20 km, 3 MWp).*"

There is not much difference indeed between the two frameworks.

5.3 Definition and features of CEC and REC

Feature	CECs	RECs
Legal form	All forms of enterprise provided that it is an autonomous entreprise*. Can be a SA (public limited company), a SAS (simplified joint-stock company), a SCIC (cooperative society of collective interest), or an association. * An autonomous entreprise is distinct to a 'linked entreprise', and to a 'partner entreprise' in the sense of European Commission recommendation of 6 May 2003 (2003/361/EC)	
Participation	Open and voluntary participation from all types of actors.	Open and voluntary participation from individuals, SMEs, local authorities and their groups, and associations
Effective control	Effective control by individual members, local authorities, and public entities not engaged in large-scale commercial activities and for whom energy is not the primary economic activity.	Effective control by shareholders or members located close to the renewable energy projects to which it has subscribed and which it has developed. One category of members is presumed to exercise effective control when it owns, directly or indirectly, a fraction of the voting rights higher than 40%, and that no other category directly or indirectly holds a fraction more significant than the one of that first category of members. Individuals constitute a category when there are 20 of them (i.e. 20 citizens or more).
Location of members	No restriction.	Necessity of a geographical proximity between members, depending on the nature of members (mostly the departmental scale, with possibility of a regional, departmental or municipal scale).
Purpose	Providing environmental, economic, or social benefits to its members or to the local areas where it operates, rather than generating financial profits	
Activities	Produce, supply, consume, aggregate, store, and sell the generated electricity or simply take part in it. Access all electricity markets, either directly or through aggregation.	Produce, consume, store, and sell renewable energy, including through renewable Power Purchase Agreements (PPAs). Access all relevant energy markets, either directly or through aggregation.

	Provide services related to energy efficiency, charging services for electric vehicles, or other energy services. Share internally the generated electricity. Energy sharing is allowed, provided that the rights and obligations of final consumers are maintained. In addition, for the sharing of electricity, the scope of this activity falls within the scope of individual and collective self-consumption (CSC). Note: No ownership or operation of a network.	Share internally the produced energy. Energy sharing is allowed, provided that the rights and obligations of final consumers are maintained. In addition, for the sharing of electricity, the scope of this activity falls within the scope of individual and collective self-consumption (CSC). Note: No ownership or operation of a network, except for heating and cooling networks.
Technology and project size	Generation of electricity only from both renewable and non-renewable sources. Project size: Not available.	Use of renewable energies only for the generation of electricity, gas, heating, cooling networks. Project size: Not available.
Registration and monitoring	Not available.	Not available.

Comparison of key definition elements between CECs and RECs in France
Sources: AMORCE (February 2024), Energy Community Repository (August 2023).

6 Overview of the policy framework for Italy

6.1 Climate - energy plan and policy

The general climate – energy plans and policy framework relevant for the launch of RECs and CECs refer to:

- **National Sustainable Development Strategy (NSDS)** – it was first approved in 2017, but in September 2023 was updated and revised. The NSDS aims to integrate the principles of the 2030 Agenda into the Italian socio-economic and political context, offering an action plan to address pressing challenges such as climate change, social inequalities and the promotion of a circular economy.
- **National Energy Strategy (NES)** – it was approved in 2017. The SEN addresses a number of key issues and areas, including diversification of energy sources - the strategy aiming at promoting the diversification of energy sources, reducing dependence on energy imports and increasing the use of renewable sources,

such as solar, wind and hydroelectric. Renewable Energy Communities are mentioned for the first time by the NES Relating to energy efficiency and security of energy supply: the NES aiming at ensuring the security and resilience of the country's energy supply, diversifying sources and promoting energy autonomy. Concerning innovation and energy research: the strategy supports technological innovation and research in the energy sector, encouraging the development and application of advanced and sustainable solutions.

- **National energy and climate plan (NECP)** - it was firstly set up in 2019 and revised in 2023 in line with the enhanced EU goal of reducing net GHG emissions by 55% by 2030 (from 1990 levels) and submitted to European Commission. By June 2024, the updated version will be available. It's the main strategic document guiding Italy's energy policy to 2030. Overall, Italy's PNIEC 2023 proposal aims to achieve a "renewable coverage" of 40,5% of gross final energy consumption by the end of the decade. This is 10,5 percentage points higher than the version approved in 2020. In the electricity sector, the share of total national electricity consumption covered by renewable sources will be 65%. In 2030, the NECP estimates a production of 238 TWh, net of the non-integrable share, the so-called "overgeneration." To meet these targets by the end of the decade, Italian solar energy – photovoltaic plus concentrated solar power – will need to rely on a capacity of 79.9 GW (compared to 52 GW planned in the 2020 PNIEC); wind power on 28.1 GW (compared to 19.3 GW), including 2.1 GW of offshore turbines; geothermal energy on 1 GW (compared to 950 MW); and bioenergy on 3 GW (compared to 3.7 GW in the 2020 PNIEC). The contribution of hydroelectric power, on the other hand, remains virtually stable.
  Italy commits itself to extensive monitoring of existing energy community initiatives and to explore ways that energy communities can support energy-poor households, in particular through indirect intervention
- **National Resilience and Recovery Plan (NRRP) 2021-2026** - The NRRP aims at unleashing the economic growth potential and promoting the ecological and digital transitions. Most of the funds are allocated to renewables, hydrogen, grid and sustainable mobility (EUR 21.9 billion) and energy efficiency and building renovation (EUR 12.6 billion). The NRRP also foresees important reforms, including streamlining administrative procedures for renewable energy installations, reforming hydropower and gas distribution concessions, phasing out regulated electricity prices, and setting the regulatory framework for deploying hydrogen.
- **National Strategy on long term on Reducing Greenhouse Gas Emissions** (LTS) in January 2021. It provides for a radical shift in the energy mix towards massive penetration of renewables, combined with deep electrification of final uses and the use of alternative fuels (hydrogen/e-fuels);
- **Ecological Transition Plan (ETP) to 2050** – it was released in March 2022. The milestones of Italian decarbonization are marked by European commitments: "net zero" by 2050 and a 55% reduction in CO2 emissions by 2030 (compared to

1990), with national targets for 2030 aligned with the "Fit for 55" package of proposals presented by the European Commission in July 2021. The country must simultaneously address a widespread issue of energy poverty, made more evident by the pandemic and affecting 13% of households. The energy system will undergo a profound transformation, in terms of reduced final consumption, driven by increased efficiency particularly concentrated on public and private building stock, and on transportation. The share of electrification in the system will need to progressively approach and exceed 50%. Accelerating the contribution of renewable energies becomes a crucial factor. Their contribution to electricity generation must reach at least 72% by 2030 and cover almost 100% of the total primary energy mix by 2050. To this end, the development of transmission and distribution networks and storage systems will be decisive, as well as the spread of energy communities and the connected role of prosumers, simplifying the procedures for connecting self-produced energy to the grid. In high-emission industrial sectors, the use of hydrogen, bioenergy, and climate-altering gas capture will help achieve decarbonization targets.

- **National plan for electricity grid development –** it was released in 2023. The main pillars are: enable the achievement of the European targets set by the “Fit-for-55” package, promote the integration of renewable sources, develop international interconnections, increase the security and resilience of the electricity system, and invest in grid digitalisation. It provides over €21 billions of investments in the next 10 years to accelerate the energy transition, promote decarbonisation across the Country, reduce dependence on foreign supply sources, and increase the environmental sustainability of the Italian electricity system. The main new feature introduced by the 2023 Development Plan is the Hypergrid network, which will leverage the technologies of the HVDC (High Voltage Direct Current) transmission system to achieve the energy transition and security targets. In addition, Terna has planned five new electricity backbones designed to integrate renewable energy capacity, backed by investments totalling €11 billion. The project involves a major modernisation of the existing power lines on the Tyrrhenian and Adriatic backbones on the mainland and towards the islands, and the construction of new undersea 500 kV connections. With Hypergrid it will be possible to double the exchange capacity between market zones from the current 16 GW to over 30 GW. The development of the direct current backbones will also minimise land use and the impact on the landscape.

6.2 Legislative national laws/ acts/decrees

The main Italian decrees significant for RECs and CECs are:

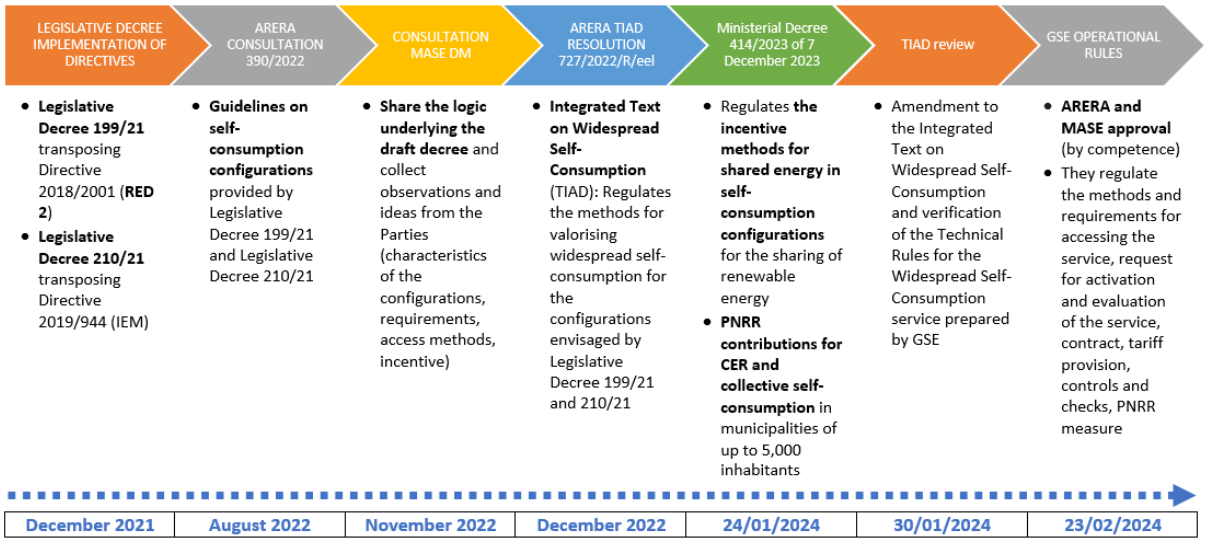
- Law Decree 162/2019 “Urgent provisions regarding the extension of legislative deadlines, the organization of public administrations, and technological

innovation". It introduces RECs and collective self-consumers on an experimental basis

- Legislative Decree 199/2021 “Transposition of EU Directive 2018/2001 on the promotion of the use of energy from renewable sources. The Decree aims at achieving the minimum target of 30% as the overall share of energy from renewable sources in gross final consumption and the reduction of greenhouse gas emissions by at least 55% by 2030.
- Legislative Decree 210/2021 “Transposition of EU Directive 2019/944 on common rules for the internal market in electricity. It identifies administrative schemes for the construction and operation of renewable energy plants. It also defines CECs.
- Resolution 727/2022 - Text on Widespread Self-Consumption
- Ministerial decree 414/2023 - which defines incentive measures for Renewable Energy Sharing Consumption Configurations and for Renewable Energy Communities.
- TIDE ('Integrated Text of Electrical Dispatching'), approved with Resolution 345/2023/R/Eel of ARERA of 25 July 2023, which regulates access to ancillary services by consumers and producers (or aggregates thereof)
- DM 16 September 2023 regulates the mode of sale of electricity from renewable sources in the availability of the GSE.
- Law n.34 on 27th April 2022, on urgent measures to reduce the cost of electricity and natural gas, to develop renewable energies and to relaunch industrial policies. It says that installing solar panels up to 200 kW of total power does not require special permits as they are simple routine maintenance.

Focusing the attention on RECs, the gathered information specific for energy communities gets from GSE portal, overview of the policy framework from the “Energy Communities Repository” and from the report “Ministerial decree on incentives for renewable energy communities and collective self-consumption” by the Infrastructure, Energy and Ecological Transition Focus Team.

The timeline of approval of the main legal documents concerning the RECs in the legislative and regulatory framework is shown in the following picture:



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The gradual process of transposing the EU framework into Italian law took place in 2019 through an initial transitional regulation that paved the way for the current regulation.

In Italy, the notion of RECs and collective self-consumers were introduced on an experimental basis by Law Decree No. 162 of 30 December 2019. RED II was then fully implemented by **Legislative Decree 199/2021**, which definitively regulates RECs and collective self-consumers. The current regulation under Legislative Decree 199/2021 introduced significant changes relating to the development of RECs compared to the transitional regulation, namely:

- it raised the maximum power capacity threshold for incentive-eligible plants in RECs from 200 kW to 1 MW and made it possible for RECs to use up to 30% of existing plants' total power capacity;
- it expanded the territorial scope of RECs from secondary substations to primary substations (medium voltage/high voltage);
- it changed the date when plants and their upgrades would be allowed to become operational from 1st March 2020 (under the transitional regulation) to 16th December 2021 with LD 199/2021's entry into force.

Whereas, CECs have been defined through the **Legislative Decree 210/2021.**

In Autumn 2022, the Minister of the Environment and Energy Security (MASE) and the Italian National Regulatory Agency (ARERA) consulted stakeholders on two implementing acts. On 27th December 2022, with Resolution 727/2022, ARERA approved the Consolidated Text on Widespread Self-Consumption ("TIAD", Testo integrato sull'autoconsumo diffuso), which sets out the regulatory framework for RECs and collective self-consumers. The TIAD confirms the virtual regulatory model, but introduces new definitions and provisions, which are below summarised:

- introduction of specific definitions (i.e. shared electricity) that are relevant for the determination of incentives;

- **the electricity subject to incentives shall be divided for each single plant** in the event that there are several plants for which is different the time period during which the incentives are paid;
- **the referent person** for the Energy Community may also be **another person**, granted by the Energy Community with a **mandate without representation** for a year, tacitly renewable;
- **the role of the GSE is regulated** in relation to the definition of the modalities for the access to the Energy Communities and the determination of incentives.
- Introduction of the obligation for electricity distribution companies regarding the identification of the **perimeter of electrical substation HV/MV** and their publication on their websites, aiming at facilitating the data acquisition by all interested parties;
- **introduction of the principle that multiple renewable Energy Communities may merge into a single Energy Community**.

The TIAD becomes fully operational after the publication of the **decree n. 414** (the so-called CACER Decree) o**n 23rd January 2024** on the website of the Ministry of Environment and Energy Security, which regulates the eligibility conditions for the production of electricity from RES plants integrated into self-consumption configurations and establishes the criteria for the granting of funds from the Recovery Plan for the promotion of RES energy communities.

