



# **Energy Communities in the EU**

## **Task Force Energy Communities**

December 2019



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## List of Acronyms and Abbreviations

CEC	Citizen Energy Communities
REC	Renewable Energy Communities
EU	European Union
H2020	Horizon 2020
TSO	Transmission System Operator
DSO	Distribution System Operator
RED II	Renewable Energy Directive
EMD	Electricity Market Directive
WG	Working Group
DG	Directorate General
N.S.	Not specified
N/A	Not applicable
MS	Member states



**DISCLAIMER:** Due to the pace at which new legal and policy frameworks for energy communities are developing and changing, this report cannot guarantee to be up to date for all discussed Member States, nor to cover all of the Member States with an existing or emerging legal or policy developments in the relevant field.

Furthermore, this report does not draw any definite conclusions on compliance of existing and emerging frameworks with the Clean Energy Package or applicable State aid rules.

The main goal of the report: to find pertinent elements in existing or planned frameworks and practices which may be useful for guiding the work on implementation of new provisions on energy communities stemming from REDII or EMD.

This report is preliminary and provides a basis for discussion and further analysis. The Energy Community Taskforce appreciates additional input and feedback. Contact: [achille@think-e.be](mailto:achille@think-e.be).

## Executive Summary

BRIDGE is a European Commission initiative which unites Horizon 2020 Smart Grid and Energy Storage Projects to create a structured view of cross-cutting issues which are encountered in the demonstration projects and may constitute an obstacle to innovation.

The BRIDGE process fosters continuous knowledge sharing amongst projects thus allowing them to deliver conclusions and recommendations about the future exploitation of the project results, with a single voice, through four different Working Groups representing the main areas of interest: Business Models, Consumer Engagement, Data Management and Regulations.

As a result of the last General Assembly (GA) of the BRIDGE initiative, a number of task forces (TF) were created to address topics that could be horizontal to more than one of the above-mentioned working groups. In this way, a specific TF was launched to investigate on the local energy communities in the European Union (EU).

The main objectives of this TF and the present report were (i) to provide an overview of the existing legal developments regarding energy communities in the EU and (ii) to build recommendations for the European Commission (EC) based on the inputs received from the BRIDGE survey and interviews conducted with actors of the EU countries covered in the report (Germany, the Netherlands, France, Belgium (Wallonia), Greece, Portugal, Luxembourg, Slovenia and Ireland).

Among others, the overview highlighted that Germany, the Netherlands and Ireland have experienced legal frameworks which focus on one particular activity, such as energy production or providing energy efficiency services. Slovenia, Luxembourg, France and Belgium (Wallonia) have recently introduced a legal framework for 'Renewable Energy communities' in the context of collective self-consumption or energy sharing. Portugal is the first MS to fully implement the RED II, while Greece has set out a very ambitious and encompassing legal framework for energy communities, consistent out of a variety of financial incentives and support measures.

As a results of these findings, leaders of the BRIDGE TF could work on the elaboration of eleven concrete and various recommendations, such as highlighting the importance to draw on existing experiences of Energy Communities between countries, specifying the principles of 'autonomy' and 'effective control' as soon as possible in the regulations, clearly defining the concept of 'locality' in the case of collective self-consumption and energy sharing, etc.

Last but not least, three exhaustive annexes allow readers to learn further details on the European framework of the energy communities (legal entities, actors involved, activities and purposes, etc), the national situations of these energy communities in nine EU countries. Finally, the last annex provides concrete examples of operational energy communities.

## 1. Introduction: context and objectives of the report

On 30 November 2016, the European Commission introduced the ‘Clean Energy for all Europeans Package’ (CEP). This legislative package embodies eight proposals<sup>1</sup> to facilitate a transition to a ‘clean-energy economy’ and to reshape the electricity market of the European Union in order to meet the responsibilities of the European Union (EU) in the framework of the Paris Agreement.

One of the fundamental goals of the Clean Energy Package is placing the consumer at the heart of the energy transition. In this trend, the recast renewable energy directive (RED II) and the recast electricity market directive (EMD) introduce a framework for “*citizen energy communities*” (CEC) and “*renewable energy communities*” (REC). These communities should help mobilize private financial means, lower public resistance against the energy transition and enhance the flexibility in the market.

The provisions for energy communities in the Clean Energy Package leave, however, much room for interpretation and EU member states (MS) will have to implement the RED II and EMD within 18 months after entering into force. The question thus rises how these abstract provisions can be transposed into national law.

This report aims to contribute to solving these questions by providing an overview of existing legal developments regarding energy communities in the EU. As it stands, there are existing legal frameworks for energy communities in Germany, the Netherlands, France, Belgium (Wallonia), Greece, Portugal, Luxembourg, Slovenia and Ireland. However, most of these countries do not yet fully comply with the CEP provisions. Overall, it can be said that legislation in the field of energy communities is in its infancy and is undergoing continuous change.

The report explores pathways to implement the European frameworks for CEC and REC by looking at existing and emerging legal and policy developments regarding energy communities at the national level, as well as existing practices and experiences at the local level. It also provides an analysis of the relationship of these developments and cases to the framework for REC and CEC in RED II and EMD. The analysis is based on evidence from literature and legal document review, interviews with representatives of different MS, the BRIDGE Energy Community Taskforce Questionnaire and 18 case-studies of energy communities, of which 4 very in-depth case-analysis as described in the Annexes.

After a global overview of the legal and policy developments in the above-mentioned MS, some recommendations were built for Member States and European Commission to foster the implementation of Energy Communities.

Annex 1 discusses the European framework for Renewable and Citizen Energy Communities. Annex 2 provides a detailed overview and analysis of what is happening in each of the identified EU MS in terms of legal and policy developments. Finally, Annex 3 provides an overview and analysis of 18 different energy communities, four of which are subject to a more detailed analysis, focusing on governance structure, activities, key actions drivers and institutional barriers.

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<sup>1</sup> For an oversight of the different proposals see Commission, ‘Clean Energy for All Europeans’ (Communication) <<https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/clean-energy-all-europeans>> (accessed 21 March 2018).

The report is part of the wider purpose of the BRIDGE Energy Community Taskforce's effort to share insights across MS, increasing thereby the relevance of related H2020 project in being role models for national regulation while formulating policy recommendations on the implementation of enabling frameworks for all types of energy communities, focusing on those initiatives covered by the provisions in the Clean Energy for All Europeans Package. More information on the work of the Taskforce can be found on the [EXPERA platform](#), to which any expert on energy communities is welcome to contribute, and which consists out of 10 salient questions in relation to Energy Communities, to be addressed. This report situates itself within question 10: "*what is the existing national situation of Energy Communities in the context of the Clean Energy Package?*", but touches also on other Taskforce questions.

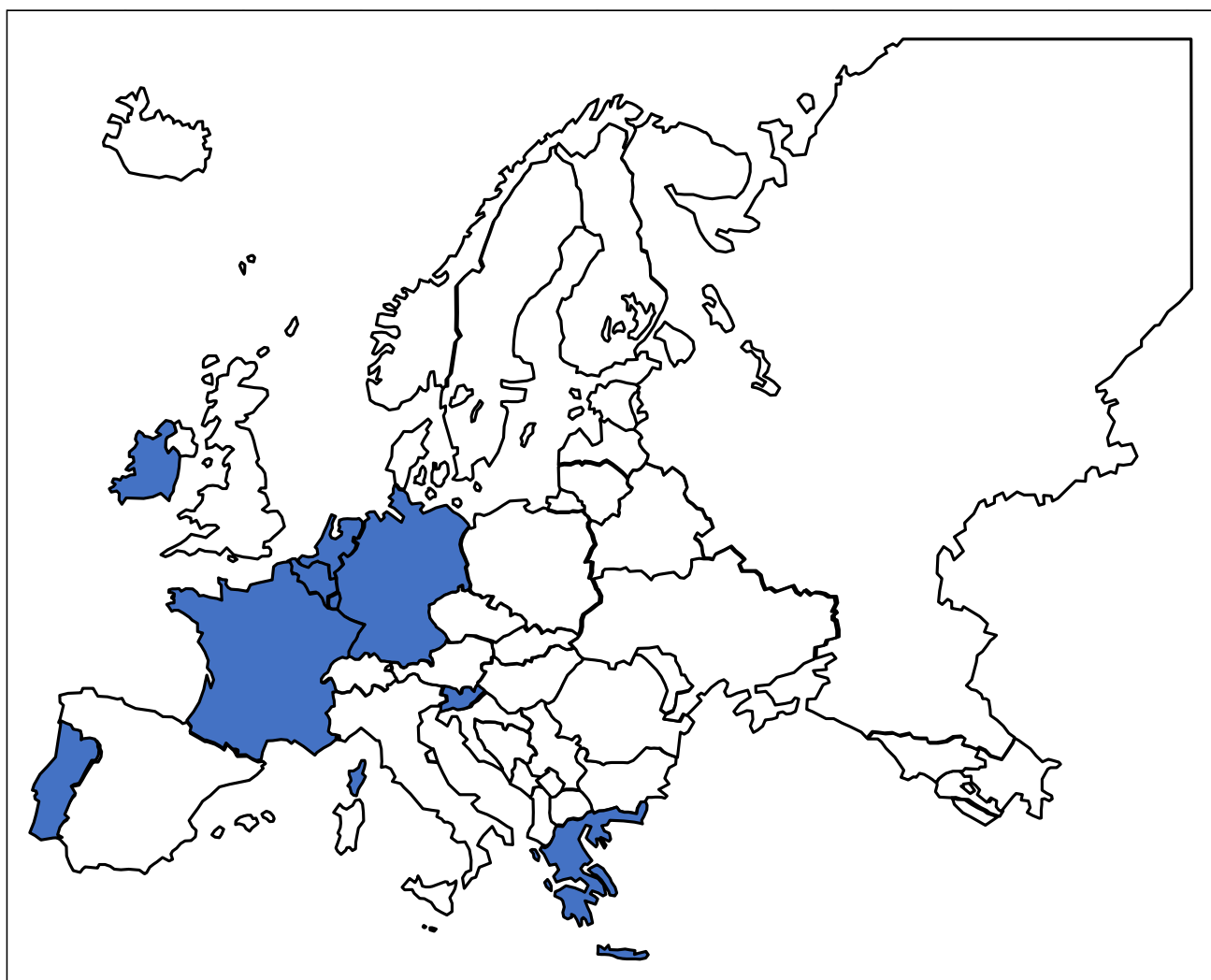


Figure 1: Overview of the EU countries with legislative developments

## 2. Country profiles: main features

### 2.1. Germany

#### Citizens' Energy Company



Focus on production



Electricity sector (wind-based)



Customized support scheme



Concept is open to local entities (51% citizens)

The German Renewable Energy Act (EEG) sets out a framework for 'Citizens' Energy Companies'. The framework came into force on 1<sup>st</sup> January 2017 without the RED II and EMD in mind.

A Citizens' Energy Company can operate on the wind-based electricity market.

The EEG regulates the activity of production and provides two privileges in this regard: a temporary financial security deposit reduction and a clearing price in the national wind subsidy scheme. These privileges can be seen as an implementation of the right on a support scheme that takes into account the specificities of Renewable energy Communities in article 22 (7) RED II.

The governance principles of 'autonomy' and 'effective control' are given shape by reserving 51% of the voting rights to citizens, introducing cap of 10% on the amount of voting rights one actor can hold, and requiring minimum amount of members.

See more information in the detailed chapter 2.1.4 of the Annex 2 on Germany.

## 2.2. Belgium, Wallonia

### Renewable energy community



Focus on collective self-consumption



Electricity sector (renewable energy and cogeneration based)



Considering local grid tariffs



Concept is open to local entities (similar to REC in RED II)

On the 30th of April 2019, the Walloon government officially published a Decree introducing the concept of 'Renewable Energy Communities'. The Decree was already in its final review stage when RED II was officially adopted. Whilst some modifications were still made in order to be compliant, most of the framework was drafted without the intention of being a full implementation of RED II.

According to Walloon Decree, Renewable Energy Communities can produce, store, sell and share electricity generated from renewable energy or high-quality cogeneration plants.

The Decree views the concept Renewable Energy Communities primarily as a form of collective self-consumption which can be formed by consumers located in the 'local perimeter', i.e. as an area where the connection points for injection and take-off are located downstream of one or more public medium/low-voltage transformer stations. Concordantly several rights and responsibilities are implemented to facilitate this activity, such as the possibility of local grid tariffs in line with article 22.4 (d) RED II and article 16.3 (d) juncto article 15.2 (e) EMD,<sup>2</sup> and the right to cooperation with the DSO in order to transfers within the community in the sense of art. 16.1 (d) EMD and 22.4 (c) RED II.

The legal concept is almost identical to that of REC in RED II, with the exception of a stricter geographical limitation, as all of the participants (not only those in effective control) need to be located in the 'local perimeter' for the purpose of collective self-consumption. The governance principles of 'effective control' and 'autonomy' are furthermore reiterated and left to the discretion of Renewable Energy Communities to determine in their statutes. However, the Government may decide to set minimum rules, which may vary in accordance with the type and quality of participants, the legal form assumed by the community, the technical limitations of the network, and the local perimeter concerned.

See more information in the detailed chapter 2.1.1 of the Annex 2 on Belgium.

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<sup>2</sup> I.e. the right to fair, cost-reflective, transparent and non-discriminatory network charges.



## 2.3. Ireland

### Sustainable energy community



Focus on energy efficiency



Tools to facilitate access to information and finance



Upcoming customized support scheme



Concept is open to any entity, irrespective of the geographical location

The Sustainable Energy Community (SEC) Programme is a product of Ireland's White Paper *"Transition to a Low Carbon Energy Future 2015-2030"* and was established in 2015 by the Sustainable Energy Authority of Ireland (SEAI) to support community energy initiatives. The policy-framework emerged outside of the context of the CEP.

A Sustainable Energy Community is defined in the SEC Programme as a partnership between public, private and community sectors which aim to be energy-efficient first, and use renewable energy and smart energy solutions second. Any actor can participate in a sustainable energy community, irrespective of their geographical location within the country, which makes the concept considerably broader than both REC and CEC in RED II and EMD.