The TIAD defines seven different types of possible configurations for widespread self-consumption:

- Groups of renewable energy self-consumers acting collectively (in the same building or condominium)
- Groups of active customers acting collectively
- Renewable energy communities (CER in Italian)
- Citizen energy communities (CEC)
- Individual renewable energy self-consumer decentralizes (“a distanza”) using the distribution network
- Active customer "at a distance" using the distribution network
- Individual renewable energy self-consumer "at a distance" with a direct line

For the CACER Decree, the types of configurations that can access the incentive tariff are as follows:

- Distance self-consumer
- Group of self-consumers
- Renewable energy communities

For the CACER Decree, the types of configurations eligible for the NRRP measure benefits are as follows:

- Group of self-consumers
- Renewable energy communities

The implementing rules for the granting of the subsidy have been approved and the GSE has also activated the platform for the submission of applications on 8th April 2024. In accordance with the REC Decree's final provisions, the MEES has adopted a further ministerial decree **on 23rd February 2024** wherein it sets out operational rules on the timing and ways of access to the incentives ("Operational Rules Decree") and on 8th April 2024 the GSE has opened web portals for the submission of incentive applications The publication of the REC Decree marks a decisive step in the long, complex process of promoting the development of RECs and collective self-consumers in Italy. Now, that the Operational Rules Decree is operative, the framework is established, and competitive procedures will be granted.

6.3 Definition and features of CEC and REC

Feature	CECs	RECs
Legal form	The legal form is not predetermined, but it is suggested to be an association, a cooperative, a partnership, a non-profit organization.	The legal form is not predetermined, but RECs must comply with specific constraints with respect to the generation and distribution of profits. Several legal entities are allowed (i.e. association, cooperative, consortium, participatory foundation), providing they are non-profit entities.
Participation	Open and voluntary participation. Consumers can participate and leave a CEC without losing their rights as customers and ad active consumers. .	The community is autonomous and here is an open and voluntary participation. For private companies, participation in the renewable energy community must not constitute the main commercial and / or industrial activity. The participation of members / shareholders in the community is voluntary, they can exit the community at any time and they pay

		some exit fees because, for example, of planned investments that have to change after their decision. These rules have to be stated on contracts.
Effective control	Exercise of control is limited to natural persons, SMEs (small in case of CECs), local authorities, including municipalities, research and training entities, religious entities, third sector and environmental protection associations as well as administration premises contained in the list of public administrations.	
Location of members	No geographical limit. Energy sharing can take place within the bidding zone	All the members of a REC must be connected to the main grid under the same substation. The proximity has been increased from the same low/medium voltage substation to the same high/medium voltage substation. In this way, more citizens and SMEs can become members of the same community because the high/medium substation connects more PODs under it. In the connection with a low/medium voltage substation a few dozen of PODs could be part of a REC. With the new legislative decree there is an upgrade toward the high/medium voltage substation, in this way several hundreds of PODs can join the same REC. The geographical proximity criterion has been modified under the new legislation (connection under the same high voltage substation). The energy sharing can only take place at the level of the substation as the membership is limited to that geographical scope.
Purpose	The primary purpose is to provide environmental, economic or social benefits at the community level to CECs members or to the local areas in which the community operates and not to make financial profits.	The primary purpose is to provide environmental, economic or social benefits at the community level to RECs partners or members or to the local areas in which the community operates and not to make financial profits.
Activities	CECs can engage in the following activities: generation, distribution, supply, consumption, aggregation storage, EV charging, flexibility and energy efficiency services, sell	RECs can perform any of the following activities: generation of renewable energy, consumption, storage, exercise home automation,

		energy efficiency, EV charging and supply and flexibility services.
Technology and project size	It can manage energy from renewable sources and from non-renewable sources	It can manage only energy from renewable sources. The threshold for individual plant is set at 1 MW.
Registration and monitoring	Not well defined	The registration and monitoring of RECs is managed by GSE

DISCOVER

D.2.3 Assessment of National Energy policies and Support Schemes

Annex 2

Co-funded by the European Union

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1 Support schemes in Austria

The following table provides an overview of support schemes. The first three entries address ECs, the latter focus on renewable energy production.

Support scheme	Financial	Legal	Administrative	Technical	Other
Coordination Office for ECs					x
Reduced Fees for ECs	x				
EDA Portal			x		
Feed-In tariffs	x				
Market-Premium	x				
Market-Balancing Group	x				
Investment Subsidy	x				
Value-added tax exemption	x				

1.1 Other - Coordination Office for Energy Communities (COEC)

In 2021, the Austrian government took a significant step towards promoting energy communities by establishing the federal Coordination Office for Energy Communities (COEC). Acting as a national one-stop-shop, the COEC streamlines administrative procedures to enhance efficiency in the setup of energy communities (ECs). Working in collaboration with public advisory institutions across federal states, the COEC provides extensive support for EC establishment, offering detailed guidance on regulations, tools, contacts, and other essential resources, including templates and regulations. This initiative was spearheaded by the federal Climate and Energy Fund and is under the supervision of the Austrian Ministry of Climate Protection.

1.2 Financial – Reduced Fees for ECs

1.2.1.1 Reduced Power Grid Costs

Electricity consumers who are members of renewable energy communities (RECs) can enjoy reduced power grid costs in two main ways. Firstly, there's a reduction in fixed flat-rate costs associated with power consumption. Energy communities qualify for a reduction in their peak-power rating, resulting in a downgrade of their power classification and subsequent cost savings.

Secondly, and perhaps more significantly, energy communities benefit from decreased dynamic power grid costs, which are costs that vary based on the amount of energy consumed. The extent of cost reduction depends on the type of energy community, with potential savings of 57% for regional RECs and 28% for local RECs.

1.2.1.2 Other Exceptions

RECs are exempt from electricity levy (Elektrizitätsabgabe) and the renewable energy contribution (Erneuerbaren Förderbeitrag). Note that CECs are not exempt.

1.3 Administrative – EDA Portal

The EDA portal allows to manage members of an energy community and to access metering data relevant for the community.

1.4 Financial - Feed-In tariffs

Feed-in tariffs were previously regulated by the ÖSG (“Einspeisung zum erhöhten Einspeisetarif”), facilitating the purchase of electricity generated from renewable sources at fixed rates. Participating generators received payments through the Clearing and Settlement Agency (Ökostromabwicklungsstelle, or ÖMAG), which was mandated to engage with eligible new generators. The submission of applications is no longer possible as of 2021.

Old contracts with a feed-In tariff which are still active can be switched to the market premium subsidy system. This is an irreversible process in which the old contract is used to assess an equivalent market premium.

1.5 Financial - Market-Premium

Under the EAG support scheme, electricity generators utilizing renewable sources (such as hydropower, wind, solar, biomass, and biogas) are entitled to receive a market premium, given as cent per kWh. This premium aims to offset the difference between the production costs of renewable electricity and the average (reference) market price for electricity. The evaluation of these values is described in the subsequent chapter.

Electricity generators receive the market premium for electricity sold directly to market participants or fed into the grid. Self-consumed electricty is therefore excluded from the market premium. Unlike the previous ÖSG regime, generators are now responsible for marketing their electricity. In other words, they can decide themselves to whom and at what price they want to sell their electricity. This offers greater flexibility for the energy producer, as selling the electricity independently could yield higher compensation, potentially exceeding the reference value. When self-marketing, it is important to note that the individually achieved price is not relevant for the market premium but rather the reference market price.

As the producer is responsible for marketing the electricity, they could opt to sell their electricity to the OeMAG (Marktpreis-Bilanzgruppe). In this scenario, a purchase contract can be directly concluded at market price, as described further down.

Market premiums are granted by the EAG Funding Settlement Agency for 20 years. The payment of the market premium is made monthly by the EAG Funding Settlement Agency.

Market premiums cannot be combined with regional or municipal subsidies, nor applied in combination with an investment subsidy.

Electricity produced by newly installed PV systems only qualifies for the market premium if the peak capacity of the system exceeds 10 kWpeak.

1.5.1 Tender Procedures

The reference production value is found through a tender procedure. The bidding process among generators aims to determine the basis for calculating the market premium. This process is overseen by the EAG Funding Settlement Agency.

Tender procedures for calculating and granting a market premium depend on specific criteria such as the technology employed, plant capacity, and whether it's a new-build or existing facility.

1.5.2 Reference Price

The market price is evaluated by ÖMAG (§ 41 Abs. 1 ÖSG).

1.6 Financial - Market-Balancing Group

There is the option to enter into a contract with the OeMAG for grid feed-in, applicable only to installations under 500 kWp. As a member of the Market-Balancing Group (Marktpreis-Bilanzgruppe), the fed-in energy is remunerated at a dynamic rate. The compensation is determined monthly and retrospectively.

Generally, the dynamic rate is based on the Electricity exchange (§ 41 Abs. 2a ÖSG, day-ahead hourly price), but is limited by the quarterly market price published by the E-Control (market price according to §41 para. 1 ÖSG). The following limits apply:

- Compensation may not fall below 60% of the quarterly market price
- Compensation may not exceed the quarterly market price.

Note that the so found feed-in tariff is further reduced by the proportional expenses for balancing energy costs (also calculated by E-Control based on the previous year's values for balancing energy).

1.7 Financial - Investment Subsidy

In addition to the market premium, the EAG offers investment grants for the construction of solar plants and wind farms, as well as for the production and refinement of renewable gas and renewable hydrogen. This subsidy targets legal entities (companies) investing in PV.

Different subsidy rates apply depending on the size of the installation, ranging between 140 and 195 EUR/kWp. For the calculation of the maximum funding amount, the planned project costs are considered. The amount of the investment grant is limited to a maximum of 30% of the investment volume directly required for the installation. Moreover, the costs of a reference plant will impact the funding as well as the size of the company applying.

The eligible plant capacity (new installation or expansion) for photovoltaic systems is up to 1,000 kWp, with partial funding of up to 1,000 kWp possible in the case of larger installations. The subsidy is only available for photovoltaic systems connected to the public grid. For this purpose, a feed-in meter point assigned by the network operator is necessary.

Funds are primarily sourced through a renewable support flat rate and a renewable support subsidy. The renewable support flat rate is a fixed amount collected from all end users connected to the national grid. The renewable support subsidy, determined annually

by the Minister for Climate Action, is collected from end users based on their network usage and network loss charges.

When claiming the investment grant according to § 56 EAG, the purchaser of the fed-in electricity can be freely chosen.

When applying for the investment grant, applicants are not eligible to also apply for the value-added tax exemption - only one option may be chosen.

1.8 Financial - Value-added tax exemption

Caters towards natural persons investing in PV.

Value-added tax exemption is possible for PV systems up to 35 kWp if they are assigned to residential buildings or non-profit buildings.

1.9 Conclusion

There are several support schemes available for RECs in Austria. The Coordination office bundles multiple services tailored towards energy communities at no cost. Administrative support is provided through the eda portal, as well as financial support in form of reduced grid fees.

Multiple financial support schemes address PV electricity generation. They can be classified in investment subsidies, subsidised feed-in tariffs and a market premium.

2 Support schemes in Bulgaria

The following table provides an overview of support schemes in Bulgaria. All entries focus on renewable energy production. There are no support schemes addressing ECs in Bulgaria.

Support scheme	Financial	Legal	Administrative	Technical	Other
Feed-in Premium (FiP) / Feed-in Tariff (FiT) support scheme	x				
Fast-track procedures for the connection to electricity networks			x		
Facilitated building permits			x		
Facilitated grid connection of RE installations for own use				x	
Modification of general spatial plans		x			
Relieve of building permits			x		
Energy System Security Fund	x				
Financing by the Bulgarian Development Bank and other funds	x				

2.1 Financial - Guaranteed purchase of electricity from renewable energy sources by Feed-in Premium (FiP) / Feed-in Tariff (FiT) support scheme

The Public supplier and the End suppliers in Bulgaria (licensed marked operators in Bulgaria) buy electricity from renewable sources, produced by sites with an installed capacity greater than 500 kW, at the Feed-in Tariff (FiT) preferential price scheme set by the Bulgarian energy regulator. Electricity from renewable sources is purchased based on long-term purchase contracts for a period of:

- twenty years - for electricity produced from geothermal and solar energy, as well as for electricity produced from biomass;
- twelve years - for electricity produced from wind energy;

- fifteen years for electricity produced from hydropower plants with an installed capacity of up to 10 MW, and for electricity produced from other types of renewable energy sources.

From 2018-2021 in accordance with changes in the Law on energy from renewable sources a Feed-in Premium (FiP) scheme is replacing the initially introduced Feed-in Tariff price system scheme (FiT).

2.2 Administrative - Fast-track procedures for coordinating the connection to electricity networks

For the energy equipment for electricity production from renewable sources with total installed capacity up to and including 1 MW, located on roof and facade structures of buildings connected to the electricity distribution or closed electricity distribution network in urban areas, the opinion of the operators for connecting to the electricity network shall be issued within short, fixed terms:

- up to 15 days where the installed capacity does not exceed the capacity provided for the connection of the building as a consumer site;
- 20 days for energy objects with total installed capacity up to and including 30 kW;
- 40 days for energy sites with a total installed capacity of 30 kW to 1 MW.

For installations producing electricity from renewable sources or installations of consumers of their own electricity and demonstration projects with an installed electrical capacity of up to 10.8 kW, a simplified procedure for connection is provided, where the connection period is up to 30 days after the issuance of the opinion of the network operator.

2.3 Administrative - Facilitated issuance of building permits

Approval of investment projects is not required for the issuance of a building permit for:

- construction of geothermal systems for exploitation of shallow geothermal resources;
- building installations to produce electricity, heat and/or cooling energy from renewable sources with a total installed capacity of up to and including 1 MW to existing buildings and structures, including on their roof and facade structures;
- the placement of renewable energy installations on existing buildings and structures, including their roof and facade structures, located outside the urban areas does not require the preparation and approval of a detailed development plan;
- for the construction of energy facilities with a total installed capacity of up to 5 MW.

2.4 Technical - Facilitated grid connection of renewable energy installations for own use

End customers of the electricity networks may build installations for the production of electricity from renewable sources on roof and facade structures of buildings connected to

the electricity transmission, distribution or closed electricity distribution network, the energy from which will be used only for self-consumption, and the total installed capacity of the energy equipment may be up to twice the amount of the allocated capacity, but not more than 5 MW. In such cases, within 14 days, the operators of the electricity transmission network or of the relevant electricity distribution network or closed electricity distribution network shall provide an additional agreement to the access and transmission contract to the final customer.

2.5 Legal - Modification of general spatial plans in case of investment plans for the construction of renewable energy installations

The general spatial plans in force may be amended when investment initiatives arise for the construction of renewable energy production or electricity storage facilities.

2.6 Administrative - Not required building permits

A building permit is not required for the construction, overhaul and replacement of installations for the production of electricity, heat and/or cooling energy from renewable sources and, in the case of geothermal systems, up to a depth of 10 meters, to existing single-family residential and cottage buildings, the energy from which will be used only for self-consumption if their total installed capacity does not exceed 20 kW.

2.7 Financial - Energy System Security Fund

The Energy System Security Fund was established in July 2015 to cover the costs of the public supplier NEC (National Energy Company) that arise from its obligations to purchase electricity at feed-in tariffs.

Generators of electricity from renewable sources with a total installed capacity of more than 500 kW signs a contract with the Electricity System Security Fund to be compensated with a premium for the electricity they generate up to the amount of their determined net specific electricity production.

By law, the Fund collects 5% of the monthly revenues from the sale of electricity-to-electricity generators, contributions of 5% of the revenues of traders for electricity imported and sold on the national market, and revenues received from auctions for the sale of allowances under the Climate Change Mitigation Act that are used for the development of renewable energy sources.

2.8 Financial - Financing by the Bulgarian Development Bank and other funds

The Bulgarian Development Bank

The Bulgarian Development Bank is a lending institution 100% owned by the Bulgarian state. It was established in 1999 with the main focus of its activities being support for small and medium-sized enterprises. One of the main focus areas of the Bank is the financing of renewable energy projects.

The Energy Efficiency and Renewables Fund

The Energy Efficiency and Renewables Fund finances energy efficiency investment projects, aims to reduce greenhouse gas emissions into the atmosphere and supports the development of the market for energy efficiency projects in Bulgaria

The Energy Efficiency and Renewable Sources Fund (EEERF) was established by the Energy Efficiency Act as a legal entity independent of the state institutions. It operates under the provisions of the Energy Efficiency Act, the Renewable Energy Act and the Donor Agreements and is not part of the consolidated state budget.

FLAG Fund

The activities of the FUND FLAG are aimed at supporting Bulgarian municipalities, associations of municipalities (including water and sewerage associations), companies with municipal or mixed state-municipal participation, in the process of preparation and successful implementation of projects aimed at modernizing and expanding municipal infrastructure and creating sustainable and modern local communities.

FLAG provides loans for the implementation of projects to municipalities, to associations or associations of municipalities (including water and sewerage associations), to companies with municipal or mixed state-municipal participation.

One focus of the Fund's activities is the financing of renewable energy projects.

2.9 Conclusion

There are several support schemes available **to produce energy from renewable energy sources.** There are **no support schemes addressing ECs** in Bulgaria.

The system of support schemes in Bulgaria is focused on non-financial grant schemes. The support measures are effective for larger-scale energy generation installations and have no focus on RECs and CECs.

The biggest problem of the Bulgarian RES / RECs / CECs support schemes system is the lack of a single support effort coordination center with its main function to monitor the business environment and to coordinate the efforts of the involved government bodies, banks and interested municipalities.

The support schemes in Bulgaria make a motley bundle of diverse measures built without a national strategy with clear targets and priorities.

As no support schemes in Bulgaria are aimed at developing the RECs and CECs sector several new schemes in the CEPs and ECs sector is expected to emerge.

3 Support schemes in Croatia

Renewable energy project development is primarily influenced by both policy and resource factors. Policy drivers encompass direct and indirect instruments aimed at promoting renewable energy adoption.

Direct policy instruments are geared towards immediately stimulating renewable energy development. Examples include tax credits, low-interest loans, and support mechanisms. In the Republic of Croatia, key direct policy instruments include the guaranteed purchase price system (Feed-in Tariff - FiT) and the Feed-in Premium (FiP).

Winners of Feed-in Tariff (FiT) and Feed-in Premium (FiP) auctions in the Republic of Croatia gain a significant advantage with a 12-year revenue visibility. This stability is crucial because without such policy instruments, developers would face high merchant risk when selling electricity on the volatile wholesale market.

The presence of FiT or FiP mechanisms reduces the Weighted Average Cost of Capital (WACC) compared to situations lacking revenue stabilization. WACC, comprising equity and debt costs, serves as an aggregate indicator. Unfortunately, Croatia's WACC ranks unfavourably within the EU, leading to exceptionally high financing costs compared to other member states.

Indirect policy instruments, on the other hand, focus on fostering long-term improvement in renewable energy project development. These include measures such as carbon taxes, ambitious energy strategies, and setting long-term renewable energy capacity targets.

Together, these policy instruments play a vital role in shaping the renewable energy landscape, encouraging investment, and driving sustainable energy transitions. However in the context of CEC and REC following support schemes have significant implications:

Support scheme	Financial	Legal	Administrative	Technical	Other
VAT reduction on the delivery and installation of solar panels of Support	x				
ELENA PVMAX for Croatia	x	x	x	x	
Cofinancing from the Environmental Protection and Energy Efficiency Fund	x				

3.1 Financial - VAT reduction on the delivery and installation of solar panels of Support

The Croatian Official Gazette Sept. 30, 2023. published Law No. 1660, amending the VAT Act. The law includes measures:

1.) setting a reduced VAT rate of 5 percent on the supply of heating from thermal stations, and on supplies of firewood, pellets briquettes, and wood chips, applicable through March 31, 2023; and

2.) setting a zero percent VAT rate on the delivery and installation of solar panels on and near private residential buildings and other buildings used for activities of public interest.

3.2 Financial, legal, administrative and technical - ELENA PVMAX for Croatia

The Project Development Services (PDS) financed by ELENA will provide support to implement a Renewable Energy (PV) and Energy Efficiency (EE) Investment Programme in Croatia. The PDS will be implemented by REGEA, depending on the building segment targeted:

1. For homeowners, the PDS will finance the development of a web-based One Stop Shop to develop their PV project, support the regional authorities to optimise their subsidies programme, facilitate the development of new product by banks to address the individual PV market.

2. To address the PV in public and commercial buildings segment, the PDS will support the screening of 5,000+ buildings to determine the 1,000 with the most favourable conditions (positive assessment of the self-consumption capabilities and interest from the building's owner). In a second stage the PDS will help the owners to develop a feasibility study and contract with an installation company and/or a financing partner.

3. In addition, the PDS will support community-owned PV projects on multi-apartment or public buildings, by identifying willing participants, providing technical, legal and organisational support and managing the implementation.

4. Finally, on those selected public and commercial buildings, the PDS will support energy efficiency audits of the electrical consumption to help owners to balance the investment between energy efficiency and PV self-production and promoting contractual innovation by combining Energy Supply Contract with Energy Performance Contract.

3.3 Financial - Cofinancing from the Environmental Protection and Energy Efficiency Fund

The Environmental Protection and Energy Efficiency Fund has published on its website the conditions and criteria for co-financing energy renovation of family houses. In 2024, citizens will have at their disposal as much as 120 million euros, which is the largest amount that the state has allocated for these projects so far.

Owners and co-owners whose houses have up to 600 m2 or up to three residential units and more than 50% of the area intended for housing can apply. Applicants in that house must have residence, proper ownership and proof that the facility is completely legal. If the house was damaged by the earthquake, it is possible to get 80% of the eligible investment costs, while citizens whose houses were not damaged by the earthquake can count on 60% co-financing. Depending on the percentage share and the measures that will be applied to energy renovation, the maximum amount of incentives will be 62,120.00 euros per application.

Owners of family houses can get grants for measures to increase the thermal protection of the envelope, which includes better thermal insulation of external walls and weeds and replacement of exterior joinery. In addition, funds can be obtained for the installation of heat pumps, solar thermal collectors and pellet boilers. As for the installation of photovoltaic power plants for the production of electricity for self-consumption, the Fund will, as in previous public calls, co-finance them with 50% of the funds. Citizens who decide to install a solar power plant, and have or intend to buy an electric vehicle, will certainly be interested in the possibility of obtaining funds for a home charging station.

Family houses whose energy renovation will be encouraged, except in the case where only co-financing of a photovoltaic power plant is required, must be energy certified. If a complete energy renovation is carried out or the thermal insulation of the outer envelope of the house is increased, the house must be of energy class D or worse in continental Croatia or C or worse in coastal Croatia. In the event that heating/cooling systems and preparation of domestic hot water are installed using renewable energy sources, the energy class of a family house must be C or better in continental Croatia or B or better in coastal Croatia.

Submission of applications will begin on the day of publication of the public call for energy renovation of family houses, and no later than the end of February 2024. Citizens will submit their applications electronically, using the NIAS system, and the link to the electronic service, as well as user instructions with all associated application forms, will be available as part of the call documentation. An acceptable cost is also the engagement of professional and technical assistance to prepare the entire project, and applicants are given the opportunity to authorize another person who can apply instead of them.

In order to bring the conditions of the public call closer to the citizens and answer all their questions, the Fund will hold informative and educational workshops, and all presentations and materials from them will be highlighted on its website.

The aim of this program, which the Fund implements in cooperation with the Ministry of Physical Planning, Construction and State Property and the Ministry of Economy and Sustainable Development, is to further encourage the application of energy efficiency measures and the use of renewable energy sources in family houses. In this way, in addition to reducing harmful emissions, the amount of energy needed to heat and cool the premises will be reduced, financial savings will be provided and the comfort and quality of staying in family houses will be increased.

3.4 Conclusion

In Croatia, some progress has been made towards encouraging the construction of renewable energy sources, but they are still far from sufficient. As a positive example, the reduction of VAT on components for the installation of polar plants should be highlighted, as well as the general subsidization of increasing energy efficiency in family houses. However, the obstacles are still significant, the funds allocated are limited and insufficient, there are numerous limiting factors that prevent a good part of the population from accessing these incentives.

4 Support schemes in France

Support scheme	Financial	Legal	Administrative	Technical	Other
S21 Tariff Order (Feed-in Tariff, Feed-in Premium, Self-Consumption Premium)	X				
« Acceleration Zones » and tools for Local Authorities					X
Regional and local aids	X				X

Most of national support schemes are addressing financial issues. No governmental scheme is directly addressing legal, administrative or technical dimensions but a range of actors including Public or State-supported actors, may provide such support locally.

Support schemes are aimed at electricity production whereas electricity sharing, and Energy Communities (ECs) are not their focus, even if few schemes may apply to ECs.

The central support scheme for PV, like several other countries' national scheme, is based on the principle of purchase obligation at a fixed price for a long period of time so as to provide economic predictability to PV projects.

Feed-in Tariffs (FiT) are provided to eligible small installations (<500 kWp; <100 kWp if self-consuming) by obliged buyers, while Feed-in Premium (FiP) are offered to larger installations (>500 kWp; >100 kWp if self-consuming) winning calls for tenders by the Energy regulation Commission (CRE).

Self-consumption is facilitated through an investment premium and access to Feed-in Tariffs or Feed-in Premium. The relatively low prices for collective surplus sale of electricity injected to the grid incentivizes the sharing of electricity within the collective self-consumption (CSC) perimeter.

VAT reduction exists but is quite restrictive. Reduction only applies to plants of less than 3 kWp installed power.

Since 2023 and the Law of Acceleration of Renewable Energies passed in March, the State has given Local Authorities the main role for planning and supporting the development of photovoltaic in their Region and Municipality. "Acceleration Zones" can be proposed by them to their State local representatives (Prefecture referents). Such zones will come with financial incentives for PV projects.

By the end of 2024, the State will oblige Regions to define "regionalized objectives" for renewable energies. To that end, since 2023, the State has mobilized national agencies and national public enterprises to provide several decision-support tools to Local Authorities. These tools are still new. Local Authorities are getting to use them and test them progressively. Feedback is not well known yet.

- Prefectural referents are supposed to facilitate administrative work and communications between Local Authorities and the State.

- A Mapping Portal provides a set of data on energy and enables the definition of, and discussion over the Acceleration Zones.
- A network of regional Energy Advisors (“Les Générateurs”) have the mission to inform, train and support willing Local Authorities.
- A Territory Overview is published by Enedis, DSO for 95% of French territory, which bundles information on consumption, production and local network capacity.

Regional and local aids will have to play a key role in the development of PV in France. They are expected to develop in the years to come.

Already existing associations have been supporting Local Authorities and local actors in the development of PV production and Energy Communities in France, such as Energie Partagée, key actor for citizen projects, and other, national-level associations such as Hespul, CLER or AMORCE, and a network of Local Energy and Climate Associations (ALEC) (which APC belongs to) (see D3.1-Stakeholders list). They are expected to get stronger and better equipped.

In Paris Region, the regional authority of Ile-de-France Region and the intermunicipal authority of Greater Paris Metropolis (Metropole du Grand Paris, MGP), are proposing financial and technical support schemes since 2023. Paris City is providing financial aid in the context of global energy efficiency building works.

Let’s note that, the Law of 2023 only partially puts into force the set of measures announced by the Ministry in its Roadmap of 2021 aimed at supporting citizen renewable energy projects (see D2.3-Main findings and -Annex1 for further details).

The Law of 2023 focuses on CSC operations without addressing aspects related to the engagement of citizens in such projects. A national campaign that was to equip local elected representatives in favour of citizen energy is still to be launched, as far as APC knows. One can regret that no mention of 2021 roadmap is made on the Ministry web page presenting the Law of 2023.

Let us note too that, the financial aid for PV panels that had been provided by MaPrimeRenov aid of the National Agency for the Improvement of Habitat (ANAH), and Energy Saving Certificates (CEE), was suppressed in December 2023.

4.1 Financial - Tariff Order (Feed-in Tariff, Feed-in Premium, Self-Consumption Premium)

According to the French National Resource Center on Photovoltaic (photovoltaic.info), it is the law of 10 February 2000, that established the principle of the Feed-in Tariff obligation: the photovoltaic producer injects electricity into the grid, the buyer is obliged to purchase the photovoltaic energy at the price set by law.

This mechanism ensures a normal return on invested capital over the lifespan of the installations. Decrees set the purchase tariff level and eligibility conditions. The tariff decrees are adapted to current economic conditions and public priorities. Thus, they are regularly repealed and replaced over time.

Currently applied is Tariff Order of 8 October 2021 (5 five times revised since), commonly referred to as **S21**.

Only EDF and local distribution companies are subject to the feed-in tariff obligation, but accredited organizations can choose to take on Feed-in Tariff contracts, in mutual agreement with the producer, through the transfer of a purchase contract with a mandatory buyer.

In parallel, a call for tenders system can be implemented: in this context, the candidates propose a purchase price.

Small producers fall under the purchase obligation system while larger producers fall under the call for tenders system.

Individual producers self-consuming their electricity, or collective self-consumption groups, have the faculty to sell the surplus electricity injected to the grid, under either one system or the other depending on their size.

Self-consumption operations can benefit from an investment prime. Their Feed-in Tariffs are systematically lower than for sale-in-full producers.

VAT reductions are applied but for very small producers only.

Feed-in Tariffs for small installations

Purchase obligation system applies for installations of less than 500 kWp installed power (100 kWp if self-consuming).

Electricity is sold a fixed Feed-in Tariff under a 20-year long contract with an obliged buyer. The date of complete grid connection request determines the applicable tariff.

The tariff is set each quarter of year, based on the previous quarter's tariff, to which a fixed coefficient and a degression coefficient are applied, the later coefficient depending on the number of complete grid connection requests made in the previous quarter.

Tariffs are given each quarter on photovoltaic.info website.

For installations between 100 and 500 kWp installed power, the tariff will decrease the longer the installation takes after the connection request (to avoid excessive profitability and speculation).

Annual operating hours are capped, in order to insure competitiveness of photovoltaic production in northern regions with lower solar radiation. For installations of less than 100 kWp, after 1600 operating hours, the tariff of the kWh is more than halved.

Installations that serve as roof waterproofing are eligible to an investment prime for landscape integration.

Feed-in Tariff are *exclusive to* other financial aids for installation costs. It can be cumulated though with aids for preliminary studies, or investments induced by the installation such as asbestos removal, or other preparatory works.

Installers must be certified and installations of more than 100 kWp has to limit their carbon footprint to 550 kgeqCO_2/kWp.