The Sustainable Energy Communities Programme consists out of 3 steps: learn, plan and do. In the first step, a community can become a member of the nation-wide SEC Network, which creates a space for communities to engage and learn from project site visits, seminars, events, and case-studies in order to help them identify and develop energy projects. In the second step, the community can enter into a three-year partnership with the SEAI and start designing an Energy Master Plan. During this three year period the community receives active support and mentoring from SEAI in order to identify energy saving opportunities and other energy-related activities. In the last step, the community can also apply for dedicated funding from the SEAI to help realize the Energy Master Plan.<sup>64</sup> The program can be seen as a generous implementation of the indirect right to tools to facilitate access to information and finance in article 22.4 (g) RED II.

The Irish Government has recently also published a High Level Design Paper,<sup>3</sup> which sets out several policies and support measures for a new renewable electricity support scheme (RESS) that encourages participation of communities and community-ownership. More precisely, the paper

<sup>3</sup> <https://www.dccae.gov.ie/documents/RESS%20Design%20Paper.pdf>.

proposes early on financial support for feasibility and development studies and capacity building, a mandatory community benefit fund and register, mandatory investment opportunities for communities living in proximity of a RES project, separate auctions for communities that meet community-led criteria, provision of independent technical, legal, project and financial advice, and support to guide community-led projects through the grid connection process. Although these policies and support measures are non-binding and still need to be incorporated in legislation, they can be seen as an important first step to implementing the right of to a support scheme that accounts for the specificities of Renewable Energy Communities in article 22.7 RED II.

See more information in the detailed chapter 2.1.5 of the Annex 2 on Ireland.



## 2.4. France

### Renewable energy community



Focus on collective self-consumption



Electricity sector (renewable energy based)



Considering local grid tariffs



Concept is open to local entities (similar to REC in RED II)

The French Law on Energy and Climate of 8<sup>th</sup> November 2019 introduces the concept of 'Renewable Energy Communities'. The Law can be seen as an implementation of RED II.

Renewable Energy Communities, according to French law, are allowed to produce, store, sell and share renewable energy. They can operate in both the heat and electricity sector to the extent that they are renewable energy based.

The national concept of Renewable Energy Communities is identical to the definition for Renewable Energy Communities in article 2 (16) RED II.

The primary focus of the Law is on collective self-consumption. Concordantly, the rights, privileges and responsibilities are focussed on enabling and supporting collective self-consumption. The framework most notably implements the right to fair, cost-reflective, transparent and non-discriminatory network charges in article 22.4 (d) RED II and article 16.3 (d) juncto article 15.2 (e) EMD by introducing a right to a specific distribution network tariff that reflect the actual cost borne by the network operators, the details of which will need to be determined by the Energy Regulatory Commission. In addition, the DSO has the responsibility to cooperate with the Renewable Energy Community to facilitate the transfer of energy within the community<sup>4</sup> in the sense of article art. 16.1 (d) EMD and 22.4 (c) RED II.

See more information in the detailed chapter 2.1.2 of the Annex 2 on France

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<sup>4</sup> 315-6.

## 2.5. Luxembourg

### Renewable energy community



Focus on energy sharing



Electricity sector (renewable energy and cogeneration based)



Detailed description of cooperation with DSO to facilitate sharing



Concept is open to local entities (slightly more open than REC in RED II)

Luxembourg has a proposal ready in the Parliament that will introduce the concept of 'Renewable Energy Communities'.<sup>70</sup> The draft Law aims to partly transpose the RED II.

Renewable Energy Communities, in the sense of the Luxembourgian draft Law, are allowed to produce, store, sell and share electricity generated from renewable energy or high efficiency cogeneration facilities.

The draft Law focuses primarily on the activity of energy sharing within the community. The participants need to be located in the same locality, i.e. downstream of the high and/or medium voltage electricity transformer station connected to the low-voltage station operated by the DSO concerned. A legal entity is required in order to interact with the grid operator to facilitate sharing of electricity amongst the members of the CER.

The associated rights, privileges and responsibilities are concordantly aimed at regulating the interactive relationship between the DSO and Renewable Energy Communities to facilitate transfers within the community in the sense of 22.4 (c) RED II. The Renewable Energy Community can either decide to share in accordance with their own distribution model, or based on a static and simple distribution model that will need to be determined by the regulator in close cooperation with the DSOs.

In case a Renewable Energy Community decides to make its own allocation of the produced quantities to its members, the community will need to send load curves to the DSO within some format and some timeframe that is yet to be defined. The DSO will then send the virtual grid consumption load curves to the supplier of the different participants. The community is authorized to delegate the organization of the allocation of electrical energy to a service provider. The service provider must be able to follow the technical and organizational terms and conditions of the distribution model and cannot be a member of the community. The quantities of electrical energy taken from the network and the total quantities of electrical energy consumed and produced individually by members of the community need to be communicated at least every month.

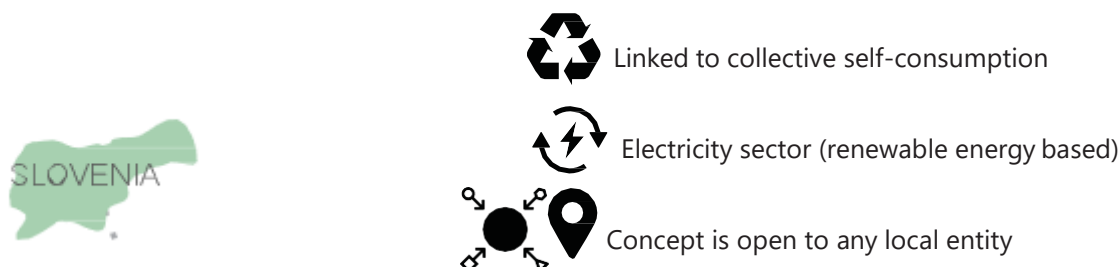
The draft Law furthermore provides that energy sharing within a community needs to be done without prejudice to the network access charges, network usage charges and other charges, levies and taxes applicable to each participating member or shareholder. Renewable Energy Communities are allowed to sell their excess production of renewable electricity through purchase agreements in accordance with article 22.2 (a) RED II, provided they take on balancing responsibilities, as prescribed in article 16.3 (c) EMD.

The national legal concept of Renewable Energy Communities is very similar to the concept of REC in RED II, although the concept is characterized by a more open membership, as also SMEs whose participation constitutes their primary economic activity are allowed to participate. In addition, the geographical limitation is more strict, since all of the participants (not only those in effective control) need to be located in the same 'locality' for the purpose of collective self-consumption.

See more information in the detailed chapter 2.1.6 of the Annex 2 on Luxembourg.

## 2.6. Slovenia

### Renewable energy source community



Slovenia has adopted a new By-Law on the Self-supply of Electricity from Renewable Energy Sources which introduces the concept of 'Renewable Energy Source Communities'. The By-Law entered into force on the 1<sup>st</sup> of May 2019 and can be seen as a first step towards later implementation of the EU regulation.

Renewable Energy Source Community, according to Slovenian By-Law, is allowed to operate on the electricity market to the extent that it is entirely renewable energy based.

The By-Law views Renewable Energy Communities as jointly acting final consumers behind the same LV transformer station that are engaged in collective self-consumption. A legal entity is not required, but is allowed to be established.

In terms of participation criteria, the legal concept of Renewable Energy Source Communities is more broadly defined than a CEC and REC, since any entity is allowed to participate. However, the geographical limitation will be more strict than for a REC, as all of the participants (not only those in effective control) need to be located behind the same transformer station for the purpose of collective self-consumption.

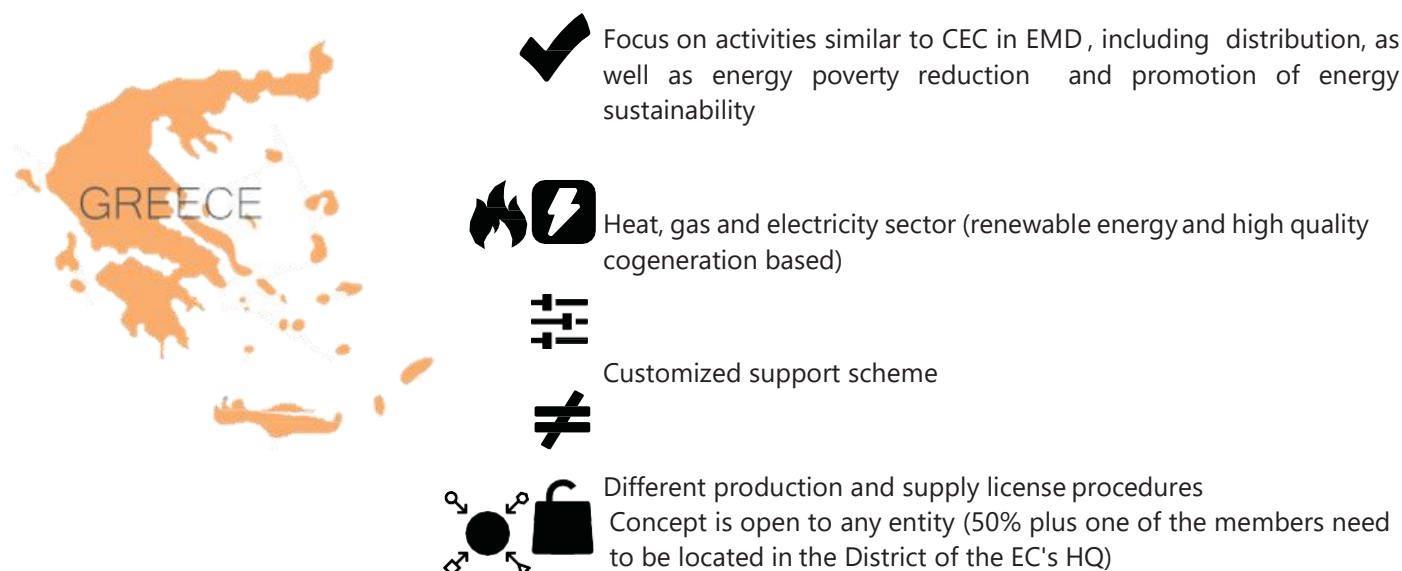
The production unit, in contrast to article 22 (2) (b) RED II and article 16.3 (e) EMD, does not have to be owned by the community members or shareholders, which implies that a third party power plant owner can also participate in the Renewable Energy Source Community. However, this actor will not be allowed to have effective control over the community.

The owner of the production unit cannot acquire the status of producer and sell the generated electricity to the market in case of excess electricity. The excess electricity goes to the external supplier and is directly fed into the public grid. No balancing requirement has been imposed on production units for self-consumption, this is transferred to the supplier.

See more information in the detailed chapter 2.1.9 of the Annex 2 on Slovenia.

## 2.7. Greece

### Energy community



The Greek Law on 'Energy Communities' was adopted in January 2018 and introduces a new type of cooperative within the wider framework of Social and Solidarity Economy. The Law was adopted without the RED II and EMD in mind, but nonetheless gives shape to many of the abstract governance dimensions and rights, privileges and responsibilities in these directives.

An Energy Community, according to Greek law, can exercise a variety of activities, including the ones prescribed for REC and CEC, but also additional ones, such as energy innovation, energy poverty reduction and promoting energy sustainability. An Energy Community can operate on both the heating and electricity market to the extent that it is based on renewable energy or high-quality cogeneration.

The Greek concept of Energy Communities is equated with the cooperative form, which can either be for-profit or not-for-profit. The concept is furthermore open to any entity, except for large energy companies. Depending on the actors involved, different membership quota shall apply. The element of 'proximity' is transposed through the requirement that 50% plus one of the members need to be located in the same District as the headquarters of an Energy Community. The Law also implements the governance principles of 'effective control' and 'autonomy' by imposing a cap on the amount of shares an entity can hold, as well as the democratic principle of one member one vote. In addition, the law explicitly stimulates the involvement of municipalities and vulnerable households, which is in line with article 22.4 (h) RED II on the positive obligation to stimulate the involvement of public authorities, and article 22.4 (f) on the participation of vulnerable households.







The Law furthermore implements many of the abstract rights and privileges in the RED II and EMD. In particular, the right to fair, proportionate, non-discriminatory and transparent procedures in article 22.4 (d) RED II and article 16.1 (e) EMD by easing certain requirements related to licensing and administration fees, as well as priority treatment in production licensing and grid connection procedures. In addition, the right to a customized support scheme in article 22.7 RED II is given shape by exempting energy communities with installed capacity of up to 18 MW from auctions (i.e. access to subsidies is easier).

See more information in the detailed chapter 2.1.3 of the Annex 2 on Greece.

## 2.8. Portugal

### Renewable energy community



-  Focus on activities similar to REC in RED II
-  Electricity sector (renewable energy based)
-  Considering a customized support scheme
-  Considering local grid tariffs
-  Different production license procedures
-  Concept is open to any local entity

Portugal adopted a Decree-Law on October 25th 2019 that introduces the concept of collective self-consumption and 'Renewable Energy Communities'. The Decree-Law will enter into force on January 1st, 2020 for self-consumption and Renewable Energy Communities with intelligent counting system and installed at the same voltage level, and in 2021 for other self-consumption activities. The Law-Decree can be seen as a direct implementation of the framework for REC in RED II.

A Renewable Energy Community is allowed to produce, consume, share, store and sell electricity generated from renewable energy.

The definition of the concept reiterates the governance principles and requirements attached to the concept of REC in the RED II, but leaves space for all kinds of entities to participate, provided that they are located in close proximity of the energy projects or develop activities related to the respective energy projects which are owned and developed by the renewable energy community.

Furthermore, the Decree-Law copies most of the provisions in article 22 RED II and delegates further implementation responsibilities to Government bodies and agencies, such as the national Government, the Directorate General for Energy and Geology (DGEG) and the Energy Sector Regulatory Authority (ESRA).

The DGEG will be in charge of implementing most of the rights and privileges in article 22.4 RED II. In addition, it will be in charge of accepting on a case-by-case basis new Renewable Energy Community projects until December 2020, as well as assessing the obstacles for and potential of Renewable Energy Communities within two years after the entry into force of this Decree-Law and every three years thereafter. This assessment will then form the basis for a framework that promotes and facilitates the development of Renewable Energy Communities.