Application is addressed to the local grid operator (Enedis, in most cases) at any time of the year provided no application was made during the preceding 18 months.

Extensive information is available on photovoltaic.info website.

Feed-in Premium for larger installation

Installations of more than 500 kWp (100 kWp if self-consuming) fall under the call for tender system.

The producer proposes a price to the Energy Regulation Commission (CRE) in response to a call for tenders, and, if accepted, the CRE proposes a Contract for Difference, or Feed-in Premium, to the producer, obliging the buyer to pay the difference between the actual price of the kWh and the contracting price.

Feed-in Premium are also exclusive to other financial aids for installation costs.

Calls for tenders are available on the CRE website.

VAT reduction

For installations of less than 3 kWp, the VAT rate for the purchase price is reduced to 10%. When the power exceeds 3 kWp, the VAT rate is then 20%. Hybrid panels are subject to a reduced VAT rate of 5.5%.

Premium for self-consumption operations

To put it in a nutshell, self-consumption operations are eligible to three kinds of aids:

1. An investment premium,
2. The obligation for a buyer to purchase the surplus electricity,
3. A reduced VAT rate (for very small installations).

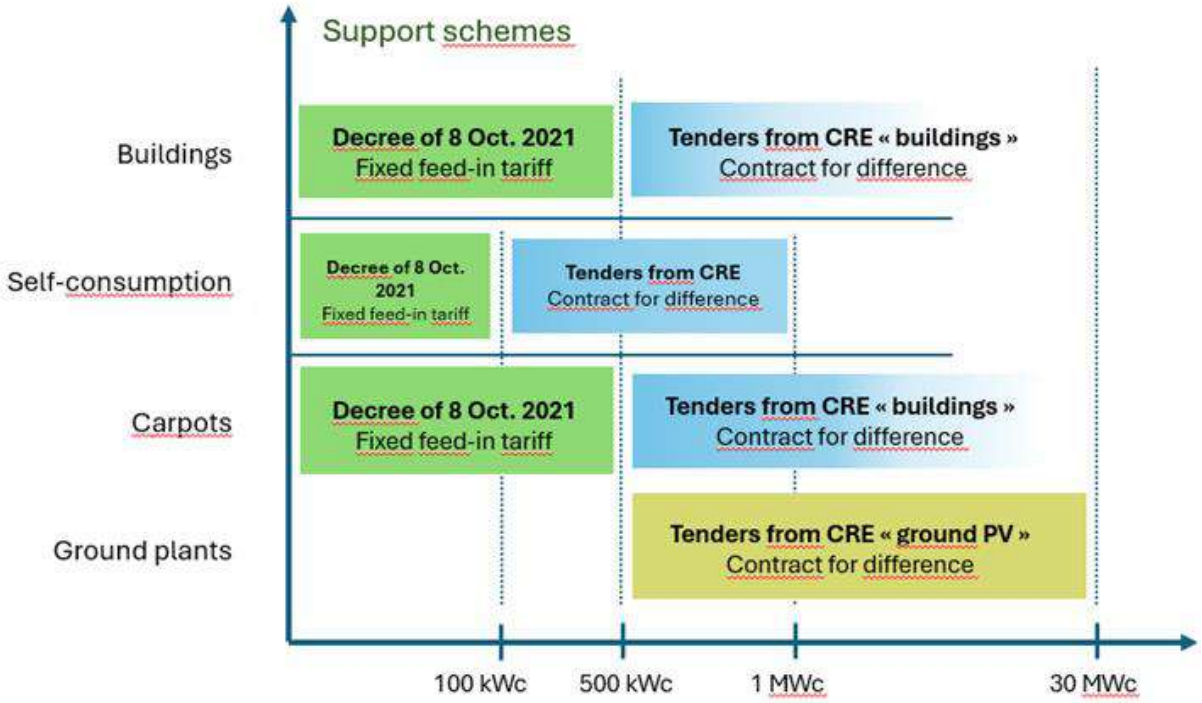
The premium is paid once if the installation power is less than 9 kWp; it is paid 80% in the first year and then 5% each year for the next four years if the installation power is between 9 kWp and 100 kWp.

Injected kWh are eligible to Feed-in Tariff, or Feed-in Premium, but compared to a sale-in-full installations of same power, tariffs are systematically lower (because of the investment premium).

It is consistent with the original purpose of self-consuming as much electricity as possible, and it may act as an incentive for individuals to look after other consumers or producers to form collective self-consumption groups.

Within CSC operations, the exchange of electricity is considered as energy sales and not as energy savings, so it is subject to VAT, excise duty on electricity, and the Tax for the use of the public grid (TURPE).

The graph below summarizes support schemes of photovoltaic production in France.



French Feed-in Tariffs and Premium (CRE is the Energy Regulation Commission).
Source: Hespul, photovoltaic.info. June 2024.

4.2 Other - « Acceleration Zones » and tools for Local Authorities

The Law of Acceleration of Renewable Energies passed on 10 March 2023 has enriched the French arsenal of support schemes. Financial support given by S21 Order has been completed by territorial planning and decision-support tools. The enabling framework of both RECs and CECs has been clarified (see D2_3_Annex1 for details about legal framework), and means have been given to production objectives and self-consumption, but citizen engagement has not been addressed by the Law.

Acceleration zones

With the Law of 10 March 2023, municipalities can define, after consultation with their residents, acceleration zones where they wish to prioritize the implementation of renewable energy projects. These acceleration zones can encompass all forms of renewable energy: photovoltaic, solar thermal, wind, biogas, geothermal, etc.

Acceleration zones target mainly rural areas where a large part of renewable energy production should take place but where engineering forces are fewer.

These acceleration zones are not exclusive areas: projects may also be authorized outside of them. However, a project committee will be mandatory for these projects, ensuring early involvement of the municipality where the project is to be located and neighbouring municipalities in the preliminary discussions.

Project developers will be encouraged to prioritize these acceleration zones for several reasons:

- Firstly, because they will reflect political will and demonstrate local desirability for renewable energy projects.
- Secondly, because the government will introduce **financial incentives** for project developers establishing themselves in these zones. This will make acceleration zones economically attractive and compensate for potentially less favourable climatic conditions.

Since 1 July 2023, local elected officials are invited to propose their acceleration zones. A deadline was set for 31 December 2023 but it was adjusted considering the need for more time of concertation locally. Municipalities will have to submit their proposals to their Prefectural Referent. After the deadline, it will still be possible to communicate acceleration zones to the State on an ongoing basis in consultation with the Prefectural Referent.

After processing the proposals, and once it is confirmed that the zones are sufficient to achieve the regionalized objectives for renewable energy development, municipalities in the concerned region can benefit from certain advantages.

In order to assist Local Authorities in their PV policy, a range of support tools are provided by national agencies and organizations. Among them, five are relevant to our focus:

- Regionalized objectives
- Prefectural referents
- Mapping portal
- Energy advisors (“Les Générateurs”)
- Enedis advisors and Territory overview

Regionalized objectives

Once the new national Multiannual Energy Program (PPE) is adopted (planned by the end of 2024 but postponed), regional energy committees will be required to propose regional objectives for renewable energy development within 2 months following the request from the Minister of Energy Transition.

While waiting for the definition of these regionalized objectives, tools are available to set goals for each territory.

Prefectural referents

The referent is an administrative agent of a Prefecture. It has several missions:

- Facilitate the administrative procedures for applicants.
- Coordinate the work of the departments responsible for processing authorizations.
- Conduct an annual review of project processing in their territory.
- Provide support to local authorities in their energy transition planning efforts.

Mapping portal

The portal is developed by the National Institute of Geographic and Forest Information (IGN) and the Centre for Studies on Risks, the Environment, Mobility and Urban Planning (Cerema).

It allows for the visualization and analysis of various territorial issues to be considered in the development of renewable energies. It is free to use and based on open data.

Energy advisors (« Les Générateurs »)

“Les Générateurs” is a network of advisors, supported by the Ministry of Energy Transition and French Environment and Energy Management Agency (ADEME), specialized in wind and photovoltaic energy sectors. Its main missions include:

- Providing neutral and objective initial advice to local authorities to raise awareness about wind and photovoltaic renewable energies.
- Enhancing the skills of local authorities by providing technical, legal, and financial expertise during the project initiation phases.
- Supporting the development of renewable energy projects in collaboration with local and regional development objectives.

Générateurs network is mobilized to assist local authorities, particularly regarding acceleration zones, by providing guidance and education on available tools.

Enedis advisors and Territory Overview

Enedis is DSO for 95% of French territory. Its network comprises over 400 territorial advisors whose mission is to assist local authorities in their energy planning efforts.
Enedis has developed a decision support tool called "Territory Overview," which offers two main functionalities:

- Territory Portrait**:** electricity consumption and production of a territory by sector of activity and production source (solar, wind, etc.).
- Distribution Network Capacity Mapping**:** it helps identify areas where connecting renewable energy projects could be faster and more cost-effective.

4.2 Financial, other - Regional and local aids

Regional and local aids are put at the forefront of the development of PV production by the above-described Government policy.

Let us first note that a variety of non-governmental actors, mostly non-profit associations, have been active in the sector and already provide support to PV projects and CEPs.

- Energie Partagée, both an association and an investment fund for large citizen-lead energy renewable projects, funded by State Agencies and Public bodies, provides general assistance to CEPs and monitors ECs at the national level.
- Associations like Hespul, CLER, or AMORCE, also provide training for Local Authorities and CEPS and especially useful information in a context of rapidly evolving legislation.
- In more than 40 cities or Departments, Local Energy and Climate Associations (ALEC) provide local authorities as well as private actors with advice on energy management. APC is ALEC for Paris city. ALEC are getting trained for PV and ECs

Stakeholders are described in more details in D3.1. They should be in most cases of great help for municipalities and regions to build their own support schemes and operate them. Nevertheless, existing actors and emerging actors will have to articulate and build new

relationships. Besides, regional and local aids will have to be articulated with the national support schemes.

Let us focus on the situation in Paris Region, pilot site for DISCOVER.

Ile-de-France Region, Greater Paris Metropolis, and Paris City both provide support schemes.

Ile-de-France Region: generalist approach with a focus on citizen projects

Ile-de-France Region is operating two support schemes, one applicable for renewable energy projects, among which PV installation projects (1), and the other specifically for citizen-lead renewable energy projects (2).

Scheme (1) is generalist, in the sense that various forms of renewable energy, and barely all forms of enterprise, municipality, association, condominium, individual person, or project-compagnies, are applicable. Let us note however that it is not especially tailored towards condominiums and, as a consequence, few condominiums applicate to them.

Feasibility studies as well as installation costs are subsidized, up to half their eligible cost.

Scheme (2), aimed at citizen projects, covers both legal, economic and technical studies, as well as investment costs. Up to 80% of their eligible costs may be covered.

Aside from preliminary studies, investments that are subsidized are investments in energy production equipment, connection to the grid, works for the reception of installations, and technical assistance fees or project management fees.

It is accessible to Preparatory Associations, Local Authorities and Public Inter-municipal Cooperation Bodies (EPCI), Energy Syndicates aiming to deploy participatory citizen initiatives, Participatory and Citizen Project Companies provided certain governance conditions.

For both schemes, applications are open all year long. Applicants must provide either a technical description and a business plan (for investment aid), or study specifications and quotes received from enterprises (for study aid). Candidates must apply through the regional platform mesdemarches.iledefrance.fr.

Schemes are issued from Resolution no. CR 2018-016 of 3 July 2018 (energy-climate strategy of Île-de-France Region) and Resolution no. CR 2019-054 of 21 November 2019 (solar plan of Île-de-France Region).

Greater Paris Metropolis: Municipal self-consumption

With the support of Générateurs energy advisor, Greater Paris Metropolis has launched at the end of 2023 a program for “**Metropolitan solarisation**”. It is aimed at municipalities and focuses on Self-Consumption between PV plants on municipal properties.

Interestingly, it involves from the start the State administration in charge of heritage protection, raising chances to avoid later obstacles. Hespul association is involved for technical expertise too.

The various ALECs of Greater Paris territory may contribute and provide advice to Local Authorities involved. Among 34 municipalities in total, Paris City is involved.

Development, realization and operation phases are addressed by a range of tools:

- Access to technical documentation
- Project management assistance services to carry out all preliminary studies
- Coordination of operations for installing and operating PV plants

This support scheme is part of a larger metropolitan policy in favour of local renewable energies doted with a 100 million euros fund.

Paris City

Condominiums in Paris can be subsidized by the Municipality for their energy efficiency projects. The program is called "**Eco Rénovons Paris**" and it has been active since 2014. It focuses on building insulation, heating equipment efficiency and air ventilation works.

Renewable energy production equipments such as PV installation, may be subsidized up to 25% of an installation cost of less than 4000 euros.

The aid is thus restricted to condominiums engaged in a more global project of renovation. However, this is to date the only support scheme at the municipal scale in Paris, and the only aid tailored towards condominiums.

The program is based on Deliberation no 2022 DLH 140 of the Municipal council.

4.3 Conclusion

France has built over 20 years a coherent system of financial support schemes to photovoltaic production, comparable to what other countries have built in EU. However, in 2020 France was lagging in terms of renewable energy production.

The 2023 law aimed at matching the gap, addresses legal, technical and administrative aspects that were mostly taken in charge by third party actors so far (associations or voluntary citizens) or willing Local Authorities. National agencies are now mobilized, and Local Authorities are supposed to endorse the pivotal role by defining Acceleration Zones (giving rural areas a window for development but also highlighting the need for more engineering forces).

In Paris Region (one of the regions with the lowest production), local authorities have established new support schemes. In Paris, tertiary and public buildings are being equipped, but the sector of private residential buildings (condominiums) needs to be addressed more specifically.

5 Support schemes in Italy

In Italy, support schemes for renewable energy are managed by GSE (the National Energy Services Manager). GSE supports the production of electricity from renewable sources through various incentive mechanisms, at disposal of privates, companies and public administrations.

The legislation distinguishes the production plants from renewable energy sources into two typologies based on their power:

- large plants, with power at least equal to or greater than the 1MW threshold.
- small-sized plants, with power below the 1MW threshold.

Big plants (>1 MW) s must participate in competitive auction procedures on the basis of an economic offer; advantages are envisaged for plants built on “suitable areas” and on areas already occupied by plants of the same type (for example repowering).

The following analysis focuses on small size plants.

First, electricity generated from renewable energy sources is promoted through VAT and real estate tax deductions. The electricity from renewable energy sources fed into the grid can be sold on the free market or to the GSE on a guaranteed minimum price (“ritiro dedicato”). Alternatively, renewable energy producers can opt for net-metering (“scambio sul posto”) which provides economical compensation to PV-producers for the electricity fed into the grid.

Grid operators are obliged to give priority access to renewable energy plants. They are also obliged to give priority dispatch to electricity from renewable sources. Plant operators can request the grid operator to expand the grid if the connection of a plant requires this expansion.

In addition, since 1993, Italy has promoted the generation of electricity from solar energy through a reduction of 10% on the value-added tax (the so called “aliquota agevolata del 10%”) for deliveries and services related to investments in solar energy installations and investments in grids that distribute this electricity. Photovoltaic energy plants are eligible for a reduced VAT of 10% (instead of 22%). This tax benefit applies to enterprises, professionals and private individuals.

Focusing the attention on RECs and CECs, on 24th January 2024, Ministerial Decree No. 414 on 7th December 2023 (“REC Decree”) came into force. The REC Decree sets out the criteria and procedures for granting **feed-in tariffs under Legislative Decree 199/2021 and capital contributions under Italy’s National Recovery and Resilience Plan (NRRP)** to support electricity generated from renewable energy sources by plants in renewable energy communities and plants serving collective self-consumers.

The REC Decree envisages two support schemes:

1) **a feed-in tariff**, in the form of a premium tariff, based on the electricity generated from renewable energy sources and shared by and between groups of collective self-consumers;

2) **a capital contribution** of up to 40% of eligible expenses for the development of RECs and collective self-consumers in municipalities with a **population under 5000 inhabitants**.

For both incentives, the REC Decree introduces the possibility of voluntarily requesting the GSE to carry out preliminary eligibility verification of projects that sector operators intend to request incentives for.

The feed-in tariff and any capital contribution (including the capital contribution envisaged by the NRRP), can be combined as long as they do not exceed 40% of eligible investment expenses, against a 50% reduction in the premium feed-in tariff payable (“FITP”).

In addition, another support scheme is linked to the economic valorisation of energy from transmission, distribution and avoided grid losses.

Support scheme	Financial	Legal	Administrative	Technical	Other
Net metering	x				
Premium tariff	x				
Reduction in value-added tax	x				
National Energy income	x				
Feed in tariff CACER	x				
Capital contribution PNRR	x		x	x	
Contributions due to widespread consumption	x				
Energy Valorisation					
Regional contributions	x	x	x	x	

In the following chapters, all support schemes will be described, giving a more detailed information to schemes towards RECs and CECs.

5.1 Financial - Net metering (“scambio sul posto”)

The net metering is a form of self-comsumption that allows prosumers to offset the electricity produced and fed into the network at a certain moment with the energy taken from the grid and used. Therefore, the electricity system is used as a tool for the virtual storage of electricity produced but not self-consumed in the moment in which it is produced. The “scambio sul posto” can be combined with tax deductions but cannot be combined with the “Ritiro Dedicato”.

In Italy, renewable energy producers can make use of the “Scambio sul Posto” if their plant’s capacity does not exceed 500 kW. The principle of “Scambio sul Posto” is based on the balance of the energy fed in and consumed. Under “Scambio sul Posto”, the plant operator pays the supplier for the electricity consumed, while GSE gives credit for the electricity fed in. This method can lead to a surplus on behalf of the plant operator. The balance is calculated once a year. More specifically, the owner of such plants will receive a compensation equal to the difference between the value of electricity exported to the grid

(e.g. for PV installations the energy fed in during daytime) and the value of the electricity consumed in a different period. If more energy is fed in than consumed, plant operators are entitled to have an economic compensation. If they feed in less than they consume, the difference is subject to a payment. Plant operators receive credit for the produced electricity. This credit will be available for an unlimited period.

5.2 Financial - Premium tariff ("*Ritiro dedicato*")

"Ritiro Dedicato" is a simplified purchase/resale arrangement rather than a "classical" feed-in tariff. It cannot be combined with "Scambio sul Posto". It is addressed to operators of plant that generate electricity from elegible renewable sources (including PV). The premium tariff was first introduced thanks to the law 239/04 and it has been working since 2008.

Renewable Energy producers can decide between selling the produced energy on the free market themselves or sell it to the GSE, who then sells the energy on the free market on their behalf ("Ritiro Dedicato"). Thus, GSE can be considered a mediator between producers and the market. Producers can decide whether they want to receive a guaranteed minimum price or the market price. In case the market price is higher than the guaranteed minimum price, the producer receives an annual adjustment. PV producers up to 100kW may choose the guaranteed minimum price (prezzo minimo garantito) determined by the energy authority.

To producers up to the following capacities apply market prices:

- 1 MW for all sources (excl. cases mentioned above), that already make use of other support schemes,
- More than 1 MW for all sources, if they do not make use of support schemes.

The guaranteed minimum prices for each year are made available by the public entity,ARERA.

5.3 Financial - Reduction of 10% on the value-added

Since 1993, Italy has promoted the generation of electricity from solar energy through a reduction of 10% on the value-added tax for deliveries and services related to investments in solar energy installations and investments in grids that distribute this electricity.

The reduced value-added tax rate is 10 % (instead of 22 %). The entities entitled are private individuals and they will be directly charged with the lower VAT.

The reduced VAT rate on deliveries and services related to investments in renewable energy plants leads to a lower state revenue, which is compensated for by other revenue.

5.4 Financial - National Energy Income

The National Energy Income is a capital grant aimed at the installation of domestic photovoltaic systems, with a power capacity between 2 kW and 6 kW, serving residential units owned by families in economic hardship, with the objective of supporting energy self-consumption and promoting the spread of renewable energy.

The GSE is the managing entity of the "National Energy Income Fund," established by Ministerial Decree of August 8th, 2023 (DM REN).

The financial resources made available for the years 2024 and 2025 amount to a total of 200 million euros, and for each year, they are allocated as follows:

- 80 million euros to the regions of Abruzzo, Basilicata, Calabria, Campania, Molise, Puglia, Sardinia, and Sicily;
- 20 million euros to the remaining regions or autonomous provinces.

The "National Energy Income Fund" therefore allows those who apply, to install photovoltaic systems and use the energy produced for self-consumption. Any excess energy produced and not self-consumed by the citizen will be made available to the GSE for 20 years, which will use it to finance the "National Energy Income Fund."

The "National Energy Income Fund" can also be funded through voluntary contributions from central administrations, regions, autonomous provinces, other public entities and organizations, and non-profit organizations, as well as resources derived from the programming of European structural and investment funds.

Individuals can access the Energy Income if they meet the following requirements:

- Belong to a household with a valid ISEE (Equivalent Economic Situation Indicator) of less than 15,000 euros, or less than 30,000 euros for households with at least four children;
- Hold a valid real right over roofs and/or surfaces of buildings, where the photovoltaic system will be installed;
- Be the holder of the electricity supply contract

5.5 Financial - Feed-in tariff CACER

The feed-in tariff is financed through a levy on consumers' electricity bills and has a total allocation of EUR 3.5 billion. This tariff remains in effect until 30 days after a quota of 5 GW of incentivized power capacity is achieved, but no later than 31th December 2027. The feed-in tariff can also be combined with other capital contributions of any type (e.g., regional or provincial capital contributions) other than the capital contribution provided by the NRRP under the REC Decree.

This support scheme has been established to promote energy sharing through RECs. This scheme includes an incentive tariff (in €/kWh) to reward the production of renewable energy from power plants involved in the sharing. The volumes of energy consumed and produced simultaneously on the lower voltage parts of the grid are recorded by GSE. Currently, consumers receive their full electricity bills from their energy providers and get the benefits of sharing through a separate cashback process. Each REC member pays their regular electricity bill for power taken from the public grid and then receives monthly cashbacks for the shared electricity. These cashbacks are calculated by the GSE and paid to the REC's designated contact person, who is responsible for distributing the cashbacks to the sharing participants. The distribution of the cashback among participants is based on a private agreement that adheres to the sharing coefficient.

The feed-in tariff consists of two parts:

- a fixed part, which varies depending on the size of the plant,
- a variable part, which varies depending on the market price of energy.

Additionally, there is a tariff increase linked to the geographical location of the plant concerned, which takes into account the lower energy production of plants in central-northern Italy compared to those in southern Italy (+ €4/MWh for central regions, i.e., Lazio, Marche, Tuscany, Umbria and **Abruzzo**; and + €10/MWh for northern regions, i.e., Emilia-Romagna, Friuli-Venezia Giulia, Liguria, Lombardy, Piedmont, Trentino-Alto Adige, Valle d'Aosta and Veneto).

Nominal Power kW	Fixed tariff depending on the size of the plant	Variable tariff depending on the zonal market price	Maximum tariff for PV plants		
			South	Central	North
P<=200	80€/MWh (+ geographic component)	0-40€/MWh	120€	124€	130€
200<P<600	70€/MWh (+ geographic component)	0-40€/MWh	110€	114€	120€
P>600	60€/MWh (+ geographic component)	0-40€/MWh	100€	104€	110€

Large enterprises, as already said in Annex 1, cannot be members of RECs but can be part of renewable energy self-consumption groups. These groups are equivalent to RECs in terms of the granting of incentives, but participants must be in the same building (e.g., multi-apartment blocks where a PV plant is installed).

The Feed-in tariff payable (FITP) is determined based on the formula provided by CACER Decree, as outlined below:

- for plants with a power capacity > 600 kW, the FITP is 60 + max (0; 180 – hourly zonal price of electricity) and cannot exceed €100/MWh;
- for plants with a power capacity > 200 kW ≤ 600 kW, the FITP is 70 + max (0; 180 – hourly zonal price of electricity) and cannot exceed €110/MWh;
- for plants with a power capacity ≤ 200 kW, the FITP is 80 + max (0; 180 – hourly zonal price of electricity) and cannot exceed €120/MWh.

The total energy produced and fed into the grid remains at the producer's disposal, and the producer has the option of giving it to the GSE in accordance with ARERA's electricity withdrawal procedures. The FITP remains fixed for the entire period in which the producer is entitled to the incentive, which is **20 years** from the date the plant becomes operational, excluding any shutdowns caused by force majeure or carried out to implement non-incentivised enhancement and upgrading.

The feed-in tariff eligibility requirements are summarised below:

- The maximum nominal power capacity of the individual plant or upgrade must not exceed 1 MW.

- Groups of collective self-consumers (GCSC) must be implemented in compliance with LD 199/2021 (art. 30 –31) and must operate in the manner set out in Art. 32 of LD 199/2021.
- RECs must prove they were duly established before the plants to be granted the incentive became operational and must, in the case of enterprises, have rules whereby only SMEs may participate as shareholders or members.
- Plants and withdrawal points that are part of a GCSC must be connected to the grid through connection points that are part of an area served by the same primary substation.
- Plants must meet the performance and environmental protection requirements necessary to comply with the sustainability criteria in Annex 3 to the REC Decree and the 'Do No Significant Harm' (DNSH) principle, and the construction requirements set out in the operating rules under Art. 11 of the REC Decree.
- The investment must contribute to the achievement of the climate objectives
- GCSCs must ensure that any amount over the premium tariff is allocated exclusively to consumers other than enterprises and/or used for social purposes; and consumers are adequately and fully informed in advance of the benefits they stand to gain by applying the feed-in tariff.
- Plants must meet the requirements of LD 199/2021 (i.e., plants that have a power capacity not exceeding 1 MW and became operational on or after 16 December 2021).
-

Furthermore, with reference to eligible expenses, all expenses are eligible within the maximum reference investment cost limit of:

- €1,500/kW for plants up to 20kW;
- €1,200/kW for plants between 20 kW and 200kW;
- €1,100/kW for plants between 200 kW and 600kW;
- €1,050/kW for plants between 600 kW and 1000kW.

A requirement for this incentive is that the REC concerned must prove that it was duly established before the date the REC's plants became operational.

5.6 Financial, administrative, technical - Capital contribution PNRR measure

In addition to the feed-in tariff, RECs and collective self-consumers in municipalities with a population of under 5000 inhabitants may be eligible for a capital contribution that covers up to 40% of eligible expenses.

As to the eligibility requirements for the capital contribution, the REC requires: (i) evidence of the title for the plant's construction and operation, if applicable; (ii) the definitively accepted grid connection estimate, if applicable; and (iii) evidence that the plant's construction or upgrade works are scheduled to start after the date of submission of the application for the capital contribution.

The capital contribution may be provided until 30th June 2026 for the development of a total capacity of at least 2 GW and an indicative production capacity of at least 2500

GWh/year, and in any case within the limit of the financial resources allocated under the NRRP (2,2 billion euros).

Specifically, in the case of combination of incentives, the FITP is reduced according to the reduction criteria set out in Annex 1 of the REC Decree.

This reduction factor does not apply to electricity shared through withdrawal points owned by territorial entities and local authorities, religious entities, third-sector entities, and environmental protection entities. Furthermore, the feed-in tariffs do not apply to shared electricity that falls within the portion of energy produced by photovoltaic systems that benefit from the “superbonus” incentive.

A requirement for this incentive is that the REC concerned must prove that it was duly established before the date the REC’s plants became operational.

5.7 Financial - Contributions due to widespread consumption

For each kWh of self-consumed electricity, the GSE recognizes a unit payment, known as the enhancement contribution, related to the transmission tariff, which may be supplemented by a contribution for distribution tariffs and grid losses.

The following picture represent the combination of contributions available for the different configurations: RECs, Groups of collective self-consumers and remote self-consumer (respectively “CER, gruppo di autoconsumatori and autoconsumatore a distanza” in Italian).

CONTRIBUTI ECONOMICI SPETTANTI A CIASCUNA CONFIGURAZIONE		1 CER	2 GRUPPO DI AUTOCONSUMATORI	3 AUTOCONSUMATORE A DISTANZA
PNRR	Contributo in conto capitale 40%	✓ 1)	✓ 1)	
INCENTIVAZIONE	Tariffa Premio	✓	✓	✓
VALORIZZAZIONE	Trasmissione	✓	✓	✓
	Distribuzione		✓ 2)	
	Perdite di rete evitate		✓ 2)	

1) Solo per gli impianti realizzati in comuni <5.000 ab e messi nella disponibilità di una CACER

2) limitatamente alla parte dell'energia elettrica autoconsumata imputabile agli impianti di produzione, da FER di potenza inferiore a 1 MW, ubicati nell'edificio o nel condominio a cui è riferito il gruppo

The economic incentive is annually established by ARERA (The Italian Regulatory Authority for Energy, Networks and Environment). The values in the picture refer to 2024.

Finally, the producers of the plants can also capitalize on all the energy fed into the grid by selling it on the market or requesting its withdrawal by the GSE through the Dedicated Withdrawal service (RID).

5.8 Financial, legal, administrative, technical - Regional support schemes

There are additional support schemes at Regional level.

The regional level plays a key role in providing complementary support, e.g., through own support schemes, dedicated citizen/community energy funds, through information provision, advisory services, networking and other forms of capacity development.

At the moment, in Abruzzo Region, where DISCOVER pilots will be set up, there aren't any support scheme.

The regional law 8/2022 in Abruzzo was approved on 17th May 2022. It promotes and supports the activation of self-consumer groups and the establishment of REC through:

a) the removal of any regulatory and administrative obstacles to their development;
b) the promotion of cooperation with ARERA and distribution network operators to facilitate the achievement of REC objectives and access to markets;
c) communication actions aimed at encouraging the spread of self-consumer groups and renewable energy communities throughout the region, ensuring the widest possible participation of consumers;
d) financial support for the activation or establishment phase, also through dedicated consultancy services, with particular reference to the preparation of documentation and related projects;
e) contributions for the construction of the plants.