The National Regulatory Authority is given the responsibility to assess the feasibility of local grid tariffs<sup>5</sup> in case Renewable Energy Communities make use of the local network to transfer electricity for self-consumption purposes,<sup>6</sup> which is a direct implementation of the right to fair, cost-reflective, transparent and non-discriminatory network charges in article 22.4 (d) RED II and article 16.3 (d) juncto article 15.2 (e) EMD.

The government official responsible for energy is in charge of the design of a support scheme that takes into account the specificities of Renewable Energy Communities in the sense of article 22.7 RED II. In this regard, there is a possibility for the Government official to exempt Renewable Energy Communities from charges related to costs of energy policy, sustainability and economic interest, provided that they do not disproportionately socialize costs to other customers. The Decree-Law also states that the sharing of the produced electricity and the related 'coefficient' as well as the linking to the DSO are to be defined.

Besides these delegated implementation responsibilities, the Decree-Law also formulates several direct rights and responsibilities; a Renewable Energy Community will for example be responsible for imbalances it causes to the national electricity system. In addition, several exemptions from production registration and licensing procedures are given to the extent that the production units for self-consumption do not exceed an installed capacity of 1 MW. The latter can be seen as a direct implementation of the right to fair, proportionate, non-discriminatory and transparent procedures in article 22.4 (d) RED II.

See more information in the detailed chapter 2.1.8 of the Annex 2 on Portugal.

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<sup>5</sup> I.e. network charges deducted by charges related to the use of the transmission network.

<sup>6</sup> Art. 18.



## 2.9. The Netherlands

### Energy associations or cooperatives



Focus on sustainable energy generation and energy efficient grid use



Electricity sector (renewable energy based)



Local grid tariffs



Exemption from supply license requirement for supply to small consumers



Concept is open to local entities (80% private entities)

The Dutch regulatory sandbox for Energy Cooperatives and Associations was created in 2015 without the RED II and EMD in mind.

The legal conceptualization is limited to cooperatives and associations who can only operate on the electricity sector and need to be renewable energy based. Participation to the cooperative or association is limited, as 80% of the participants need to be private end-consumers. The autonomy of the initiatives are furthermore guaranteed through an explicit prohibition for DSOs, TSOs or legal persons that are (in)directly producer or supplier of electricity to have any say in the management of the association or cooperative. In addition, the principle of effective control is given shape through the obligation of control by the general assembly of members over the set-up, progress or cost distribution of the project.

The experimental regime focuses primarily on sustainable energy generation and energy efficient grid use, which implies that energy associations or cooperatives can be allowed to operate their own private community network. Under the experimental regime, the Minister can furthermore grant an exemption from rules pertaining to tasks and responsibilities of the network operator, tariff structures and conditions, conditions for data-processing, transparency and solvency, measurement device requirements, invoicing and information processing. The possible exemption from normal network-related charges can be seen as an implementation of the right to (fair), cost-reflective, transparent and non-discriminatory network charges article 22.4 (d) RED II and article 16.1 (e) EMD. In addition, there is an automatic exemption from supply license requirements for supply to small end consumer that applies to approved projects. The latter can be considered an implementation of the right to non-discriminatory, fair, proportionate and transparent procedures formulated in article 22.4 (d) RED II and article 16.1 (e) EMD.

From 2015 up to and including 2018, exemptions were granted to 20 exemption holders under the Electricity Act Experiments. Applications for the experimental regime are now closed, and the rules in

the Crown Decree are up for revision. The old scheme will most probably be expanded with more goals and possible partnerships, which will allow for more space for local experiments.

See more information in the detailed chapter 2.1.7 of the Annex 2 on the Netherlands.

## 2.10. Conclusions on country profiles

This report provided an overview of existing and emerging legal and policy developments with regard to energy communities in the EU.

Germany, the Netherlands and Ireland have relatively 'older' and more experienced legal frameworks which focus on one particular activity, such as energy production or providing energy efficiency services. Slovenia, Luxembourg, France and Belgium (Wallonia) have more recently introduced a legal framework for 'Renewable Energy communities' in the context of collective self-consumption or energy sharing. Portugal is the first MS to fully implement the RED II. Finally, Greece has set out a very ambitious and encompassing legal framework for energy communities, consistent out of a variety of financial incentives and support measures.

Despite these differences, each of the legal and policy frameworks have presented a variety of ways to interpret and implement the rights, privileges and responsibilities in article 16 EMD and article 22 RED II. In particular, the following rights were given further shape:

- the right to a customized support scheme in article 22.7 RED II in Germany (temporarily reduced financial security deposit), Greece (exemption from bidding procedures for projects up to 18 MW is granted) and Ireland (separate auction procedure is being considered for community-led projects);
- the indirect right to tools to facilitate access to information and financing in article 22.4 (g) RED II in Ireland (Sustainable Energy Communities Programme);
- the right to fair, cost-reflective, transparent and non-discriminatory network charges in article 22.4 (d) RED II and article 16.3 (d) juncto article 15.2 (e) EMD by considering local grid tariff in Belgium (Wallonia), France, Portugal, and the Netherlands;
- the right to cooperation with the DSO in order to transfers within the community in the sense of art. 16.1 (d) EMD and 22.4 (c) RED II in Luxembourg, Slovenia, and Belgium (Wallonia);
- the right to sell its excess production of renewable electricity through purchase agreements in accordance with article 22.2 (a) RED II in Luxembourg, France and Portugal;
- the right to fair, proportionate, non-discriminatory and transparent procedures in article 22.4 (d) RED II and article 16.1 (e) EMD in Greece and Portugal.

An overview of the implementation of these different rights, privileges and responsibilities in the selected MS can be found in the Annex 2, as well as a more in-depth analysis of the national frameworks and their relation to the Clean Energy Package.

In addition, different implementation approaches to the principles of 'proximity', 'effective control', 'autonomy' and purpose in article 2 (11) EMD and REC in article 2 (16) RED could be observed in Germany, Greece, Belgium (Wallonia) and the Netherlands. An overview of implementation approaches to these different elements can also be found in Annex 2.

Annex 3 gives an overview and analysis of 18 different energy communities in and outside these MS, four of which are subject to a more detailed analysis, focusing in particular on governance structure, activities, key actions drivers and institutional barriers.

### 3. Recommendations for Member States to implement Energy Communities

Through a combination of top-down (cf. Annex 1 and 2) and bottom-up (cf. Annex 3) analysis, the Energy Community Taskforce arrived at the following key recommendations to guide EU MS in their quest to implement the European framework for CEC and REC.

#### 3.1. Draw on the experiences of existing energy community initiatives, or create a temporary space for them to emerge in

Some countries have little or no practical experience with initiatives comparable to REC and CEC, such as Slovenia, Luxembourg and Portugal.

If there are no existing practices, an approach similar to the one taken in Portugal or Wallonia is recommended; a gradual and layered transposition of the directives, which creates a legal space for test-cases of CEC and REC to emerge and experiment for a certain period of time, limited to the transposition deadline of both Directives into national law. Subsequently, these initiatives can be monitored by a designated governmental body in order to learn about key action drivers, barriers and organizational models that can inform the further implementation of the abstract rights, responsibilities and privileges in article 16 EMD and article 22 RED II, as well as governance dimensions of ‘effective control’ and ‘autonomy’ in article 2 (11) EMD and article 2 (16) RED II in secondary regulation, gradually and in line with these practices.

Some countries already have experience with energy communities or collective self-consumption such as the Netherlands, Germany, Austria, Belgium and France that can be expanded in order to meet criteria of REC. These MS can already start the assessment process of legal and administrative barriers, moving the existing approaches towards the definition of REC, and look at the most common legal organizational forms used for REC and CEC. The governance structure of the most common legal organizational forms can then further inform principles of ‘proximity’, ‘autonomy’, ‘effective control’ and ‘purpose’.

MS should, however, be careful with limiting the legal framework to one specific legal organizational form in order to not impede new types of organizations to emerge, as was recently the case with the Società Civile in Italy. The appropriate legal organizational form for REC and CEC will often depend on many contextual factors, including the configuration of actors, the geographical location and the motivations of the participants. Therefore it is important to allow for experimentation with new market models, partnerships and organizational models.

#### 3.2. Dare to be ambitious to maximize the potential of energy communities, but adequately differentiate between types

Energy community initiatives cover many loads, depending amongst others on the organizational model, ownership structure and participation criteria. Consequently, the breakdown into CEC on the one hand and REC on the other captures only some types of energy communities.

MS should therefore consider going beyond the conceptualizations for REC and CEC, and institutionalize also other types of energy communities, provided that the associated legal framework is customized to the size, ownership structure and number of projects that characterize these other types of energy community initiatives.

Different institutionalization models exist for going beyond the Clean Energy Package:

- In the **liberal** model, MS can try to experiment with other forms of energy communities. The governance criteria will be broader and thus allow more forms of energy communities to be included. Concordantly, the associated rights and privileges will be more restricted.
- In the **national golden** standard model, more strict governance criteria will apply, allowing for only few community energy projects to qualify for additional benefits going beyond the ones required by EU. Accordantly, the associated rights, privileges and responsibilities will be more extensive. In the regulatory sandbox model, only few projects will be allowed to enjoy the exemptions under the experimental legislation, allowing for few community energy projects to be included. The associated rights, privileges and responsibilities will often, but not necessarily, be more extensive.
- In the **all-inclusive model** a Member State can institutionalize tailor-made frameworks for different types of energy communities, depending on their specific and differentiated needs and characteristics. Here, the frameworks for REC and CEC will only be a piece of the puzzle.

### 3.3. Specify principles of ‘autonomy’, ‘effective control’ in order to avoid elite-capture

The definitions for REC and CEC contain abstract governance principles and criteria such as ‘effective control’, and for REC ‘autonomy’ in order to ensure their resilience to outside interference, elite-capture by traditional energy companies, and profit-over-value mentality.

These practices are often a consequence of an unlevel playing field between actors within a community or between the community and external actors caused by an imbalance in expertise and financial resources. The imbalance of financial means can be remedied by principles such as ‘one member one vote’ and shareholding caps. The unlevel playing field in terms of expertise can be remedied through active support in the form of training sessions, seminars, events and case-studies organized by government agencies, as is done in Ireland.

Mechanisms of ‘effective control’ can be identified in Germany, Greece and the Netherlands. In Greece, effective control by the community is enforced through participation quota (dependent on which type of actors participate), the principle of 1 member 1 vote, as well as the shareholding caps of 20% for private entities and natural persons, and differentiated shareholding caps for municipalities. In Germany, there is a cap of 10% on the amount of voting rights each actor can hold. Finally, in the Netherlands, effective control over certain decisions are guaranteed through the requirement that the general assembly within an association or cooperative needs to have control over the set-up, progress and/or cost-distribution.

Mechanisms of ‘autonomy’ can be identified in the Netherlands, Germany and Greece. In Greece, this is done through the obligation for consent of the Board of Directors before a transfer of a cooperative share to a member of a third party can occur, as well as the minimum participation quota. In the Netherlands, this is ensured through the prohibition of DSOs, TSOs or legal persons that (in)directly are producer or supplier of electricity to have any say in the management of the community. In Germany, 51% of the voting rights are reserved to citizens in order to guarantee citizen control over the citizens’ energy company.

Despite these governance mechanisms, practices in the Germany and Greece have shown incidences of ‘proxy-communities’, i.e. traditional energy companies that create a small energy communities through third persons or organizations which they control. Imposing a minimum participation quota, or requiring a certain degree of independence could help prevent such practices.

In any case, MS will do well in allowing some room for REC and CEC to interpret and define these principles themselves in their statutes (e.g. in the case of EWS Schönaau, the community introduced a limit of 10 shares per member in order to avoid people joining just to make a profit), whilst reserving the power for government agencies to further specify minimum rules in secondary regulation, as is provided for in Belgium (Wallonia). Such rules can then best be made dependent of the local perimeter, as well as the quality of the participants and the legal form assumed by the community, as is done in Greece.

### **3.4. Define the concept of ‘locality’ for collective self-consumption and energy sharing in line with grid topology, but do not equate it with the element of ‘proximity’ for REC**

In Luxembourg, Belgium (Wallonia), Slovenia and the Netherlands, the principle of ‘locality’ for the activity of collective self-consumption is defined in accordance with grid topology.

Luxembourg has for example defined the notion as an area downstream of the high and/or medium voltage electricity transformer station connected to the low-voltage station operated by the relevant DSO in order to conform with the reality that customers switch around the network from time to time and that most low voltage feeders can be connected to two different medium voltage stations.

MS should, however, be mindful not to confuse the principle of ‘locality’ for collective self-consumption with the principle of ‘proximity’ in the RED II for REC. For collective self-consumption or energy sharing all of the participants will most likely have to be located in proximity of each other, whilst for REC only those in effective control need to be located in proximity of the projects owned and developed by the community.

In Greece, the element of ‘proximity’ is transposed through the requirement that 50% plus one of the members need to be located in the same District as the headquarters of the energy community. Such an interpretation provides flexibility for both the location of the production units and the members of the community.



### 3.5. Put in place participation mechanisms for energy poor and vulnerable households

MS are advised to install additional mechanisms to ensure that energy poor and vulnerable households share in the benefits produced by REC and CEC.

In Greece, several provisions are explicitly dedicated to energy poor and vulnerable households:

- 2% of the profits need to be distributed to them;
- they can be supplied with energy from the energy community, without having to be a member or shareholder;
- virtual net-metering can be applied to cover their energy needs within the Region where the community's headquarters are located.

MS are especially encouraged to ensure the possibility for energy poor and vulnerable households to participate in schemes that remunerate flexibility services provided by REC and CEC to the grid.

### 3.6. Consider the value that CEC and REC can provide to the public network

With subsidies for renewable energy in decline, REC are often struggling to build a business case. Local grid tariffs based on the actual network cost of the community for the public grid provides a possible avenue to create an extra sources of revenue for REC.

Several countries are thinking of introducing a locally differentiated grid tariffs, including Portugal, Austria, France and Belgium (Wallonia). Local grid tariffs can support the establishment of REC and CEC and aim to reflect the impact of energy communities on the grid system, taking into account the diverted investment costs due to limited use of the transmission grid, and reduced transmission and distribution losses.