The costs arising from the interventions in letters c) and d) are estimated at a total of €40,000.00 for the year 2022. For the following years, resources will be allocated annually

through a dedicated new fund called "Contributions for Energy Community Plants and Self-Consumption Groups".

5.9 Conclusions

The publication of the REC decree and the operational rules decree have marked a decisive step in the long complex process of promoting the development of RECs and collective self-consumption in Italy. At National level, the enabling framework is relatively advanced and the support schemes and economic incentives, which in many cases can also be cumulated, provide favourable conditions for RECs development.

DISCOVER

D.2.3 Assessment of National Energy Policies and Support Schemes

Annex 3: main findings in national languages

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1 Main findings in national language – Austria

1.1 REC und CEC-Definitionen

Österreich hat große Fortschritte bei der Anpassung seiner Politik und seines Rechtsrahmens an die EU-Anforderungen gemacht. Erneuerbare Energien-Gemeinschaften (EGs) werden in Österreich in lokale und regionale Gemeinschaften eingeteilt, je nachdem, welche Netzabschnitte für den Anschluss der Mitglieder erforderlich sind, und nicht nach ihrer geografischen Entfernung. Bürger-Energie-Gemeinschaften (KEGs) lassen Mitglieder aus ganz Österreich zu, erhalten aber keine Anreize in Form von Netzgebührenermäßigungen. Außerdem unterstützt Österreich den kollektiven Stromverbrauch, bei dem alle Mitglieder der Gemeinschaft denselben Netzanschlusspunkt nutzen. In diesem Fall fallen für den Strom, der innerhalb der Gemeinschaft gemeinsam genutzt wird, keine Netzentgelte an.

Seit der Einführung der Erneuerbare-Energien-Gemeinschaften im Jahr 2021 und der Bürgerenergiegemeinschaften im Jahr 2022, mit weiteren Verbesserungen im Jahr 2023, gab es zusätzliche Innovationen: Im Jahr 2024 wurde es Mitgliedern von Energiegemeinschaften (Verbrauchern und Erzeugern) ermöglicht, sich an mehreren Energiegemeinschaften zu beteiligen. Für die Zukunft ist unter anderem geplant, dass eine juristische Person für mehrere Energiegemeinschaften genutzt werden kann.

1.2 Rahmenbedingungen

Type	EU level	National level
Plan	The “Clean Energy Package” (2019)	Gesetzgebungspaket zum Ausbau der erneuerbaren Energien, verabschiedet im Juli 2021
Regulation	(EU) 2018/1999	Novelle des ElWOG und des Integrierten Nationalen Energie- und Klimaplans für Österreich 2021-2030
Directive	(EU) 2018/2001 (RED II)	EAG und Änderungen des ElWOG

Österreich fördert aktiv Erneuerbare-Energien-Gemeinschaften (RECs) und Bürgerenergiegenossenschaften (CECs) als Teil seiner Umsetzung des Pakets für erneuerbare Energie. Mit einem unterstützenden Rechtsrahmen, finanziellen Anreizen und erfolgreichen Pilotprojekten macht Österreich große Fortschritte bei der Befähigung lokaler Gemeinschaften, sich an der Umstellung auf erneuerbare Energien zu beteiligen. Bislang sind 3.912 Energiegemeinschaften mit 17.500 Zählpunkten registriert.

Es wurden erhebliche Anstrengungen unternommen, um klare Regeln für die Interaktion zwischen Netzbetreibern und Energiegemeinschaften festzulegen. Die Kommunikation zwischen den Marktakteuren wird über eine zentrale Plattform koordiniert, die eine transparente und aktuelle Datenaggregation und -austausch gewährleistet.

Eine administrative Kontaktstelle, wie sie in der Erneuerbare-Energien-Richtlinie (RED) vorgesehen ist, soll den Entwicklern von REC-Projekten Orientierung bieten und die Komplexität reduzieren. In Österreich bietet die Koordinationsstelle für Energiegemeinschaften eine virtuelle Servicestelle sowie neun lokale Servicestellen zur Unterstützung dieser Initiativen an.

1.3 Hindernisse für die Entwicklung von ECs

Zu den Herausforderungen in Österreich gehört die Modernisierung der Energieinfrastruktur. Das Stromnetz muss nachgerüstet werden, um die erhöhte Kapazität an erneuerbaren Energien und die Schwankungen der Stromerzeugung zu bewältigen. In einigen Regionen haben Verzögerungen bei der Einführung von intelligenten Zählern zu Engpässen bei der Gründung von Energiegemeinschaften geführt.

Die Einrichtung und Verwaltung von RECs und CECs erfordert technisches Fachwissen. Das Navigieren in der regulatorischen Landschaft kann für neue Erneuerbare-Energien-Gemeinschaften (RECs) und Bürgerenergiegenossenschaften (CECs) komplex sein.

RECs werden in Österreich unter anderem durch eine Senkung der Netztarife für die Stromübertragung zwischen den Teilnehmern gefördert. Diese Senkung wurde im Jahr 2024 evaluiert, und es wurde festgestellt, dass die Tarife nicht angepasst werden müssen. Die Möglichkeit künftiger Änderungen der Netztarife für die Stromübertragung innerhalb von RECs im Jahr 2024 hat jedoch zu Unsicherheiten geführt.

Neben den ermäßigten Netzentgelten werden Erneuerbare-Energien-Gemeinschaften (EE-Gemeinschaften) durch die Befreiung von Abgaben wie dem Zuschlag für erneuerbare Energien und dem Stromzuschlag begünstigt. Einige dieser Abgaben wurden jedoch für die Jahre 2022, 2023 und 2024 vorübergehend ausgesetzt. Diese Senkung verringert die finanzielle Attraktivität von RECs im Vergleich zum herkömmlichen Konzept des Stromkaufs auf dem Markt.

Auch die am 1. Dezember 2022 eingeführte "Stromkostenbremse" untergräbt die Attraktivität der gemeinsamen Nutzung von Strom in Energiegemeinschaften. Dieser Anreiz soll die hohen Strompreise ausgleichen und zielt darauf ab, die Stromkosten für die Endverbraucher niedrig zu halten. Infolgedessen ist der Strompreis im Rahmen dieser Regelung sogar niedriger als das, was normalerweise in Energiegemeinschaften angeboten werden kann.

2 Main findings in national language – Bulgaria

2.1.Политическа рамка в България

2.1.1 Обща оценка. Определения за ОВЕ и ГЕО

С приемането на промените в Закона за енергията от възобновяеми източници на 13 октомври 2023 г. България направи опит за привеждане на националното законодателство в съответствие с разпоредбите на Директива 2018/2001 и Директива 2023/2413 за насърчаване използването на енергията от ВЕИ. Основната цел на промените е да се даде възможност на българските граждани да се превърнат в двигател на енергийния преход, като се възползват от предимствата, които носи децентрализираното производство и съхранение на възобновяема енергия. Децентрализираният модел за енергиен преход би допринесъл за постигане на целите за декарбонизация, като променя еренргийния монопол и дава възможност на гражданите и местните общности да се включат в производство и потреблението на енергия. Въпреки първоначалния замисъл, приложението на приетите разпоредби остава неясно, а възможността за активно участие на гражданите в енергийния преход остава трудно изпълнимо.

С приемането на промените в Закона за енергията от възобновяеми източници, България дефинира термина „общности за възобновяема енергия“ (ОЕВ) и „граждански енергийни общности“ (ГЕО). Законът за енергетиката, който също беше изменен през ноември 2023 г., направи няколко препратки към ГЕО. Детайлите за това обаче как да се гарантира автономността на ОВЕ не са ясно разработени. Изискването за географска близост за ОВЕ също е неясно и ги ограничава до градските райони. Това ограничава способността на ОВЕ да се увеличават или да използват различни технологии, а гражданите, живеещи в селските райони, може и да нямат достъп до същите права.

По-голяма яснота относно принципите за автономия и контрол върху вземането на решения и географската близост при ОВЕ както в градските, така и в селските райони, както и влизането и излизането от общността, биха помогнали за по-нататъшното развитие на ОВЕ. Въпреки това,съществуват изисквания към уставите или учредителните документи на ОВЕ да разработят правата, отговорностите и условията за участие в енергийната общност, както и разпоредби относно целта, условията за набиране и използване на средства и разпределението на дивиденти.

Освен това не се допускат до участие компании, чието участие в ГЕО или ОВЕ е свързано с тяхната основна търговска или професионална дейност. Въпреки, че

това може да попречи на корпоративното превземане на енергийни общности от енергийните компании, то може и да попречи на ОВЕ и ГЕО да си сътрудничат. В измененията не се предвижда централизиран орган за надзор, регистрация или наблюдение на ОВЕ или ГЕО. Това създава риск новите инициативи, потенциал и бариери да не могат да бъдат наблюдавани правилно и включени в по-нататъшното разработване на политики, а злоупотребите с корпоративни практики и незачитането на некомерсиалните принципи, отнасящи се до енергийните общности, не могат да бъдат възпрепятствани.

2.1.2 Рамки, позволяващи цялостна оценка

Тип	Ниво ЕС	Национално ниво
Планиране	„Пакет за чиста енергия“	транспониран
Регламент	(ЕС) 2018/1999 г	транспониран
Директива	(ЕС) 2018/2001 (RED II)	Частично транспониран
Директива	(ЕС) 2019/944 (IMED)	Частично транспониран

Измененията на ЗЕВИ определят изисквания за разработване на благоприятна рамка както за ОВЕ, така и за ГЕО, въпреки че повечето от тези разпоредби просто копират правилата на ЕС.

Съществува национално правно основание за благоприятна рамка за ОВЕ, но трябва да бъдат въведени конкретни политики и мерки за реализиране на тази рамка. Интересното е, че благоприятната рамка за ГЕО е идентична с тази на ОВЕ, което надхвърля изискванията на Директивата за електроенергията. Това би създало последователна благоприятна правна рамка както за ОВЕ, така и за ГЕО заедно. Министерството на енергетиката, включващо и други министерства, имащи отношение по темата, има задължението да предложи как да се премахнат съществуващите бариери въз основа на извършената оценка на съществуващите пречки и потенциал за развитие на ОВЕ, изготвена от АУЕР (Агенция за устойчиво енергийно развитие). Тази оценка вече е направена и предложенията на министерството са планирани за първата половина на 2024 г.

2.1.3 Пречки пред развитието на ЕО

Въпреки въведените в европейското законодателство норми за развитие на енергийните общности, както като граждански енергийни общности, така и като общности за възобновяема енергия, и въпреки внесените в Закона за енергията

от възобновяеми източници в България от 13.10.2023 г. промени, въвеждащи термина «общности за възобновяема енергия» развитието на тази форма на енергийно сдружаване в България е слабо.

Ето защо е нужно да се посочат две групи препятствия за развитието на ЕО в България:

- препятствия за развитието на сектора на ЕО, включващ общностите обявени като такива и
- препятствия за практическото изграждане на ЕО

А. Пречки за развитието на сектора на енергийните общности, включващ общностите обявени като такива

1. Не е въведена Националната информационна система за потенциала, производството и потреблението на енергия от възобновяеми източници в Република България по чл.52 ал.1 от ЗЕВИ.В ъпросната НИС представлява естествен регистър за отчитане на действащите ЕО, без да носи ненужни административни функции за тяхната регистрация или оторизация.
2. Насърчаване развитието на общностите за възобновяема енергия от страна на държавата, по силата на ЗЕВИ, се осъществява единствено чрез оценки на изпълнителния директор на АУЕР за съществуващите препятствия и техния потенциала за развитие.

Тази единствена форма на насърчаване е крайно недостатъчна и трябва да бъде допълнена с:

- гъвкава схема на данъчни облегчения за имоти в режим на Енергийна Общност, с паралелно увеличаване на данъчната тежест за имоти, чиито собственици не се инвестирали в изграждането на ЕО;
- въвеждане на целеви схеми за кредитно и лизингово финансиране на ЕО от страна на Българската Банка за Развитие и нейните дъщерни дружества;
- провеждане на разяснителна кампания от страна на Министерството на енергетиката в полза на общинските администрации, с цел облегчаване на административните процедури по изграждане на енергийни инсталации в обекти и имоти, функциониращи в режим на енергийна общност.

3. Въвеждане на стимули за собствениците на сгради в свързани с енергетиката нормативни актове, включително
   - при отдаване на сграда под наем или на помещения от сградата;
   - при изграждане на точки за зареждане на електромобили;
   - при изграждане на термопомпени и микроклиматични инсталации и др.

Б. Препятствия за практическото изграждане на енергийни общности

1. Отсъствие на финансови инструменти за осигуряване на крайните потребители на електрическа енергия с ниски доходи или на уязвимите клиенти на възможност за потребление на собствена електрическа енергия от възобновяеми източници в рамките на ЕО.
2. Отсъствие на целеви мерки, насочени към банковия сектор, за премахване на административно-техническите пречки пред финансирането на проекти за ЕО.
3. Отсъствие на мерки за улесняване на достъпа до банково финансиране на проекти за ЕО;
4. Отсъствие на информационни мерки от страна на ЕРД и общините за повишаване на осведомеността на техните клиенти и жители за възможностите и практическите ползи от изграждане на ЕО.
5. Отсъствие на целеви информационни мерки от страна на общините, насочени към сектора на специфичните строителни услуги, в областта на ЕО.
6. Отсъствие на общински практически ориентирани поитики и програми, насочени към развитие на електромобилността.

В. Опасност от свръхрегулация и въвеждане на разрешителни или регистрационни режими

Сериозен риск за развитието на сектора на ЕО представлява стремежа към свръхрегулация в следните области на действие:

1. Въвеждането на допълнителни регулаторни пречки, чрез нови трудноосъществими механизми за отчетност или измерване, например, чрез задължителен за потребителите механизъм на виртуален "нет метеринг".
2. Въвеждане на задължителна регистрация или лицензиране на ЕО като условие за достъп до финансиране, включително, чрез специален общ регистър на ЕО.
3. Липса на комуникация от страна на държавата по отношение на опасността от бъдещо въвеждане на нови данъци и такси за участниците на ЕО, включително, по отношение на използването на регистрационни режими за бъдещо данъчно облагане.
4. Въвеждане на задължителна юридическа форма или процедури за учредяване на ЕО.
5. Отсъствието на държавна стратегия по отношение на ЕО и вменяването на специални функции по отношение на ЕО на професионалните управители на етажна собственост, на общините и на сдруженията на собствениците,

без такава стратегия, което може да създаде у инвеститорите усещане за несигурност и риск от въвеждане на финансови тежести.

6. Обвързване на функционирането на ВЕИ инсталации с режим на ЕО за получаване на гаранции за произход за произведената енергия за собствено потребление.
7. Въвеждане на стандартизирани официално одобрени технически решения за ЕО, които ограничават развитието на пазара.

3 Main findings in national language - Croatia

3.1 Ukupna procjena definicija ZOE (eng. REC) i EZG (eng. CEC)

Hrvatska vlada prenijela je definicije iz EU zakonodavstva o Energetskim zajednicama građana (EZG) i Zajednicama obnovljive energije (ZOE) kroz Zakon o tržištu električne energije i Zakon o obnovljivim izvorima energije. Spominju se sva načela sudjelovanja i upravljanja iz definicija EU-a, a EZG potrebna je čak i autonomija u donošenju statuta, kao i ograničenje sudjelovanja srednjih i velikih poduzeća. EZG također moraju u svojim osnivačkim dokumentima navesti kako će osigurati otvoreno i dobrovoljno sudjelovanje. Pravni oblik za energetske zajednice ograničen je na neprofitne organizacije, što prema sadašnjem tumačenju isključuje zadruge i druge oblike udruživanja građana. Takvo nedosljedno prenošenje zakonodavstva EU stvara nejednakost građana RH u odnosu na ostale građane EU te ometa šire prihvaćanje koncepta EZG i ZOE u Hrvatskoj, stvara pravnu nesigurnost, što bi moglo ometati njegovo prihvaćanje. Zanimljivo je da načela upravljanja i sudjelovanja nisu toliko razrađena za ZOE kao za EZG. Za EZG postoji i regulatorni nadzor, a kako bi se osigurala transparentnost u pogledu usklađenosti energetskih zajednica s zakonskim načelima.

Za ZOE postoje znatna ograničenja prihvatljivosti u pogledu zemljopisnog područja primjene. To bi moglo biti pretjerano restriktivno u dopuštanju sudjelovanja i vjerojatno će umjetno utjecati na sposobnost ZOE da obavljaju različite aktivnosti, u osnovi ograničavajući njihovo pravo na djelovanje na cijelom tržištu. Nadalje, ne postoji službena jasna veza između definicija ZOE i EZG. Iako su obje definicije gotovo u potpunosti usklađene u pogledu prihvatljivosti i načela upravljanja/sudjelovanja, načela su više razrađena za EZG nego za ZOE. Kao takav, odnos između ove dvije definicije zaslužuje pojašnjenje. Građanima i zajednicama koji žele koristiti te koncepte bit će potrebna dodatna jasnoća i pravna sigurnost. Ta dva aspekta koče inače prilično zdravu i korisnu definiciju koja ima potencijal za promicanje društvenih inovacija. Prenošenje definicije iz EU i hrvatsko zakonodavstvo realizirano je na brzinu i nedovoljno kvalitetno. Takav pristup kreira više ograničenja koja bi mogla odvratiti građane od uključivanja u te nove koncepte udruživanja.

3.2 Opći okviri za provedbu procjene

Tip	Razina EU-a	Nacionalna razina
Plan	The “Clean Energy Package”	Strategija energetskog razvoja do 2030., s perspektivom koja se proteže do 2050. (NN, br. 25/2020)
Propis	(EU) 2018/1999	Zakon o regulaciji energije iz 2012. godine (NN, 120/2012)
Direktiva	(EU) 2018/2001 (RED II)	Zakon o obnovljivim izvorima energije i visokoučinkovitoj kogeneraciji (u daljnjem tekstu Zakon o OIE), koji je donesen u prosincu 2021. godine
Direktiva	(EU) 2019/944 (IMED)	Zakon o tržištu električne energije (NN, br. 111/21), kojim se utvrđuju propisi koji uređuju proizvodnju, prijenos, distribuciju i skladištenje električne energije

Hrvatska je u svojem nacionalnom zakonodavstvu donijela odredbe o ZOE i EZG. Donesena su i pravila za registraciju energetskih zajednica. Međutim, unatoč često doslovnom prenošenju većine EU zakonodavstva kojim se stvara poticajni okvir za realizaciju ZOE i EZG, Vlada još nije provela procjenu prepreka ili potencijala za njihov razvoj. Nadalje, nije detaljno artikulirala nijedan od elemenata poticajnog okvira. Doista, neke odredbe zakona, posebno o geografskim ograničenjima za obavljanje aktivnosti i članstva (ZOE), kao i postupak registracije i izdavanja dozvola, nerazmjerno opterećuju energetske zajednice i predstavljaju znatne prepreke njihovu osnivanju. Uz neprimjereno administriranje (primjerice traženje dostavljanja javno dostupnih podataka u papirnatom obliku i uz ovjeravanje kod bilježnika), kao najveću prepreku osnivanju regulator je postavio da EZG, bez obzira na veličinu, mora zaposliti jednu osobu na puno radno vrijeme. Nisu osmišljeni programi potpore i za tu aktivnost ne postoje poticaji. Može se zaključiti da postoji teoretska mogućnost osnivanja EZG, ali ako se ograničenja ne uklone, neće biti realno ni održivo postojanje EZG u Hrvatskoj. Iako su usvojena neka pravila o podjeli energije, za tu aktivnost EZG ne postoje poticaji, a zbog drugih prepreka kod registracije i licenciranja, ta aktivnost zasad nije moguća. Neprofitno računovodstvo (koje propisuje zakonodavac) i povezani pravni oblici nisu idealan izbor za EZG jer ograničavaju aktivnosti koje zajednice mogu obavljati. Tim se ograničenjem smanjuje raznolikost pravnih oblika energetskih zajednica u nastajanju i ometa njihov potencijal za rast, inovacije i gospodarske koristi. Gospodarska korist glavna je motivacija građanima, poduzećima, gradovima i općinama da se pridruže energetskim zajednicama.

Općenito govoreći, potrebno je dodatno pojasniti konceptualni i regulatorni okvir za EZG i ZOE te podjelu energije. Nadalje, još uvijek nedostaju poseban poticajni okvir i poseban mehanizam potpore koji može pomoći uspostavu energetskih zajednica građana.

3.3 Prepreke i potencijal za razvoj energetskih zajednica

Glavna prepreka je nedostatak preciznosti i jasnoće u definicijama i pravnim odredbama, što uzrokuje nerazumijevanje ključnih dionika u energetskom sektoru.

Prenošenje direktiva u zakonodavni okvir nije popraćeno jasnim smjernicama i detaljnijom definicijom ključnih elemenata pravnih odredaba kroz pravilnike i ostale podzakonske akte. Također, podzakonski akti i uredbe nisu jasni u praktičnim aspektima niti uključuju specifičnosti energetskih zajednica. Taj nedostatak jasnoće otežava i onemogućuje zainteresiranim skupinama građana i malih poduzeća da se pridržavaju primjenjivog pravnog okvira u procesu osnivanja energetskih zajednica, čime se zaustavlja razvoj energetskih inicijativa u početnim fazama razvoja.

Dvosmislenost u energetskim zakonima i podzakonskim aktima utječe na sve dionike u energetskom sektoru, uključujući stručnjake, izvođače, regulatore, dobavljače, operatore distribucijskih sustava, organizacije za podršku i druge zainteresirane za pokretanje projekata obnovljivih izvora energije, potrošače i širu javnost. Osim toga, nedostajalo je učinkovite komunikacije i koordinacije između svih relevantnih dionika uključenih u postupak donošenja zakona i stvarne provedbe uvedenih koncepata u praksi (razmjena energije, aktivne skupine kupaca, energetske zajednice).

Zakon o tržištu električne energije propisuje da pravne osobe koje se žele registrirati kao energetska zajednica moraju djelovati na temelju zakona kojim se uređuje financijsko poslovanje i računovodstvo neprofitnih organizacija. Prevladavajući fokus energetskih zajednica (EZG) u Hrvatskoj, slično primjerima iz EU, primarno se odnosi na pokretanje energetskih projekata za zajedničku vlastitu potrošnju, prodaju energije na tržištu ili sudjelovanje u poticajnim tarifama ili tržišnim premijskim cijenama. Međutim, zahtjev za provođenje neprofitnog računovodstva ograničava raznolikost aktivnosti kojima se energetske zajednice mogu baviti. Djelovanje kao neprofitna organizacija značajno ograničava način raspodjele viška prihoda od energetskih projekata među članovima.

To prisiljava energetske zajednice da djeluju u "sivoj zoni" u kojoj se raspoloživi prihodi neizravno raspodjeljuju, pružanjem usluga ili plaćanjem usluga od svojih članova, a ne pružanjem izravnih financijskih povrata. To stvara neučinkovitost u raspodjeli resursa, preusmjeravajući napore koji bi se inače mogli koristiti za poboljšanje usluga ili poslovnih modela energetskih zajednica.

Kao rezultat toga, više od dvije godine nakon prenošenja koncepta energetskih zajednica i drugih srodnih koncepata u nacionalno zakonodavstvo, službeno je registrirana samo jedna mala energetska zajednica, a unutar te zajednice još nije distribuirana niti jedan kWh energije. Nedostaje praktičnih i tehničkih rješenja za dijeljenje energije i nema uvida u model izračuna mrežnih tarifa za zajednice i zajedničku vlastitu potrošnju, što onemogućuje provedbu ekonomski izvedivog poslovnog modela.

Naposljetku, posebni mehanizmi potpore za energetske zajednice ne postoje više od dvije godine nakon prenošenja direktiva i stupanja na snagu zakona.

4 Main findings in national language – France

4.1 Évaluation globale des définitions des CER et des CEC

L'intervention française en faveur des initiatives locales et citoyennes a commencé avant la discussion et la mise en œuvre du paquet énergie propre, autour des projets participatifs, de l'autoconsommation collective (ACC) et du financement participatif (crowdfunding) dans les projets d'énergie renouvelable. Selon le référentiel des communautés énergétiques (CE), le cadre politique combine cette ancienne approche des projets participatifs et des communautés énergétiques, ce qui donne un cadre quelque peu complexe.

La France a publié une ordonnance en mars 2021, avec des dispositions sur les communautés d'énergie renouvelable et les communautés d'énergie citoyenne. Cette ordonnance a été suivie d'un acte important, l'arrêté tarifaire S21, le 8 octobre 2021. Une loi de mars 2023 relative à l'accélération de la production d'énergies renouvelables a donné des outils de planification aux autorités locales et contient des définitions et des règles détaillées sur l'accès aux régimes de soutien pour le photovoltaïque. Son décret d'application publié en décembre 2023 donne des détails sur les principaux critères de définition des CE.

La définition des CE fait référence à une norme forte d'autonomie, qui est basée sur le droit des sociétés existant en France. Elle détaille également le contrôle effectif et la proximité géographique. L'éligibilité constitue une caractéristique distinctive importante entre les CER et les CEC : pour les CER, il existe de fortes restrictions pour les entreprises, alors que la définition des CEC stipule explicitement qu'il n'y a pas de restrictions à la participation. Cela pourrait créer un risque que les CEC soient détournés par les acteurs traditionnels du marché du secteur de l'énergie. Pour l'essentiel, les définitions sont des copier-coller des directives de l'UE. En outre, aucun rôle de contrôle n'est assigné à l'autorité de régulation, ce qui pourrait entraîner des risques d'abus des définitions des CER et des CEC, et donc un manque de confiance.

4.2 Évaluation globale des cadres d'habilitation

Type	Niveau UE	Niveau National
Plan	Le paquet “Energie propre”	La voie vers la neutralité carbone d'ici 2050 est tracée par la Stratégie Nationale Bas-Carbone (SNBC).
Régulation	(UE) 2018/1999	Les objectifs pour l'énergie et le climat sur une période de 10 ans sont donnés par la Programmation Pluriannuelle de l'Energie (PPE) (actuellement pour 2019-2028, selon la loi Énergie et Climat n°2019-1147 du 8 novembre 2019).
Directive	(UE) 2018/2001 (RED II)	La loi sur l'énergie et le climat de 2019 a défini les CER, parmi d'autres moyens de développement des énergies renouvelables.
Directive	(UE) 2019/944 (IMED)	L'Ordonnance n°2021-236 du 3 mars 2021 a défini les CEC, ajoutant à la définition existante des CER. La loi n°2023-175 du 10 mars 2023 a clarifié les définitions des CER et des CEC.

Si la France a pris des mesures législatives importantes pour transposer les CER et les CEC, en particulier pour rendre opérationnelle l'activité de partage de l'énergie, ce processus ne s'est pas encore étendu concrètement à la plupart des éléments du cadre d'habilitation qui doit être mis en place. Le gouvernement français a mis en place des objectifs politiques ambitieux pour le développement des communautés énergétiques, mais ces propositions doivent devenir plus concrètes.

Le ministère de la transition écologique a convoqué un groupe de parties prenantes en 2021, réunissant diverses personnes du secteur de l'énergie, afin de proposer des mesures de soutien. Le ministère a communiqué en novembre 2021 que la Programmation Pluriannuelle de l'Energie prendra en compte le développement des communautés énergétiques via l'inclusion d'une feuille de route pour le développement des communautés énergétiques. La feuille de route elle-même fixe un objectif de 1 000 initiatives citoyennes d'ici 2028 et communique sur 10 mesures.

Des informations sur le déploiement des mesures doivent être présentées, tandis que d'autres mesures doivent encore être déployées, telles que la campagne nationale en faveur de l'engagement des citoyens pour équiper les autorités locales. Le site web du ministère ne contient pas de suivi du fonds Enercit de 10 millions d'euros.

Un cadre commun pour les CER et les CEC a été défini dans la loi. Les détails ont été clarifiés par la loi adoptée le 10 mars 2023.

Les gestionnaires de réseaux de distribution (GRD) d'électricité, de gaz et de chauffage urbain doivent coopérer avec les CE pour le partage d'énergie. Dans la mesure où le partage d'énergie est considéré comme de l'autoconsommation collective (ACC), le régulateur établit des tarifs de réseau spécifiques pour les consommateurs participant à des opérations d'autoconsommation afin que ces consommateurs ne paient pas de frais d'accès qui ne reflètent pas les coûts des GRD. Les CE bénéficient d'un traitement proportionné et non discriminatoire de leurs droits, activités et obligations en tant que consommateurs finaux, producteurs, fournisseurs et opérateurs de marché.

Dans l'ensemble, la France a communiqué un certain nombre d'objectifs et de mesures de soutien. Toutefois, elle doit concrétiser ces engagements et finaliser un régime de soutien adéquat qui aide les CER à surmonter les obstacles existants à l'accès aux régimes de soutien des énergies renouvelables.

4.3 Obstacles au développement des communautés d’énergie

La feuille de route établie par le ministère en novembre 2021 a mis en évidence les obstacles au développement des communautés énergétiques :

- L'absence d'un cadre d’habilitation favorable. L'ordonnance de mars 2021, la loi de mars 2023 et leurs décrets d'application y ont remédié. La programmation pluriannuelle de l'énergie (PPE) pour la période 2024-2028 énonce les objectifs pour le pays.
- Le besoin d'adaptation et de suivi des régimes de soutien nationaux et la manière dont ils peuvent être articulés avec les régimes de soutien régionaux et municipaux. L'arrêté tarifaire du 8 octobre 2021 (“S21”) a fixé des tarifs d'achat et des primes, y compris pour les opérations d'autoconsommation, mais les tarifs et les primes étant exclusifs des autres aides financières à l’investissement dans les installations photovoltaïques, ils constituent un obstacle dans certaines situations. C'est pour cette raison qu'en région parisienne, plusieurs projets d'installations photovoltaïques ont été abandonnés.