The reasoning behind this approach is that REC and CEC that only use the distribution network should not pay transmission network-related charges which are related to the maintenance, operation and expansion of the transmission network. In reality, REC and CEC will, however, often remain dependable to some extent on the central transmission network due to the intermittent nature of renewables. Taking into account this reality, Portugal has proposed to introduce specific network charges, i.e. normal network charges deducted by charges related to the use of the transmission network when there is no injection of energy from the transmission network; or part of the charges related to the use of the transmission network when there is inversion of energy flow between the distribution and transmission network.

Alternatively, MS can opt for the ex-post remuneration model of (part of) the grid tariff. This model will allow for remuneration in case of proven reduction of diverted investment costs or other benefits to the system. This model has been tested in the case of Schoonschip in the regulatory sandbox in the Netherlands, where it was proven that the local energy sharing and demand side management enabled the DSO to connect this new neighbourhood with one connection with approximately half the capacity normally used for a neighbourhood of this size. This allowed the DSO to avoid local grid

reinforcement to a high voltage system, which would have resulted in an increase in socialized network connection costs.

In Austria also a rolling cost model is discussed that not only differentiates between high and low tariff times but also between base and peaktimes.

In any case, MS are advised to not disproportionately socialize costs to other customers that cannot or do not participate in a REC or CEC.

### 3.7. Consider the value of REC and CEC to the community

Social cohesion, trust, justice and democracy are potential values produced by REC and CEC which can justify subsidies in the form of dedicated support mechanisms or local grid tariffs linked with lower contributions to taxes and surcharges.

An example of a dedicated support mechanism can be observed in Greece, where an exemption from bidding procedures for projects up to 18 MW is granted to Energy Communities. In addition, a compensation of 10% from the weighted average price obtained 3 years before the last bidding procedure for wind farms < 6 MW and for PV installations < 1 MW, based on Ministerial Decision.

An example of lower contributions to taxes and surcharges in local tariffs can be observed in Portugal, where the charges related to costs of energy policy, sustainability and economic interest can be partially or totally deducted by means of the Government member responsible for energy.

When designing such schemes, it is important for MS to balance the benefits of REC and CEC to the electricity system with the financial implications for other customers.

### 3.8. Pro-actively support the set-up of REC and CEC

Set up a support program that helps REC (and CEC) to learn from other community energy projects and provide independent technical, legal, project and financial advice and support.

A good example in this regard can be observed in Ireland, where the Sustainable Energy Authority of Ireland has established the “*Sustainable Energy Communities Programme*”. The program consists out of 3 steps: learn, plan and do. In the first step, a community can become a member of the nationwide Sustainable Energy Community Network, which creates a space for communities to engage and learn from project site visits, seminars, events, and case-studies in order to help them identify and develop energy projects. In the second step, the community can enter into a three-year partnership with the SEAI and start designing an Energy Master Plan. During this three year period the community receives active support and mentoring from SEAI in order to identify energy saving opportunities and other energy-related activities. In the last step, the community can also apply for dedicated funding from the SEAI to help realize the Energy Master Plan.<sup>64</sup> The program focuses on energy efficiency first, and the use of renewable energy and smart energy solutions second.



### 3.9. Consider a separate auction-based support scheme for REC

REC often have difficulties competing over subsidies with larger, more experienced energy companies which have the capacity to develop a project for the lowest amount of subsidies.

MS can consider separate auctions for REC to compete over renewable energy subsidies. In Ireland, such a separate auction procedure is being considered for community-led projects in the High Level Design Paper on Renewable energy Support Schemes.<sup>7</sup>

### 3.10. Streamline, simplify and make less burdensome licensing and network connection procedures

Supply and production licensing procedures and requirements need to be reduced or at least simplified or streamlined so that it is easier to engage in production and supply for REC and CEC. In particular, responsibilities that do not pertain to either security of supply or consumer protection will need to be eased, such as licensing and administration fees, publishing requirements of tariffs, bank guarantees, etc.

In addition, the financial and technical requirements that are imposed to guarantee security of supply or consumer protection should be adjusted to the geographical scope of supply. It makes, for example, little sense to subject an energy company involved in nation-wide scale supply to the same financial and technical requirements as an island REC that only supplies a limited amount of small consumers.

The regulator should also check whether registration and license conditions are appropriate for the purpose and size of energy communities. Exemptions to certain conditions can then be provided. In Greece, the minimum supply licensing capital is reduced.

Finally, MS should ensure that grid connection, production licensing and supply licensing procedures do not take a disproportionate amount of time. In Greece, this has been addressed through priority treatment in applications for connection to the grid and approval of the environmental conditions for renewable energy sources and high-efficiency co-generation production units, as well as priority in consideration of application for production licensing for RES, CHP and hybrid power plants from Energy Communities compared to other applications in the same territory for the same application cycle. Furthermore, there is a transfer of production license, meaning they can use their production license in the same region. In Portugal, Renewable Energy Communities can even be exempted from prior control/communication, registration and operating certificate or the network operator's approval, depending on the installed capacity or the use of the public network for injection of electricity in case of production units used for self-consumption purposes.

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<sup>7</sup> See Government of Ireland, 'Renewable Electricity Support Scheme (RESS). High level design', June 2018.

### **3.11. Do not reduce the concept of CEC and REC to mere collective self-consumption and vice versa.**

MS should not reduce the concept REC and CEC to the activity collective self-consumption and energy sharing, as both RED II and EMD envision many more activities for them which will need to be regulated. In addition, such an equation limits the possible geographical distribution of participants more severely than prescribed by RED II for REC (cf. comment 6.4.)

On the other hand, the activity collective self-consumption and energy sharing is not necessarily limited to a REC or CEC either. In particular, collective self-consumption is separately defined as 'renewables self-consumption' in Article 21 of REDII and should be enabled independently from energy communities.

For the sake of clarity, MS are therefore advised to either regulate these activities and REC and CEC in different legislative acts, such as in Greece, or make a clear distinction between them in order to avoid confusion, resulting in a limited interpretation and application of both concepts. A good example in this regard can be observed in France, where it is explicitly mentioned that collective self-consumption can be extend across multiple buildings when the supply of electricity is made between one or more producers and one or more consumers linked to each other within a legal entity, being potentially but not exclusively a REC.

## Annex 1. The European Framework

The EMD defines the legal concept of “*citizen energy communities*” (CEC) in article 2 (7) and associates it with a set of rights, privileges and responsibilities in article 16. The RED II defines the legal concept of “*renewable energy communities*” (REC) in article 2 (16) and relates it to a set of rights, privileges and responsibilities in article 22.

Annex 1 discusses the legal concept of CEC and REC in the first section (1.1.). The associated rights, privileges and responsibilities are discussed in the second section (1.2.). The third section (1.3.) explains the relationship between REC and CEC. Finally, the last section (1.4.) gives an overview of possible institutionalization/implementation scenarios for the EU MS.

### 1.1. Legal concept

The legal concept of CEC in article 2 (11) EMD and REC in article 2 (16) RED II are defined as follows:

**‘renewable energy community’** means a legal entity:

- (a) 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;
- (b) the shareholders or members of which are natural persons, SMEs or local authorities, including municipalities;
- (c) 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;”

**‘citizens energy community’** means a legal entity:

which is based on voluntary and open participation, effectively controlled by shareholders or members who are natural persons, local authorities, including municipalities, or small enterprises and microenterprises. The primary purpose of a citizens energy community is to provide environmental, economic or social community benefits for its members or the local areas where it operates rather than financial profits. A citizens energy community can be engaged in electricity generation, distribution and supply, consumption, aggregation, storage or energy efficiency services, generation of renewable electricity, charging services for electric vehicles or provide other energy services to its shareholders or members;”

These definitions are further complemented by recital 44 EMD, which states that decision-making power in CEC “*should be limited to those members or shareholders that are not engaged in large scale commercial activity and for which the energy sector does not constitute a primary area of economic activity.*” Large energy companies will thus be allowed to participate but cannot hold any decision-making power. Article 22 RED, on the other hand, provides that mainly private households are envisioned to participate in REC. Enterprises can only participate to the extent that “*their participation does not constitute their primary commercial or professional activity*”. Energy companies, irrespective of their size, will thus not be allowed to participate in a REC.

Both concepts can be conceptualized in the following table (Table 1):

Table 1: Overview conceptual dimensions Citizen and Renewable Energy Communities

EMD			RED II	
<b>Energy sector</b>	Electricity market (technology-neutral)		Renewable energy market (heat and electricity based on renewable energy)	
<b>Legal form</b>	Any		Any	
<b>Participation</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>
	Open and voluntary	Any	Open and voluntary	Natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity
<b>Control</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>
	Effective control	Natural persons, local authorities and small and micro-sized enterprises	Effective control	Natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity
<b>Autonomy</b>	Large energy companies cannot exercise any decision-making power		Explicitly mentioned	
<b>Geographical limitation</b>	No		Those in control need to be located proximity of projects owned and developed by the community	
<b>Activities</b>	Generation, distribution, supply, consumption, sharing, aggregation and storage of electricity Energy-efficiency services, EV charging-services, other energy-related services (commercial)		Generation, distribution, consumption, storage, sale, aggregation, supply and sharing of renewable energy Energy-related services (commercial)	
<b>Purpose</b>	Social, economic and environmental benefits for members/shareholders or the local area in which it operates		Social, economic and environmental benefits for members/shareholders or the local area where it operates	

### 1.1.1. Energy sector

CEC operate within the electricity sector and can be renewables and fossil fuel based (i.e. technology-neutral). REC, by contrast, can operate within both the electricity and the heating sector, if they are renewable energy based (Figure 2).

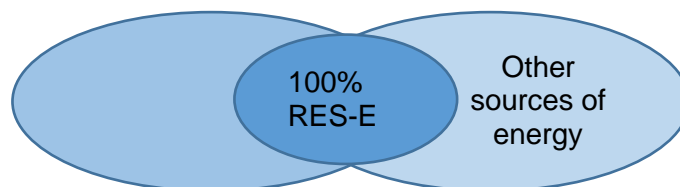


Figure 2: Energy sources of Renewable and Citizen Energy Communities<sup>8</sup>

### 1.1.2. Legal entity

There are a variety of legal organizational forms available to energy communities, including cooperatives, public/private limited liability companies, (limited) partnerships, trusts, non-profit organizations, associations, social benefit companies, community interest companies, public utility companies, non-profit customers-owned enterprises, etc. Some of these organizational forms are commonly available in all of the EU MS (e.g. cooperatives, limited liability companies, etc.). Others are quite novel and unique (e.g. Società Benefit in Italy<sup>9</sup>).

Empirical evidence shows that the cooperative form is most commonly used by energy communities – a finding that is also supported by the EC TF Questionnaire (Figure 3).

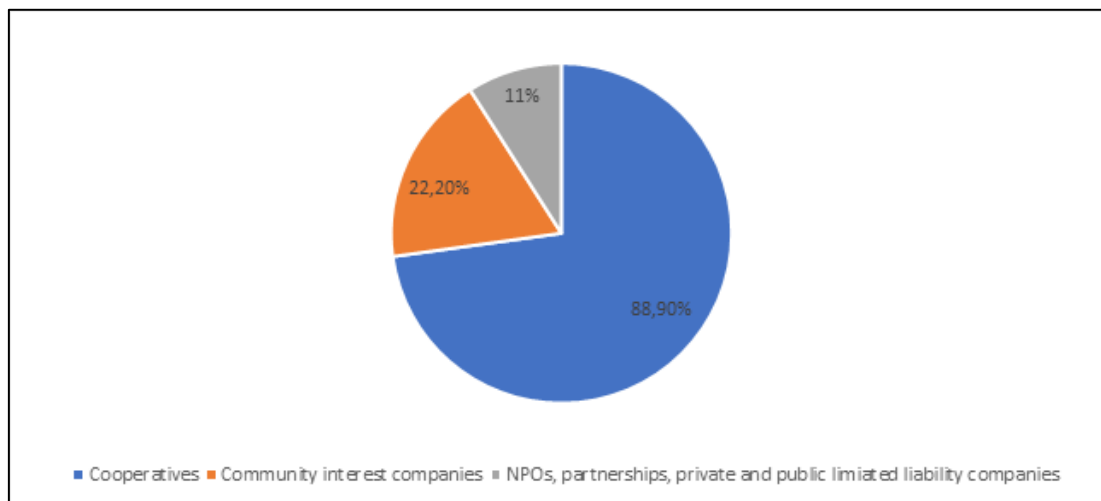


Figure 3: Most common legal organizational forms for Energy Communities

<sup>8</sup> Figure presented in a powerpoint presentation of J. Steinkohl and M. Jasiak at the NSCG event on the 18th of June 2019. Original source: Directorate-General for Energy.

<sup>9</sup> <http://www.societabenefit.net/>.

### 1.1.3. Actors involved

A CEC allows for any type of actor join the community, but can only be effectively controlled by natural persons, small and micro-enterprises and local authorities, including municipalities, irrespective of their geographical location. This definition is broader than the one provided in RED II, as it also leaves room for communities-of-interest<sup>10</sup> (e.g. Retenergie<sup>11</sup>) or virtual communities (e.g. Solardachbörse<sup>12</sup>).

For REC, only natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity are allowed to participate. In addition, separate provisions in article 22.4 (f) and (h) RED II are dedicated to the participation of low-income and vulnerable households and public authorities in REC.

REC can be effectively controlled by natural persons, SMEs whose participation do not constitute their primary economic activity and local authorities, provided that all of these actors are located in proximity of the community energy project. In this light, REC will most likely be so-called ‘communities-of-location’;<sup>13</sup> i.e. a community that is connected through a common place, such as a common neighborhood, municipality or village. Examples of such initiatives are the ‘Ballen-Brundby Energy Cooperative’<sup>14</sup> in Denmark and the ‘Comunità Solare Locale’<sup>15</sup> in Italy.

### 1.1.4. Open and voluntary participation

The extent to which energy community initiatives are ‘open’ will depend on which actors it allows to participate; sometimes participation is limited to certain types of actors (e.g. customers and family of customers in the case of EWS Schönau), or extra requirements are imposed, such as a geographical connection (e.g. Amelander Energie Coöperatie<sup>16</sup>).

In addition, a certain amount of shares will have to be purchased before being allowed to enter into an energy community. The price-tag of these shares tends to vary between 50 (e.g. Retenergie) and 500 EUR (e.g. EWS Schönau<sup>17</sup>). For vulnerable households this often constitutes an obstacle to join energy community initiatives, since priorities will lie elsewhere.

The extent to which participation is ‘voluntary’ will often depend on the specified period of time in which the members or shareholders are allowed to leave, as well as the mandatory notice period (e.g. in Ecopower members can leave after 6 years, taking into account a notice period of 6 months). There may be a need to differentiate between leaving the community as consumer and as member with a share. In terms of changing of supplier, EMD is very strict on consumer rights.

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<sup>10</sup> Gordon Walker, ‘What are the barriers and incentives for community-owned means of energy production and use?’ Elsevier 2008, p. 4402.

<sup>11</sup> <https://www.energy-democracy.net/?p=340>.

<sup>12</sup> <http://www.solardachboerse.de/marktplatz/>.

<sup>13</sup> Gordon Walker, ‘What are the barriers and incentives for community-owned means of energy production and use?’ Elsevier 2008, p. 4402.

<sup>14</sup> <http://seacourse.dk/wiki/tiki-index.php?page=District+Heating+Plant%2C+Ballen-Brundby>.

<sup>15</sup> <https://comunitasolare.eu/>.

<sup>16</sup> <https://www.amelandenergie.nl/>.

<sup>17</sup> <https://www.ews-schoenau.de/>.



#### 1.1.5. Effective control

There are many ways for an actor or a community to acquire effective control over an energy community. Article 2 (56) EMD defines ‘control’ as:

*means rights, contracts or any other means which, either separately or in combination and having regard to the considerations of fact or law involved, confer the possibility of exercising decisive influence on an undertaking, in particular by:*

- (a) ownership or the right to use all or part of the assets of an undertaking;*
- (b) rights or contracts which confer decisive influence on the composition, voting or decisions of the organs of an undertaking;”*

The definition differentiates between effective control *de jure* and *de facto*. *De jure* effective control can be achieved through ownership and the right to use all or part of the communities’ assets, the acquirement of a majority of the voting rights, and preferential shares that enable its holders to appoint the majority of the board. *De facto* effective control, by contrast, can be brought about when it is highly likely that a majority will be achieved at the shareholders’ meeting considering the track record of present shareholders in past shareholder meetings, or the dispersed allocation of remaining shares.

#### 1.1.6. Autonomy (specifically mentioned for RECs)

Autonomy is closely related to effective control, but places a higher emphasis on resilience of the energy communities against influence from external actors in order to safeguard the collective will of the members. Recital 71 further RED II further clarifies that “*to avoid abuse and to ensure broad participation, renewable energy communities should be capable of remaining autonomous from individual members and other traditional market actors that participate in the community as members or shareholders, or who cooperate through other means such as investment.*”

The principle of autonomy has been introduced in RED II for REC specifically, although Recital 44 in EMD also identifies a principle of autonomy in relation to CEC, namely the explicit prohibition for large energy companies to exercise any decision-making power in the community.

#### 1.1.7. Activities

Both CEC and REC can exercise similar activities, including generation/production, distribution, supply, aggregation, consumption, sharing, storage of energy, but also the provision of energy-related services. In contrast, provisions of EV charging services and energy-efficiency services is not explicitly mentioned for renewable energy communities.

**Production** of electricity<sup>18</sup> or generation of renewable energy is often the primary activity of energy communities. This activity either stands alone (e.g. Beauvent) or is combined with other activities, such as supply (e.g. Ecopower).

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<sup>18</sup> Cf. art. 2 (31) EMD which states that generation is the production of electricity.

**Supply** is defined in article 2 (12) EMD as the sale, including resale, of electricity to participants of the community<sup>19</sup> (e.g. Ballen – Brundy District Heating) and/or outside customers (e.g. EWS Schönaue). Either the energy community will produce the energy it supplies (e.g. Ecopower) or it will buy (in part) the energy from an external supplier (e.g. Amelander Energie Coöperatie).

**Sales** is related to the activity of supply (*supra*), and can be done in different ways, either through power purchase agreements or peer-to-peer trading arrangements. Peer-to-peer trading is defined in RED II as “*the sale of renewable energy between market participants by means of a contract with pre-determined conditions governing the automated execution and settlement of the transaction, either directly between market participants or indirectly through a certified third-party market participant, such as an aggregator.*”<sup>20</sup>

**Aggregation** of multiple customer loads or generated electricity for sale, for purchase or auction in any electricity market.<sup>21</sup> Energy communities can aggregate the electricity produced by the production units owned by the community and/or the consumption profiles of their participants and/or external customers (e.g. Abbassa la bolletta<sup>22</sup>) and offer these aggregated loads collectively on the wholesale, retail or balancing market.

**Collective self-consumption** can be seen as a combination of energy production, distribution, supply and consumption within a geographically confined area, either at a building scale (e.g. multi-level apartments) or block scale (different buildings).<sup>23</sup> The RED II specifically targets collective self-consumption by introducing in Article 2 (15) RED II the term “*jointly acting renewables self-consumers*” which is defined as “*renewable self-consumers [...] who are located in the same building or multi-apartment block.*”

**Sharing** is, in both the EMD and RED II, allowed within the community for electricity or renewable energy produced using generation or production assets owned by the CEC or REC (e.g. EWS Schönaue eG). However, both directives remain on the surface on what energy sharing means, although recital 46 EMD does provide some clarification: “*electricity sharing enables members or shareholders to be supplied with electricity from generating installations within the community without being in direct physical proximity to the generating installation and without being behind a single metering point.*” An example of community energy sharing is Schoonschip.

Energy sharing is seen by TF members as key opportunity to optimizing the economics of the grid. Real investment cost of the grid part in which the sharing is performed is reflected, an optimized use of infrastructure/RES via including all actors in the chain is enabled. Balancing of local generation and demand requires less grid connection capacity that needs to be contracted.

**Distribution** of electricity on high-voltage, medium-voltage and low-voltage distribution systems ensures the delivery to participants of the community, outside customers and/or outside consumers, but does not include supply. Whether this activity is allowed will depend on the member state. The

<sup>19</sup> Based on definition in EMD.

<sup>20</sup> Art. 2 (18) RED II.

<sup>21</sup> Based on definition in EMD.

<sup>22</sup> <https://www.altroconsumo.it/gruppoacquisto/abbassalabolletta/chiuso>.

<sup>23</sup> Article 2 (15) RED II defines “*jointly acting renewables self-consumers*” as “*renewables self-consumers [...] who are located in the same building or multi-apartment block.*”



most prominent example in this regard can be found in Germany, where energy community initiatives such as EWS Schönauf have shown to be capable of operating the local distribution grid in a safe and efficient way for many years.

**Energy services** primarily consist out of the provision of energy saving and efficiency services to the participants and/or customers of the energy community. Examples of such services are free energy saving check-ups, energy saving tips and tricks, a shopping guide for energy-efficient appliances, a mobile application that helps to manage energy saving, the rental of power meters, subsidies for isolation and replacement of heat pumps, energy auditing, consumption monitoring, etc. Examples of energy communities providing such services are Ecopower and EWS Schönauf.

**Electro-mobility services** such as community car sharing and pooling, EV charging station operation, EV charging cards, etc. (see e.g. EWS Schönauf).

#### 1.1.8. Proximity (specifically mentioned for RECs)

Members or shareholders in effective control of a REC need to be located in proximity of the projects owned and developed by the community. The interpretation of the element of 'proximity' is left to the discretion of the MS.

#### 1.1.9. Purpose

Rather than profit-making, the primary purpose of both CEC and REC is to provide environmental, social and economic benefits to her members or shareholders, or the area in which it operates.

The divide between profit-making and economic benefits is not always clear. To the extent that an energy community issues annual dividends to its shareholder or members and reinvests a part of its profit in expansion of activities and services, it is doubtful whether it be considered distinct from business-as-usual. In this case, additional benefits will need to be provided. A distinction can be made between economic, social and environmental benefits:

Table 2: Overview of potential social, economic and environmental benefits of Energy Communities

<b>Economic</b>
<p><u>Local value creation</u></p> <p>Keeping added economic value within the communities; creating local economies. For example, EWS Schönaue owns the local distribution grid and grid maintenance works are outsourced to local companies. The tax payer's money for grid maintenance is as such kept inside of the community.</p> <p><u>Employment opportunities</u></p> <p>Creating local employment opportunities, which prevents a migration of potential talents to big cities. For example, EWS Schönaue eG employs ca. 110 people - most of whom are young people raised in the community.</p> <p><u>Financial benefits</u></p> <p>Reduced electricity bills by promoting energy saving, reducing annual dividends (EWS Schönaue), the price of energy or exempting customers from fixed costs (e.g. Ecopower).</p>
<b>Social</b>
<p><u>Energy democracy</u></p> <p>Energy communities are given ownership and decision-making power over their energy production and supply. They get to decide either directly through a general assembly (e.g. Thessaloniki Energy Cooperative) or indirectly through the board of directors (e.g. EWS Schönaue eG) on the development and operation of new energy projects.</p> <p><u>Energy justice</u></p> <p>According to the principle that those impacted by a project should also receive (some of) its benefits.</p> <p><u>Education</u></p> <p>Awareness-raising on climate and energy issues.</p> <p><u>Social cohesion and trust</u></p> <p>Nurturing a culture of cooperation.</p> <p><u>Energy autonomy</u></p> <p>Create energy independence and local security of supply.</p>
<b>Environmental</b>
<p><u>Local production of zero-emission energy</u></p> <p>Increase the share of renewable energy at the local level.</p> <p><u>Less air pollution</u></p> <p>Avoid air pollution consequential to production of heat or electricity from fossil fuels.</p>

Aside from benefits for its members or shareholders or the area in which it operates, energy communities can also have wider benefits for society. According to the results of the EC TF

Questionnaire, the most prominent actual benefits that energy can provide are (1) the promotion of energy saving and efficiency (60%), (2) increase democratic support for RES projects (50%), (3) decrease energy poverty, investment in local infrastructure and emission-reduction (45%); (4) increase trust, social acceptance, reduce energy prices (40%); (5) increase security of supply (35%); (6) foster local economic growth (30%); (7) generate jobs (20%); and (8) provide return on investment (15%).

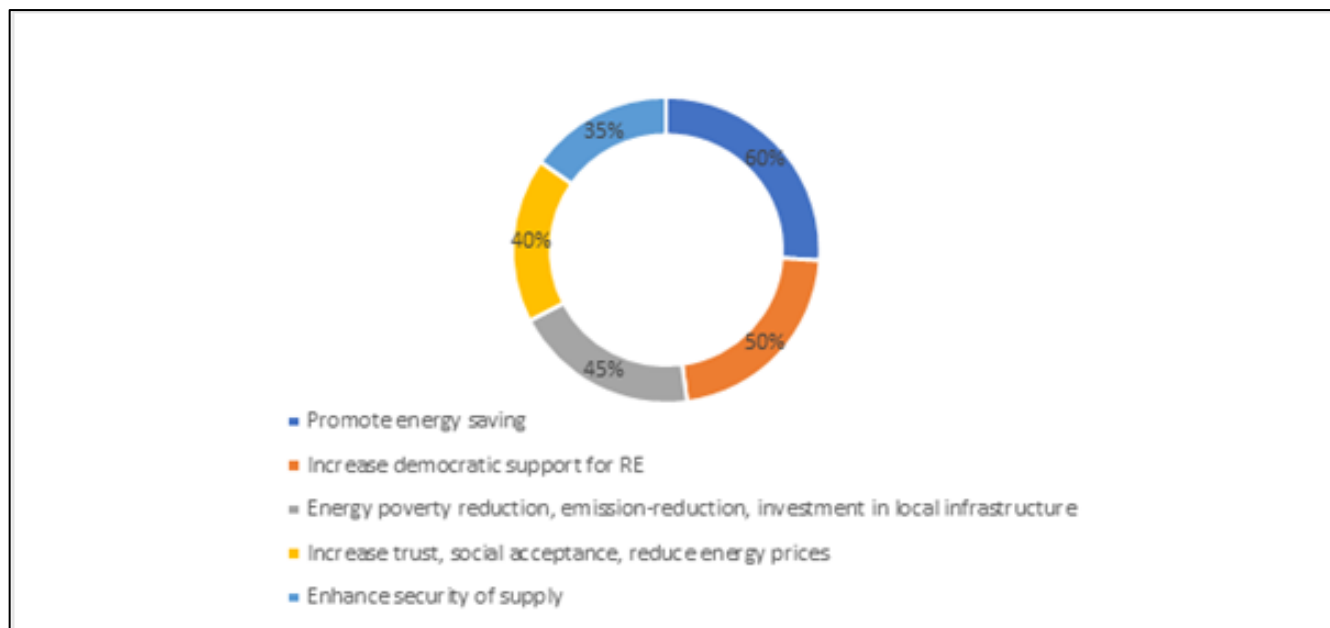


Figure 4: Overview of most prominent societal benefits provided by Energy Communities (top 5)

## 1.2. Associated rights, privileges and responsibilities

Both article 16 EMD and article 22 RED II allocate a set of rights, privileges and responsibilities to CEC and REC in order to create a level playing-field on the relevant energy markets. These rights, privileges and responsibilities are captured in the following table (Table 3):

Table 3: Overview rights and responsibilities Citizen and Renewable Energy Communities

Activities	CEC	REC
<b>Generation</b>	Allowed	Allowed
<b>Rights</b>		
Non-discriminatory, fair, proportionate and transparent licensing procedure	YES (indirect right)	YES (indirect right)
Non-discriminatory, fair, proportionate and transparent registration procedure	YES (indirect right)	YES (indirect right)
Non-discriminatory, transparent and cost-reflective network charges	YES (indirect right)	YES (indirect right)
<b>Responsibilities</b>		