- La nécessité d'augmenter le nombre de conseillers en gouvernance énergétique dans les régions administratives. Le réseau de conseillers en gouvernance énergétique appelé Les Générateurs, qui était actif avant 2021, s'est développé depuis. Il compte aujourd'hui 70 conseillers dans 12 régions de France. Il agit comme un véritable catalyseur des politiques locales.
- La nécessité d'une campagne nationale pour promouvoir l'engagement en faveur de l'énergie citoyenne qui permettra également aux élus locaux de diffuser l'information. Une campagne nationale doit encore être lancée. Par exemple, à Paris, les citoyens n'ont généralement pas conscience de leur pouvoir de développer des communautés énergétiques.
- La nécessité d'un observatoire des projets d'énergies renouvelables avec une gouvernance locale et citoyenne et d'une étude d'impact sur le soutien et l'appropriation locale des énergies renouvelables. L'observatoire et l'évaluation sont encore à développer. Energie Partagée joue une partie de ce rôle, mais l'organisation était active avant 2021. Un observatoire a été créé par décret du 7 avril 2024, avec pour objectif de mesurer l'impact sur la biodiversité des projets d'énergies renouvelables.
- La nécessité d'un groupe de travail spécifique avec les acteurs financiers afin d'identifier et de supprimer les obstacles financiers pour les projets de gouvernance locale. L'accès au financement et aux programmes de soutien est un obstacle important. Aucune information n'est disponible quant à savoir si le groupe de travail est actif ou non. Le site web du ministère indique qu'en novembre 2021, il existait déjà un outil de financement : « La phase de développement est la phase la plus risquée dans la vie d'un projet citoyen. C'est pourquoi la Caisse des Dépôts, l'Ircantec et le Crédit Coopératif ont mis en place un outil de financement baptisé EnRciT. Ce financement consiste à prendre des parts dans le projet (dans la limite de 49% des fonds propres) ». Energie Partagée est le coordinateur du fonds EnerCit. Cependant, le ministère ne donne aucune information sur ses dépenses.
- La nécessité de réduire les frais de connexion au réseau pour toutes les installations d'une certaine capacité (500kW), de manière que le tarif du réseau couvre jusqu'à 60% des frais de connexion ; La poursuite du groupe de travail sur l'énergie renouvelable citoyenne pour discuter des nouveaux changements légaux et réglementaires possibles pour soutenir l'engagement local dans l'énergie renouvelable. Aucune information n'a pu être recueillie par l'APC sur ces questions.

La grande majorité des activités des ACC se déroulent dans des zones rurales ou périurbaines. Leur absence relative dans les centres-villes peut remettre en question les cadres d'habilitation existants. Les obstacles dans les centres urbains denses tels que Paris font l'objet du WP3 pour la France.

5 Main findings in national language – Italy

5.1 Valutazione generale delle definizioni di REC e CEC

L'Italia ha recepito la definizione di Comunità Energetica Rinnovabile (CER) con il decreto legislativo 199/2021 e la definizione di Comunità Energetica di Cittadini (CEC) con il decreto legislativo 210/2021. In particolare, la CER è un'entità giuridica controllata esclusivamente da persone fisiche, PMI, enti locali, inclusi comuni, enti di ricerca e formazione, enti religiosi, associazioni del terzo settore e di protezione ambientale, nonché amministrazioni locali incluse nell'elenco delle pubbliche amministrazioni pubblicato dall'Istituto Nazionale di Statistica - ISTAT. Questi membri devono essere situati nella stessa area locale degli impianti di produzione. Dal 2022, anche il Ministero della Difesa, le autorità portuali, l'Agenzia del Demanio e i gruppi di agricoltori possono costituire una CER.

I consumatori collegati alla stessa cabina primaria possono essere membri di una CER e condividere l'energia rinnovabile prodotta dagli impianti della CER, che non possono superare la potenza di 1 MW per singolo impianto facente parte della configurazione.

La partecipazione alle CER è aperta e volontaria. Una CER deve anche essere autonoma. Le imprese, la cui principale attività commerciale o industriale, è nel settore energetico non possono partecipare alle CER.

Le CER hanno come obiettivo principale quello di fornire benefici ambientali, economici o sociali ai propri soci o membri, o alle aree locali in cui opera la comunità locale e non quello di realizzare profitti finanziari.

I membri della comunità condividono l'energia utilizzando la rete di distribuzione esistente. L'energia condivisa è pari al minimo, su base oraria, tra l'energia elettrica immessa in rete dagli impianti di produzione e l'energia elettrica prelevata dai consumatori che rilevano per la configurazione CER situati nella stessa zona di mercato. I punti di prelievo dei consumatori e i punti di immissione degli impianti devono essere situati sotto la stessa cabina primaria.

Pertanto, per la valida costituzione di una CER, devono esistere diversi elementi: uno soggettivo (la volontà di perseguire un obiettivo comune diverso dal profitto finanziario), uno oggettivo (l'uso di fonti rinnovabili) e uno topografico (la sottomissione dei punti di prelievo e di immissione dell'energia alla stessa cabina di trasformazione della tensione elettrica)

Anche le CEC, come le CER, sono "un soggetto giuridico che è fondato sulla partecipazione volontaria e aperta ed è effettivamente controllato da membri o soci che sono persone fisiche, piccole imprese, autorità locali, incluse le amministrazioni

comunali, enti di ricerca e formazione, enti del terzo settore e di protezione ambientale, enti religiosi, nonché sedi amministrative contenute nell'elenco delle pubbliche amministrazioni; ha lo scopo principale di offrire ai suoi membri o soci o al territorio in cui opera benefici ambientali, economici o sociali a livello di comunità, anziché generare profitti finanziari; può partecipare alla generazione, anche da fonti rinnovabili, alla distribuzione, alla fornitura, al consumo, all'aggregazione, allo stoccaggio dell'energia, ai servizi di efficienza energetica, o a servizi di ricarica per veicoli elettrici o fornire altri servizi energetici ai suoi membri o soci." L'ambito geografico della CEC è la zona di mercato.

Gli impianti di produzione utilizzati per la condivisione dell'elettricità da parte della CEC devono essere disponibili e controllati dalla CEC. L'installazione, il funzionamento, la gestione dei dati e la manutenzione possono essere delegate a terzi solo se ciò non influisce sul controllo da parte dei membri della comunità.

Interessante è che entrambe le configurazioni CER e CEC promuovono esplicitamente l'inclusività menzionando la necessità di garantire che la partecipazione sia aperta alle famiglie a basso reddito o vulnerabili.

Le principali differenze tra CER e CEC sono tre. Una prima differenza riguarda il tipo di energia e le fonti coinvolte. Le REC coinvolgono solo energia da fonti rinnovabili e la loro conversione in diversi vettori energetici, come l'elettricità, l'energia termica e quella di raffreddamento, mentre le CEC possono operare con qualsiasi fonte (comprese quelle non rinnovabili) ma possono produrre solo elettricità. Le CER sono anche limitate al perimetro geografico di tutti i punti di prelievo e di immissione alla stessa cabina di trasformazione della tensione elettrica, mentre le CEC non sono soggette a questo vincolo. Infine, un'altra distinzione riguarda le possibili attività svolte e le ulteriori facoltà operative delle CEC nel mercato dell'elettricità. Infatti, le REC sono tenute a utilizzare obbligatoriamente le strutture entrate in funzione dopo il cambiamento legislativo, mentre le CEC sono generalmente autorizzate a utilizzare la rete – sia esistente che di nuova costruzione – per operare come distributore di energia a pieno titolo (possibilmente affittando o acquistando parti della rete). Dal punto di vista del raggiungimento degli obiettivi di decarbonizzazione europei, tuttavia, le REC hanno un ruolo determinante rispetto alle CEC grazie all'uso esclusivo di fonti rinnovabili.

5.2 Valutazione generale del quadro abilitante

Tipo	Livello europeo	Livello nazionale
Piano	"Clean Energy Package"	Strategia nazionale per lo sviluppo sostenibile; Strategia Energetica Nazionale, Piano nazionale di ripresa e resilienza 2021-2026; Strategia italiana di lungo termine per la riduzione

		delle emissioni dei gas ad effetto serra; Piano per la transizione ecologica al 2050; Piano Nazionale per lo sviluppo della rete elettrica .
Regolamento	(EU) 2018/1999	Piano Nazionale per l'energia e il Clima
Direttiva	(EU) 2018/2001 (RED II)	Decreto Legislativo 199/2021
Direttiva	(EU) 2019/944 (IMED)	Decreto Legislativo 210/2021

L'Italia ha adottato un primo insieme di regole transitorie nel 2020 sulle CER attraverso l'Articolo 42-bis della Legge 8/2020, consentendo ai membri delle CER di condividere energia sotto la stessa cabina di distribuzione a bassa tensione. La dimensione di ciascun impianto di produzione di energia di proprietà delle CER era inizialmente fissata a 200 kW, poi aumentata a 1 MW con il decreto legislativo 199/2021.

Le CEC sono state definite tramite il Decreto 210/2021. Entrambe le definizioni sono simili e godono degli stessi diritti, anche se il settore delle CER riguarda l'energia rinnovabile, mentre le CEC sono limitate all'elettricità. I loro diritti e quadri abilitanti corrispondono a quelli delle Direttive. Gli atti di attuazione (decreto CACER – Configurazioni di autoconsumo per la condivisione dell'energia rinnovabile) e le regole operative sono stati forniti da ARERA (Autorità di regolazione per Energia Reti e Ambiente), dal MASE (Ministero dell'Ambiente e della Sicurezza Energetica) e dal GSE (Gestore dei Servizi Energetici) nel 2024, chiarendo ulteriormente il quadro applicabile.

5.3 Valutazione generale degli schemi di supporto

Il GSE fornisce informazioni sugli schemi di supporto in una sezione dedicata del sito web https://www.gse.it/servizi-per-te/autoconsumo/gruppi-di-autoconsumatori-e-comunita-di-energia-rinnovabile.

Il DL 199/2021 specifica in quali condizioni le CER sono idonee per accedere agli schemi di supporto. In particolare, per poter accedere agli incentivi previsti per le CER, gli impianti di produzione da fonte rinnovabile devono avere potenza non superiore a 1 MW (e non più 200 kW) ed essere entrati in esercizio successivamente alla data del 16 dicembre 2021 (data di entrata in vigore del D.lgs. 199/2021) e comunque successivamente alla regolare costituzione della CER. Inoltre, ai fini dell'accesso ai benefici previsti dal Decreto di incentivazione, gli impianti non devono beneficiare di altri incentivi sulla produzione di energia elettrica e devono essere ubicati nell'area geografica i cui punti di connessione alla rete elettrica nazionale sono sottesi alla medesima cabina elettrica primaria (e non più alla sottostazione secondaria).

L'incentivo viene assegnato direttamente, previa richiesta al GSE. Inoltre, le CER possono partecipare a gare d'appalto.

Per le REC e le CEC sono previsti incentivi composti da:

- Tariffa premio sull'energia condivisa per 20 anni;
- Valorizzazione dell'energia elettrica autoconsumata, attraverso la restituzione delle componenti tariffarie (come stabilito dalla Delibera ARERA 727/2022/R/eel);
- Compensazione per il ritiro dell'elettricità (prodotta e non autoconsumata) immessa in rete (RID) da parte del GSE, se richiesto.

Inoltre, per le REC e le CEC nei comuni con meno di 5000 abitanti è possibile ottenere un contributo in conto capitale fino al 40% delle spese ammissibili, che includono assistenza tecnica e tecnico-scientifica per l'acquisto di tutti i componenti essenziali alla realizzazione degli impianti di produzione, distribuzione e condivisione, i costi di acquisto dei sistemi di accumulo e l'assistenza legale e amministrativa per la costituzione delle configurazioni.

Il contributo in conto capitale è erogato grazie al Piano Nazionale di Ripresa e Resilienza, che con un finanziamento di 2,2 miliardi di euro contribuisce allo sviluppo delle comunità energetiche e l'autoconsumo collettivo nei comuni con meno di 5000 abitanti per la realizzazione di una potenza complessiva pari almeno a 2 GW, ed una produzione indicativa di almeno 2.500 GWh/anno. I fondi PNRR sono anche utilizzati per incentivare la riqualificazione energetica (Superbonus 110%), ma questi incentivi fiscali non possono essere cumulati con quelli per l'energia condivisa.

Inoltre, fondi strutturali sono stati utilizzati anche da diverse Regioni (ad esempio Lombardia, Emilia-Romagna, Lazio, Campania, Sicilia e Sardegna) per finanziare studi di fattibilità e la costituzione delle CER.

5.4 Ostacoli allo sviluppo delle comunità energetiche

La pubblicazione del decreto CACER e delle regole operative ha segnato un passo decisivo nel lungo e complesso processo di promozione dello sviluppo delle CER e dell'autoconsumo collettivo in Italia. A livello nazionale, il quadro abilitante è avanzato e i regimi di sostegno e gli incentivi economici, che in molti casi possono anche essere cumulati, offrono condizioni favorevoli per lo sviluppo delle CER.

Tuttavia, gli ostacoli allo sviluppo delle Comunità Energetiche Rinnovabili sussistono ancora e sono principalmente di natura culturale, temporale e tecnica. In particolare, tra gli ostacoli identificati, c’è la percezione del concetto di CER, inteso meramente come uno strumento per risparmiare sulle bollette piuttosto che come un'innovazione capace di produrre cambiamenti sociali, ambientali e di sviluppo territoriale.

Questo ostacolo culturale alimenta una visione semplicistica e non favorisce una corretta comprensione dei reali vantaggi delle CER, comportando false aspettative sui benefici economici a breve termine e sulle soluzioni alla crisi energetica.

Un altro ostacolo è il ruolo delle amministrazioni pubbliche, che non sono in grado di gestire le comunità energetiche a causa sia del sottodimensionamento delle risorse interne, sia della limitata competenza tecnica nello sviluppo dei progetti o della complessità delle procedure amministrative e di autorizzazione. Per quanto riguarda gli ostacoli temporali, emerge ancora il lungo periodo che intercorre tra l'attivazione di una CER e il tempo necessario per quantificare i suoi impatti positivi sul territorio, che può attenuare l'interesse delle parti coinvolte.

Dal punto di vista tecnico, la raccolta dei dati è una delle questioni critiche. Le scelte relative al dimensionamento degli impianti sono legate alla raccolta dei dati (curve di carico e produzione oraria rappresentative dei possibili tipi di Prosumers) e alla capacità di monitorare i consumi. Queste azioni sono relativamente semplici per le grandi aziende e le imprese energivore, ma per i cittadini e le PMI che operano in alcuni settori, richiedono molto tempo.

Un altro aspetto rilevante riguarda l'uso dei sistemi di accumulo, che offrono i vantaggi di un maggiore autoconsumo, una maggiore autonomia nella gestione dell'energia prodotta localmente e una riduzione sia dei picchi di potenza immessi in rete sia degli squilibri dovuti all'imprevedibilità delle fonti rinnovabili. Tuttavia, i costi elevati e la mancanza di incentivi economici specifici rendono difficile l'installazione.

Infine, la burocrazia. Infatti, i lunghi tempi e le procedure necessarie per la creazione di una CER, tra cui la scelta della forma legale più appropriata, sono ritenuti molto problematici in quanto richiedono competenze specifiche.

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