Financially responsible for imbalances	YES	
<b>Distribution</b>	Discretion MS	N.S.
<b>Rights</b>		
Own, establish, purchase, lease and autonomously manage a distribution network	Discretion MS	
An agreement with the DSO	YES (if distribution is allowed)	
Exemption from the requirement to procure the energy the community uses to cover energy losses and the non-frequency ancillary services in its system according to transparent, non-discriminatory and market-based procedures	Discretion MS	
Requirement under Article 6 (1) that tariffs, or the methodologies underlying their calculation, are approved prior to their entry into force in accordance with Article 59 (1)	Discretion MS	
Exemption from the requirements under Article 32(1) to procure flexibility services and under Article 32(3) to develop the operator's system on the basis of network development plans	Discretion MS	
Exemption from the requirement under Article 33(2) not to own, develop, manage or operate recharging points for electric vehicles	Discretion MS	
Exemption from the requirement under Article 36(1) not to own, develop, manage or operate energy storage facilities	Discretion MS	
<b>Responsibilities</b>		
Unbundling requirements	YES (if distribution is allowed)	
Grant regulated or negotiated third party access (TPA) to outsiders	YES (if distribution is allowed)	
Pay appropriate network charges at the connection point	YES (if distribution is allowed)	
<b>Supply</b>	Allowed	Allowed
<b>Rights</b>		
Non-discriminatory, fair, proportionate and transparent licensing procedure	YES (indirect right)	YES (indirect right)
Non-discriminatory, fair, proportionate and transparent registration procedure	YES (indirect right)	YES (indirect right)
Non-discriminatory, transparent and cost-reflective network charges	YES (indirect right)	YES (indirect right)
<b>Responsibilities</b>		
Respect the freedom to switch suppliers	YES (indirect right)	YES (indirect right)

Financially responsible for imbalances	YES	
<b>Sharing</b>	Allowed	Allowed
<b>Rights</b>		
Cooperation of the relevant DSO, subject to fair compensation as assessed by the regulatory authority, to facilitate transfers within the community	YES (indirect right)	YES (indirect right)
Arrange within the community sharing of electricity/renewable energy that is produced by the production units owned by the community subject to the provisions of this article and retaining community members' rights and obligations as consumers	YES	YES
<b>Responsibilities</b>		
Subject to applicable network charges, tariffs and levies, in line with a transparent cost-benefit analysis of distributed energy resources developed by the national competent authority	YES	YES (indirect right)
<b>Consumption</b>	Allowed	Allowed
<b>Rights</b>		
Non-discriminatory, transparent and cost-reflective network charges	YES (indirect right)	YES (indirect right)
<b>Collective self-consumption</b>	Allowed	Allowed
<b>Rights</b>		
Cost-reflective, transparent and non-discriminatory network charges, accounting separately for the electricity fed into the grid and the electricity consumed from the grid	YES	
Cost-reflective transparent and non-discriminatory network charges	YES	YES
<b>Sale/Purchase</b>	Allowed	Allowed
<b>Rights</b>		
Access to all electricity markets either directly or through aggregation in a non-discriminatory manner	YES	YES
Sell renewable energy through power purchase agreements		YES
<b>Other</b>		
<b>Responsibilities vis-à-vis members/shareholders</b>		
Allowed to leave the community	YES (indirect right)	
Not lose their rights and obligations as household customers or active customers	YES (indirect right)	
Equal and non-discriminatory treatment of consumers that participate		YES (indirect right)
<b>General rights and privileges</b>		
Treated in a non-discriminatory and proportionate manner with regard to their activities, rights and obligations as final customers, generators, suppliers, distribution system operators or market participants engaged in aggregation	YES	YES (indirect right)
An assessment of the existing barriers and potential development of the communities		YES
Removal of unjustified regulatory and administrative barriers		YES

		(indirect right)
Tools to facilitate access to finance and information		YES (indirect right)
Support scheme that takes into account the specificities of renewable energy communities		YES
Regulatory and capacity-building support is provided to public authorities in enabling and setting up renewable energy communities, and in helping authorities to participate directly		YES (indirect right)

Note that to the extent the legal provisions in article 16 EMD and article 22 RED do not indicate otherwise, it is assumed that the provisions relevant for the different activities apply *mutatis mutandis* to a CEC and REC.

Considering the above-provided analysis, it can be said that the rights and responsibilities attached to CECs are focused on creating a level playing field with more respect for member state's autonomy, while for RECs, it is aimed at active support through a set of additional privileges, including:

- an assessment of the existing barriers and potential development of the communities;
- removal of unjustified regulatory and administrative barriers;
- tools to facilitate access to finance and information;
- a support scheme that considers their specificities;
- provision of regulatory and capacity-building support to public authorities in enabling and setting up renewable energy communities, and in helping authorities to participate directly.

### 1.3. The relationship between citizen and renewable energy communities

#### 1.3.1. Legal concept

Both concepts share a common core:

- REC and CEC are legal entities with specific characteristics (limited resources in terms of time, technical know-how and financial means) which flow from their governance requirements, membership structure and purpose. This justifies a separate legal framework in order to provide a level playing field;
- local authorities, citizens and private enterprises can participate alongside each other;
- the primary purpose is to provide environmental, social and economic benefits to her members or shareholders, or the area in which it operates;
- both CEC and REC can exercise similar activities, including generation/production, distribution, supply, aggregation, consumption, sharing, storage of energy, but also the provision of energy-related services.

Beside these communalities, there are also some fundamental differences:

- CEC operate within the electricity sector and can be both renewables and fossil fuel based (i.e. technology-neutral). A REC, in contrast, can operate within both the electricity and the heating sector, provided that they are renewable energy based;

- any actor can participate in a CEC, as long as members or shareholders that are engaged in large scale commercial activity and for which the energy sector constitute a primary area of economic activity do not exercise any decision-making power. REC, on the other hand, have a more restricted membership and only allow natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity. In addition, a separate provision in article 22 RED is dedicated to the participation of low-income and vulnerable households and public authorities in REC;
- REC can be effectively controlled by SMEs located in proximity of the community energy project, whilst CEC cannot be effectively controlled by medium-sized enterprises, but only small and micro-sized enterprises;
- The provision of energy efficiency services and EV-charging services are explicitly mentioned for CEC, but not for REC.

### 1.3.2. Rights, privileges and responsibilities

The rights and responsibilities attached to the concept of CEC are focused on creating a level playing field and leave more room for interpretation by the MS. The framework for REC, on the other hand, consists out of a set of privileges which are aimed at actively supporting these initiatives, such as:

- an assessment of the existing barriers and potential development of the communities
- removal of unjustified regulatory and administrative barriers;
- tools to facilitate access to finance and information;
- a support scheme that takes into account the specificities of renewable energy communities.

It should be noted that citizen energy communities can be granted the right to attain the status of a DSO. This has not been explicitly mentioned for renewable energy communities, although assumed to apply *mutatis mutandis* by some authors<sup>24</sup> in light of article 22.4 (e), which states that “*renewable energy communities are not subject to discriminatory treatment with regard to their activities, rights and obligations as [...] distribution system operators...*”.

Aside from these differences, both CEC and REC have several rights and responsibilities in common (including the right to fair, proportionate and transparent licensing procedures, the right to cost-reflective, transparent and non-discriminatory charges and the right cooperation of the DSO to facilitate energy sharing and the responsibility to respect the freedom to switch supplier of its customers and/or members or shareholders.

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<sup>24</sup> Frieden, D., Tuerk A., Roberts J., d'Herbemont S., Gubina A., 'Collective self-consumption and energy communities: Overview of emerging regulatory approach in Europe', H2020 project COMPILE, June 2019.



Considering the above, the relationship between CEC and REC can be captured in a pyramid (Figure 5). This is also in accordance with the vision communicated by Directorate General for Energy of the European Commission (DG Energy).

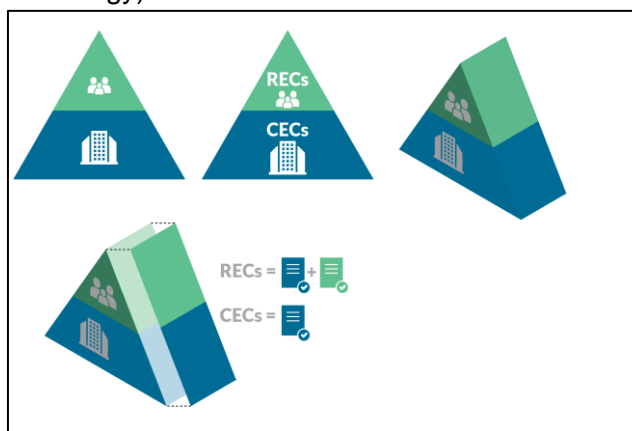


Figure 5: Relationship between Renewable and Citizen Energy Communities<sup>25</sup>

The basic idea behind this figure is that REC situated at the top because they can claim more rights and privileges (vertical line) and have more strict governance criteria than CEC (horizontal line).

To summarize, it can be said that REC are 100% renewable energy based, have stricter governance criteria and are actively supported and enjoy favorable conditions for RES support. CEC, on the other hand, have less strict governance criteria due to a more open membership, and enjoy rights that promote non-discriminatory treatment and a level-playing field.

#### 1.4. Institutionalization approaches

Different approaches can be identified when institutionalizing energy communities within the CEP framework, or beyond.<sup>26</sup>

In relation to the CEP, there are three possible implementation scenarios: an 'integrated but differentiated' approach, an 'integrated and ambitious' approach and the 'box ticking' approach:

- In the **integrated and ambitious** approach, the rights, privileges and responsibilities in RED II are allocated to CECs. In this scenario, MS will most probably fuse both the concept of RECs and CECs into one legislative act.
- In the **integrated but differentiated** approach, a MS merges both REC and CEC into one concept and one legislative act based on the common core both concepts share. In contrast to the integrated and ambitious approach, the rights, privileges and responsibilities in RED II are not allocated to this entity unconditionally. Instead the allocation will be dependent on a sub-classification based on the specific governance criteria for REC.

<sup>25</sup> Figure presented in a powerpoint presentation of J. Steinkohl and M. Jasiak at the NSCG event on the 18th of June 2019. Original source: Directorate-General for Energy.

<sup>26</sup> These approaches have been identified by DG for Energy. Source: powerpoint presentation of J. Steinkohl and M. Jasiak at the NSCG event on the 18th of June 2019. Original source: Directorate-General for Energy.



- The **box ticking** model implies that MS simply copy-paste the provisions in the EMD and RED II.

If so desired, MS can choose to go beyond the CEP and institutionalize also other energy communities that fall outside the scope of the CEP. In this regard, three approaches can be identified: the 'liberal' approach, the 'national golden' standard approach and the 'all-inclusive' approach:

- In the **liberal** model, MS can try to experiment with other forms of energy communities. The governance criteria will be broader and thus allow more forms of energy communities to be included. Concordantly, the associated rights, privileges will be more restricted.
- In the **national golden standard** model, more strict governance criteria will apply, allowing for only few community energy projects to qualify. Accordantly, the associated rights, privileges and responsibilities will be more extensive. In the regulatory sandbox model, only few projects will be allowed to enjoy the exemptions under the experimental legislation, allowing for few community energy projects to be included. The associated rights, privileges and responsibilities will often, but not necessarily, be more extensive.
- In the **all-inclusive** model, a MS can institutionalize tailor-made frameworks for different types of energy communities, depending on their specific and differentiated needs and characteristics. Here, the frameworks for REC and CEC will only be a piece of the puzzle.

## Annex 2. Overview of National Frameworks for Energy Communities in the EU

Annex 2 is structured into two sections. The first section (2.1.) discusses the existing and emerging legal frameworks for energy communities in the EU. The second section (2.2.) formulates an intermediate statement.

### 2.1. Member States with existing or emerging legal frameworks

Existing and emerging legal frameworks for energy communities have been identified in Belgium (Wallonia), France, Austria, Greece, Germany, Ireland, Luxembourg, the Netherlands, Portugal and Slovenia. In a few other MS discussions have started, e.g. in the Czech Republic a ministerial working group on Energy Communities has been constituted in December 2019.

Table 4 gives an overview of the current status of existing regulation and regulations in preparation regarding energy communities in the different countries of EU-28. The table shows whether a regulation is already in force (●), or whether a regulation is being drafted (●).

Table 4: Overview current status of existing or emerging legal frameworks for Energy Communities in the EU

AT	WA	VL	BG	HR	CY	CZ	DE	DK	EE	ES	FI	FR	GR	HU	IE	IT	LV	LT	LU	MT	NL	PL	PT	RO	SK	SI	SE	IR
●	●						●					●	●						●		●		●			●		●

#### 2.1.1. Belgium (Wallonia)

##### 2.1.1.1. Existing landscape

In Belgium, Wallonia, the cooperative form is most common for energy communities in the sense of the CEP.<sup>27</sup> Examples are Vents du Sud,<sup>28</sup> Partago<sup>29</sup> and Courant d'Air<sup>30</sup>.

In addition, there are currently two projects operational under a regulatory sandbox:<sup>31</sup> Mérygrid and E-cloud. Both projects involve a series of industrial actors which cooperate on a contractual basis in order to share and consume locally generated electricity. These projects can, due to a lack of legal entity, not be classified as CEC nor REC in the sense of the CEP.

##### 2.1.1.2. Law on energy communities

On the 30th of April 2019, the Walloon government officially published a Decree that modifies the Decree on the organization of the regional electricity market, the organization of the gas market, and the tariff methodology applicable to gas and electricity DSOs, with the view on fostering the

<sup>27</sup> This is also confirmed by the findings of the EC TF Questionnaire.

<sup>28</sup> <https://www.ventsdu sud.be/>.

<sup>29</sup> <https://www.partago.be/>

<sup>30</sup> <https://www.courantdair.be/wp/>.

<sup>31</sup> Cf. Article 27 of the Decree of 12 April 2001.

development of “*Communauté d’Energie Renouvelable*” (CER) or ‘Renewable Energy Community’ . A variety of actors were involved in the design of the law, including DSOs, regulators, suppliers, civil society groups (primarily not-for-profit organizations in renewable energy systems and ecological matters) and the Cluster TWEED (Technologie Wallonne Energie, Environnement et Développement durable).

### ***Legal concept - Renewable energy community***

A CER is defined in the Decree as a legal entity that consists of a group of participants with the aim to share, via the public distribution or local transmission network, electricity that is exclusively produced from renewable energy sources or high-quality cogeneration by productions units and, as the case may be, storage units, held by the said legal person. The primary objective of a CER is to provide environmental, economic and social benefits to its participants rather than profit-making.<sup>32</sup>

The participants of a CER needs to be located in the local perimeter where the entity carries out its activities. “*Local perimeter*” is defined in the law as an area where de connection points for injection and take-off are located downstream of one or more public medium/low-voltage transformer stations. These interconnection points must also be situated within a geographical area that is technically, socially, environmentally and economically optimal for the network considering the promotion of collective self-consumption.<sup>33</sup> The further implementation of this concept is left to the discretion of the Walloon Government, which, however, needs to take into account the technical limitations of the network and the type of participants, as well as consult with the Walloon Commission for Energy (CWaPE) and the distribution system operators (DSO) first.<sup>34</sup>

Participation in a CER is free and voluntary for any natural person, local authority or SME situated in the same local area. Again, the list can be further specified by the Walloon Government, with the sole limitation that companies whose participation constitutes their primary commercial or professional activity cannot be included. The list can, furthermore, vary in accordance with the relevant local perimeter.

The Decree leaves further organizational aspects to the discretion of a CER , provided that the statutes of a CER contain at least the following elements:

- provisions relating to the effective control of the CER by its participants;
- provisions relating to the independence and autonomy of the CER;
- provisions with regard to the representation of its participants.

The Government can further specify minimum provisions for the statutes of a CER. Again these rules may vary in accordance with the local perimeter concerned, as well as the quality of the participants or the legal form assumed by the community.

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<sup>32</sup> Art. 2ter Walloon Decree on CER.

<sup>33</sup> Art. 2quinquis Walloon Decree on CER.

<sup>34</sup> Art. 42c. §1. Walloon Decree on CER.

### ***Activities, rights and responsibilities***

The CER can produce, consume, share,<sup>35</sup> store and sell renewable electricity. These activities are limited to the electricity sector, which needs to be produced from either renewable energy or quality cogeneration.

The focus of the Walloon law is primarily on collective self-consumption. It sets out a framework for participants in a CER to self-consume electricity produced by production units managed by the CER during the same quarter hour period. This needs to be done in the local perimeter in which it carries out this activity, i.e. an area where the connection points for injection and take-off are located downstream of one or more public medium/low-voltage transformer stations.

To the extent that a CER is involved in self-consumption, The Walloon law introduces the possibility for a specific tariff that reflects CER's use of the network, and, potentially, also their socio-environmental value through reduced policy-related charges. The applied tariff methodology will in any case need to contribute to the development of CERs and reflect the contribution and actual cost of CERs for the network, whilst at the same time avoiding disproportionate solidarization of the total costs of the networks and the contribution to policy-related costs. In addition, the manager of the network to which a CER is connected must apply this specific charge in a progressive manner, according to the threshold of collective self-consumed electricity that is achieved by a CER.

A CER is subject to a license to be allowed to operate on the local distribution or transmission network. This is linked to conditions set per decree, and includes the following documents:

- a descriptive report of the administrative and electrical situation of each future participant;
- historical or simulated electricity production profiles from renewable energy sources or high-quality CHP and local consumption that justify a CER;
- the planned measures to synchronize electricity consumption and renewable energy production within the community with a view to optimizing electricity flows.

After consulting the CWaPE and in consultation with the network operators, the government can specify the content of the documents referred to and establish the terms and conditions, rights and obligations of a CER, in particular in terms of thresholds and modalities of the procedure for granting, maintaining, revising, revoking and, where applicable, the compensation that is due for the examination of the application for authorization. These conditions, rights, obligations, thresholds, procedures and fees can be differentiated, in particular based on the local scope or type of participants involved.

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<sup>35</sup> Sharing of electricity is allowed within the community if the shared electricity is produced from the production units owned by that community.

Every participant in a CER is equipped with an external meter that reads the load curves during the same quarter hour period for verification of the collective self-consumption. On the basis of this measurement it is also checked that:

- The collective self-consumption does not exceed the total electricity production (including that from a storage facility), or the total electricity consumption (including those used to charge storage resources).
- The amount of electricity allocated to a participant is in accordance with the exchange rules laid down and does not exceed the consumption.

Each individual participants in a CER retain the rights and obligations arising from their network user status and are treated in a non-discriminatory manner with respect to other users of that network.

#### 2.1.1.3. *Relation to the CEP*

The Walloon decree on CER was already in its final adoption stages when the RED II was officially adopted. Whilst some modifications were still made to make the Decree compliant with the relevant provisions in RED II, most of the framework was drafted without the intention of being a full implementation.

The Walloon framework is primarily focussed on the activity of collective self-consumption and accordingly formulates a set of rights, privileges and responsibilities. This is more limited than the framework introduced in RED II for REC, which also includes rights and responsibilities in relation to other types of activities, including production and supply.

In relation to the activity of collective self-consumption, the framework gives most notably shape to the right to fair, cost-reflective, transparent and non-discriminatory network charges in article 22.4 (d) RED II and article 16.3 (d) juncto article 15.2 (e) EMD by introducing a right to a specific local grid tariff, which will need to be further specified by the regulator; and the right to cooperation with the DSO in order to transfers within the community in the sense of art. 16.1 (d) EMD and 22.4 (c) RED II.

The Walloon concept of CER is almost identical to that of REC in RED II. The element of 'proximity' is given a more extensive interpretation through the requirement that the participants in a Renewable Energy Community need to be located in the local perimeter where the entity carries out its activities. "*Local perimeter*" is defined in the law as an area where the connection points for injection and take-off are located downstream of one or more public medium/low-voltage transformer stations

The governance principles of 'effective control', 'autonomy' and 'independence' are repeated and deliberately left to the discretion of Renewable Energy Communities to determine in their statutes. However, the Walloon Government can decide to set of minimum rules, which may vary in accordance with the type and quality of participants, the legal form assumed by the community, the technical limitations of the network, and the local perimeter concerned.

The tables (Table 5, Table 6) below summarize and present the comparison of the Walloon law on CER to the EU regulations:

Table 5: Comparison legal concept in Walloon law to EU regulation

EMD			RED II		Walloon law	
<b>Name</b>	Citizen energy community		Renewable energy community		Renewable energy community	
<b>Energy sector</b>	Electricity sector (tech-neutral)		Heat & electricity sector (renewable energy based)		Electricity sector (renewable energy or quality cogeneration)	
<b>Legal form</b>	Any		Any		Any	
<b>Participation</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>
	Open & Voluntary	Any entity	Open & voluntary	Natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity	Open & Voluntary	Natural person, local authority and SMEs whose participation does not constitute their primary economic activity
<b>Control</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>
	"Effective" control	Natural persons; Small and micro-sized enterprises; and/or Local authorities	'Effective' control & Autonomy	Natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity	Left to the discretion of the community in the first place. However, the government may decide to formulate a minimum set of requirements with regard to 'effective control'	Natural person, local authority and SMEs whose participation does not constitute their primary economic activity
<b>Autonomy</b>	Large energy companies cannot exercise any decision-making power		Yes		Left to the discretion of the community in the first place. However; the government may decide to formulate a minimum set of requirements with regard to 'autonomy'	
<b>Geographical limitation</b>	No		Those in control need to be located proximity of projects owned and developed by the community		Participants need to be located within local perimeter where it carries out its activities (i.e. an area whose connection points are located downstream of one or more medium and/or low voltage public transformer stations)	
<b>Purpose</b>	Social, economic and environmental benefits for members/shareholders or the local area in which it operates		Social, economic and environmental benefits for members/shareholders or the local area in which it operates		Provide environmental, social and economic benefits at the local level by synchronizing and optimizing of electricity flows	
<b>Activities</b>	Generation, distribution, supply, consumption, sharing, aggregation and storage of electricity, energy-efficiency services, EV charging-services, other energy-related services		Generation, distribution, consumption, storage, sale, aggregation, supply and sharing of renewable energy Energy-related services (commercial)		Production, supply, aggregation, sharing, storage, energy efficiency services and other energy-related services are allowed	



Table 6: Comparison rights, privileges and responsibilities in Walloon law to EU regulation

Rights, privileges and responsibilities	EMD	RED II	Walloon law
<b>General rights and privileges</b>			
Provision of regulatory and capacity-building support provided to public authorities in relation to energy communities	YES	YES	No
Identification/assessment of barriers		YES	Has started
Removal of unjustified regulatory and administrative barriers		YES	
Tools to facilitate access to finance and information		YES	No
Support scheme that takes into account the specificities of energy communities		YES	Planning one
Type of support		YES	Operational
<b>Production</b>	Allowed	Allowed	Allowed, but N.S.
<b>Distribution</b>	Discretion MS	N.S.	Not allowed
<b>Supply</b>	Allowed	Allowed	Allowed, but N.S.
<b>Sharing</b>	Allowed (for the electricity produced by the production units owned by the community)	Allowed (for the electricity produced by the production units owned by the community)	Allowed (for the electricity produced by the production units managed by the community)
<b>Rights</b>			
Cooperation of the relevant DSO to facilitate transfers	YES	YES	YES (detailed description of cooperation)
Subject to applicable network charges, tariffs and levies	YES	YES	Specific tariffs
<b>Collective self-consumption</b>	Allowed	Allowed (building level)	Allowed (block and building level)
<b>Rights</b>			
cost reflective, transparent and non-discriminatory network charges	YES	YES	Specific tariffs
<b>Aggregation</b>	Allowed	Allowed	Allowed, but N.S.
<b>Storage</b>	Allowed	Allowed	Allowed
<b>Sale</b>	Allowed	Allowed	Allowed
<b>Rights</b>			
Access to all electricity markets either directly or through aggregation in a non-discriminatory manner	YES	YES	N.S.
<b>Energy-efficiency services</b>	Allowed	Allowed	Allowed, but N.S.
<b>Other energy-related services</b>	Allowed	Allowed	Allowed, but N.S.
<b>EV Charging services</b>	Allowed	Allowed	Allowed, but N.S.



## 2.1.2. France

### 2.1.2.1. Existing landscape

France has experience with citizen and community initiatives. A good overview of these citizen energy projects can be found on the website of Energie partagé,<sup>36</sup> which is a federation of 237 projects that are labelled 'citizen energy'.<sup>37</sup> France, furthermore, counts over fifty renewable energy cooperatives,<sup>38</sup> of which the most prominent examples are Mobicoop,<sup>39</sup> I-ENER,<sup>40</sup> Jurascic<sup>41</sup> and Enercoop.<sup>42</sup>

### 2.1.2.2. Law on energy communities

The French Energy and Climate Law<sup>43</sup> introduces a framework for “*Communauté d’Energie Renouvelable*” (CER) or ‘Renewable Energy Communities’ in article 6bis A. The concept and associated rights and responsibilities are integrated in Book II “*Demand-side Management and the Development of Renewable Energy of the French Energy Code*”. The legal concept is introduced and explained in the introductory chapter. The associated rights, privileges and responsibilities in chapter five on collective self-consumption. The further modalities of application of article 6bis A will be specified through a Decree of the Council of State.

#### **Legal concept – Renewable energy community**

A CER is described as a legal entity to which participation is open and voluntary and which is effectively controlled by its shareholders or members that are located in proximity of the renewable energy projects to which it has subscribed and which it has developed. Those shareholders or members are natural persons, SMEs, local authorities or groups of these actors.

The primary objective of a CER is to provide environmental, economic or social benefits to the shareholders or the members or at the local area in which it operates, rather than profit-making.<sup>44</sup> An SME whose participation constitutes its primary commercial or professional activity is not allowed to participate.<sup>45</sup>

#### **Activities, rights and responsibilities**

A CER is authorized to produce, consume, share,<sup>46</sup> store and sell renewable energy (including through purchase agreements), and has access to all relevant energy markets, directly through an

<sup>36</sup> <https://energie-partagee.org/>.

<sup>37</sup> <https://energie-partagee.org/energie-citoyenne/tous-les-projets/>.

<sup>38</sup> Bauwens, T., Gotchev, B. and Holstenkamp, L., ‘What drives the development of community energy in Europe? The case of wind power cooperatives’, Energy Research & Social Science, Volume 13, March 2016, pp. 136-147.

<sup>39</sup> <https://www.mobicoop.fr/>.

<sup>40</sup> <https://i-ener.eus/>.

<sup>41</sup> <https://www.jurascic.com/>.

<sup>42</sup> <https://www.enercoop.fr/>.

<sup>43</sup> <http://www.senat.fr/leg/pjl18-700.html>.

<sup>44</sup> Art. L. 211-3-2 French Energy Code.

<sup>45</sup> Art. L. 211-3-3 French Energy Code.

<sup>46</sup> Energy sharing is allowed for renewable energy produced by the production units held by the community.

aggregator.<sup>47</sup> The activity of distribution is excluded through the explicit prohibition for a CER to own or operate a distribution network.<sup>48</sup>

The focus of French law is also on collective self-consumption. Collective self-consumption can take place at building level, as well as block level across multiple buildings when the supply of electricity is made between one or more producers and one or more consumers linked to each other within a legal entity – potentially, but not exclusively a CER. The take-off and injections points of both the production facilities as the consumer need to be located at the low-voltage network and in geographical proximity of each other. The Minister of Energy is authorized to further specify these criteria.

To the extent that a CER is involved in collective self-consumption, the French legislator is considering a specific distribution network tariff for the consumers that participate in self-consumption, which reflects the actual costs borne by the network operators.<sup>49</sup> This tariff will need to be established by the Energy Regulatory Commission.

The produced electricity that is not self-consumed will - if it is not sold to a third party - have to be injected into the public distribution network and sold free of charge to the DSO to which the production facility is connected. These injections are then assigned to the technical losses of this network.<sup>50</sup>

The law furthermore sets out several provisions to regulate the relation between a CER and the DSO. A CER will have to declare the distribution of self-consumed production between the end-consumers to the DSO, as well as the planned production units prior to their commissioning.<sup>51</sup> The DSO has the obligation to cooperate with a CER to facilitate the transfer of energy within the community.<sup>52</sup>

#### 2.1.2.3. *Relation to the CEP*

The law in France on CER is a first step towards implementing the framework for REC in RED II.

The framework gives most notably shape to the right to fair, cost-reflective, transparent and non-discriminatory network charges in article 22.4 (d) RED II and article 16.3 (d) juncto article 15.2 (e) EMD by introducing a right to a specific distribution network tariff that reflect the actual cost borne by the network operators, which will need to be determined by the Energy Regulatory Commission, as well as the responsibility of the DSO will need to cooperate with the CER to facilitate the transfer of energy within the community<sup>53</sup> in the sense of article art. 16.1 (d) EMD and 22.4 (c) RED II.

The concept of CER is identical to the concept of REC in article 2 (16) RED II.

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<sup>47</sup> Art. L. 211-3-2 French Energy Code.

<sup>48</sup> Art. 315-6 French Energy Code.

<sup>49</sup> Art. 315-3 French Energy Code.

<sup>50</sup> Art. 315-5 French Energy Code.

<sup>51</sup> Art. 315-7 French Energy Code.

<sup>52</sup> Art. 315-6 French Energy Code.

<sup>53</sup> Art. 315-6 French Energy Code.

The tables (Table 7, Table 8) below summarize and present the comparison of the French law on CER to the EU regulations:

Table 7: Comparison legal concept in French law to EU regulation

	EMD		RED II		French law	
<b>Name</b>	Citizen energy community		Renewable energy community		Renewable energy community	
<b>Energy sector</b>	Electricity sector (tech-neutral)		Heat & electricity sector (renewable energy based)		Heat & electricity sector (renewable energy based)	
<b>Legal form</b>	Any		Any		Any	
<b>Participation</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>
	Open & Voluntary	Any entity	Open & voluntary	Natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity	Open & voluntary	Natural persons, local authorities and SMEs whose participation does not constitute its primary commercial or professional activity
<b>Control</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>
	"Effective" control	Natural persons, local authorities and small and micro-sized enterprises	'Effective' control & Autonomy	Natural persons, Local authorities and SMEs whose participation does not constitute their primary economic activity	"Effective" control	Natural persons, local authorities and SMEs whose participation does not constitute its primary commercial or professional activity
<b>Autonomy</b>	Large energy companies cannot exercise any decision-making power		Explicitly mentioned		N.S.	
<b>Geographical limitation</b>	No		Those in control need to be located proximity of projects owned and developed by the community		Those in effective control need to be located in proximity of the projects of the community	
<b>Purpose</b>	Social, economic and environmental benefits for members/shareholders or the local area in which it operates		Social, economic and environmental benefits for members/shareholders or the local area in which it operates		Social, economic and environmental benefits for members/shareholders or the local area in which it operates	
<b>Activities</b>	Generation, distribution, supply, consumption, sharing, aggregation and storage of electricity, energy-efficiency services, EV charging-services, other energy-related services (commercial)		Generation, distribution, consumption, storage, sale, aggregation, supply and sharing of renewable energy Energy-related services (commercial)		Produce, consume, share, store and sell renewable energy	

Table 8: Comparison rights, privileges and responsibilities in French law to EU regulation

Rights, privileges and responsibilities	EMD	RED II	French law
<b>General rights and privileges</b>			
Provision of regulatory and capacity-building support provided to public authorities in relation to energy communities	YES	YES	No
Identification/assessment of barriers		YES	Has started
Removal of unjustified regulatory and administrative barriers		YES	
Tools to facilitate access to finance and information		YES	No
Support scheme that takes into account the specificities of energy communities		YES	No
Type of support		YES	
<b>Production</b>	Allowed	Allowed	Allowed
<b>Rights</b>			
Fair, proportionate, non-discriminatory and transparent production licensing and registration procedures	YES	YES	The same procedures apply
Transparent, non-discriminatory and cost-reflective production charges	YES	YES	The same charges apply
<b>Responsibilities</b>			
Financially responsible for imbalances	YES		N.S.
<b>Distribution</b>	Discretion MS	N.S.	Not allowed
<b>Supply</b>	Allowed	Allowed	Allowed
<b>Rights</b>			
Fair, proportionate, non-discriminatory and transparent supply licensing and registration procedures	YES	YES	The same procedures apply
Transparent, non-discriminatory and cost-reflective supply charges	YES	YES	The same charges apply
<b>Responsibilities</b>			
Respect the freedom to switch suppliers	YES	YES	N.S.
Financially responsible for imbalances	YES		N.S.
<b>Sharing</b>	Allowed (for the electricity produced by the production units)	Allowed (for the electricity produced by the production units owned by the community)	Allowed (production units held by the community)

	owned by the community)		
<b>Rights</b>			
Cooperation of the relevant DSO to facilitate transfers	YES	YES	YES
Cost reflective, transparent and non-discriminatory network charges	YES	YES	Potential exemption from upstream-related costs
<b>Collective self-consumption</b>	Allowed	Allowed (building level)	Allowed (building and block level)
<b>Rights</b>			
Cost reflective, transparent and non-discriminatory network charges	YES	YES	Potential exemption from upstream-related costs
<b>Aggregation</b>	Allowed	Allowed	Allowed, but N.S.
<b>Storage</b>	Allowed	Allowed	Allowed
<b>Sale</b>	Allowed	Allowed	Allowed
<b>Rights</b>			
Access to all electricity markets either directly or through aggregation in a non-discriminatory manner	YES	YES	YES
<b>Energy-efficiency services</b>	Allowed	Allowed	Allowed, but N.S.
<b>Other energy-related services</b>	Allowed	Allowed	Allowed, but N.S.
<b>EV charging services</b>	Allowed	Allowed	Allowed, but N.S.

### 2.1.3. Greece

#### 2.1.3.1. Existing landscape

Experience with energy communities is limited in Greece. The two largest, well-known and established communities are both located on an island: Tilos<sup>54</sup> and Sifnos.<sup>55</sup> Inland, there are very few examples of fully operational energy communities,<sup>56</sup> although there are many initiatives emerging since the introduction of the Greek law on Energy Communities, including citizen initiatives, such as the Thessaloniki energy cooperative, and municipality initiative in Mandra, Agioi Anargyroi, Peristeri, Fyli.

<sup>54</sup> <https://ec.europa.eu/energy/en/news/tilos-island-project-find-out-more-about-double-sustainable-energy-awards-winner>.

<sup>55</sup> <http://sifnosislandcoop.gr/en/>.

<sup>56</sup> See <https://www.e-ea.gr/en/general/union-of-agrinio/> for an example of a fully operational inland energy community.

### 2.1.3.2. *Law on energy communities*

The Greek law on “*Energiaki Kinotita*”, or ‘Energy Community’ (EC) was adopted in January 2018<sup>57</sup> and introduces a new type of civil cooperative within the wider framework of Social and Solidarity Economy (Law 4430/2016).

The framework has a strong focus on locality, insularity, activating and enhancing technological tools, such as energy offsetting and virtual net-metering, and provides various financial incentives and support measures that constitute a very ambitious framework for energy communities.

The main stakeholders involved in the design of the framework the regulators, DSOs, network organizations, civil societies, universities, and representatives of the Tilos and Sifnos energy island cooperatives.

#### ***Legal concept - Energy community***

An EC can provide the possibility for bodies of the local government, natural persons and SMEs to set up urban for-profit and not-for-profit cooperatives in the field of energy at either the local or regional level.

Members of an EC can be:

- natural persons with full legal capacity;
- legal entities under public law or private entities;
- first degree local government of the same region within which the energy community headquarters or their businesses are located;
- local authority organizations of municipalities (OTAs)<sup>58</sup> of the same region within which the energy community headquarters or their businesses are located within the administrative boundaries of EC’s headquarters.

The participation of companies for which energy sector constitutes their primary economic activity is explicitly excluded. Legal entities governed by public law, first- and second-degree municipalities and regions, as well as natural persons, may participate in more than one EC. From this provision only private legal entities are excluded.

At least 50% plus one of the members needs to relate to the place where the EC has its headquarters. More specifically this implies that natural persons are required to have full or limited ownership or ownership of a property located within the District of the headquarters or to be public municipality of this Region. Legal entities are required to have their registered office within the District of the headquarters.

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<sup>57</sup>Law nr. 4513/2018.

<sup>58</sup> I.e. Local Authority Organizations A & B, A=municipalities B= regions.



The Greek law furthermore sets out principles of effective control and autonomy to guarantee democratic governance:

- the principle of 1 member 1 vote, irrespective of the number of cooperative shares held;
- the mandatory consent of the Board of Directors for the transfer of a cooperative share to a member or to a third party;
- a ceiling on the participation rate of each member in the cooperative capital of 20%, with the exception of the OTAs which may participate in the cooperative capital up to 50% for OTAs first-degree island regions with a population below three thousand (3,100) according to the latest census, and 40% for the remaining OTAs.

As mentioned earlier, the law distinguishes two types of EC; non-profit and for-profit cooperatives. Each varies in composition and minimum number of members, and the ability to distribute surpluses (Table 9).

Table 9: Differentiated governance principles non-profit versus for-profit energy cooperatives

	Non-profit cooperative	For-profit cooperative
<b>Members</b>	Minimum 5 members (legal entities and/or individuals); Minimum 3 members (3 or 2 municipalities and/or legal entities or individuals ; Minimum 2 members (island municipalities).	Minimum 15 members (legal entities and 50%+1 individuals); Minimum of 10 members (island municipalities with <3,100) The requirement of a majority participation of individuals shall be fulfilled when the EC is constituted. and throughout its duration.
<b>Distribution of surpluses</b>	Surpluses are not distributed to members, but remain in the energy community in the form of reserves and are distributed for its purposes by decision of the general assembly; ----- Surpluses hold at least ten percent (10%) for the formation of the regular reserve. Withholding is not mandatory when the amount of the reserve is at least equal to the amount of the cooperative capital. ----- 2% of the surpluses need to be allocated to vulnerable households. In addition, an energy community can decide to give electricity to vulnerable households, which do not need to be members of the cooperative.	Surplus distribution is permitted under certain conditions and after deduction of the regular reserve.

The potential areas of activity, their geographical scope of development, the locality criterion, participation in cooperative capital, as well as the financial incentives and support measures are the same for both types of cooperatives.



### ***Activities, rights and responsibilities***

The aim of an EC is promoting innovation in the energy sector, tackling energy poverty and promoting energy sustainability, enhancing energy self-sufficiency and safety in island municipalities, as well as improving energy efficiency in end use locally and regionally.

The above goals are achieved through the activities of production, storage, self-consumption, distribution and supply of energy in the fields of renewable energy, of high-efficiency co-generation of electricity and heat (CHP), of rational use of energy, of energy efficiency, of sustainable transport, of demand and production management, distribution and supply of energy. In addition, an EC's activity can extend to information, education and participation in funded projects.

The activities related to energy are very broadly defined, and include the distribution of electricity, heating / cooling and natural gas in the region where the head office is located, demand management to reduce the final use of electricity, representation of producers and consumers on the electricity market, network development, management and operation of alternative fuel infrastructure, installation and operation of desalination plants using renewable energy sources, and the provision of energy services.

The statutes of energy community may not include activities other than those mentioned, and the geographical limit on the scope of activity is defined as the region where the EC is located.

In relation to these activities, the law sets out a framework of financial incentives and support measures for EC (Table 10, Table 11):<sup>59</sup>

**Table 10: Financial incentives for Energy Communities in Greek law**

<b>Financial incentives</b>
Incorporation of energy communities into the Development Law in analogy with programs funded by national or EU funds
Standard tax rate for five years
If a municipality participates, a conditional exemption from the renewable energy source tax owed to local authorities (1,7%)
Exemption from the obligation to pay the annual fee for retaining an electricity production license
Exemption from bidding procedures for projects up to 18 MW. An additional compensation of 10% from the weighted average price obtained 3 years before the last bidding procedure for wind farms < 6 MW and for PV installations < 1 MW, based on Ministerial Decision
Specific conditions such as preferential rates for the use of the services of the Final Shelter Agent Agency (FOSETEK) from RE and CHP stations owned by the EC. The upper limit of the charges to Provider of Last Resort is set equal to 10% instead of the normal 20% applicable to the rest of the renewable energy and CHP station holders
Reduced guarantee payment of 50% for participation in the auction-based subsidy scheme for renewable energy stations and hybrid stations

<sup>59</sup> Heinrich Bell Foundation Thessaloniki Office, *Building Energy Communities. Energy in the hands of citizens*, September 2019.

Explicit exemption of members of EC from compulsory insurance contributions to EFKA (i.e. health and retirement organizations)
Minimum supply licensing capital is reduced to € 60,000
Possibility to set reduced amounts of guarantees for the registration of energy communities in the registers of participants under the Daily Energy Planning Transaction Contracts (HES) and electricity network management, taking into account criteria such as population or electricity demand in the Region of energy communities' headquarters

Table 11: Support measures for Energy Communities in Greek law

Support measures
Specific conditions such as longer usage for the use of the services of the Final Shelter Agent Agency (FOSETEK) from renewable energy and CHP stations owned by the energy community
Provision of special conditions for licenses granted to energy communities, pursuant to the License Regulation no. 135 of Law 4001/2011
Priority in processing applications for connection to the grid and approval of the environmental conditions for renewable energy sources and high-efficiency co-generation production units
Possibility of specific conditions for energy communities operating as charging infrastructure operators for electric vehicles
For Net Metering cases the sales of surplus energy it is not excluded, if produced energy exceeds 100% of total self-consumption (normally net-metering does not permit you to sell your excess energy produced, but for energy communities it is allowed)
Priority in consideration of application for production license for RES, CHP and hybrid power plants from energy communities, if they have territorial overlap and submit to the same application cycle. Transfer of licenses for production stations exclusively owned by the EC within the same region
Possibility to install RES, CHP and hybrid stations in ownership of energy communities to cover energy needs of their members and vulnerable consumers or citizens living below the poverty line, within the Region where energy communities' headquarters are located, with application virtual metering, with a maximum installed capacity of 1MW.

### 2.1.3.3. Relation to the CEP

The Greek law on EC was adopted without the RED II and EMD in mind. Nonetheless, it gives body to many of the abstract governance principles, and rights and privileges in the CEP.

Both in terms of geographical scope (District level) and participation criteria (any entity can participate), the scope of the legal concept of EC is broader than for REC, but narrower than for CEC, to which no geographical limitation is attached.

The Greek law further specifies the cooperative model as the legal organizational form, and gives shape to principles of effective control and autonomy by introducing the principles of 1 member 1 vote, a minimum requirement of members and a cap on the amount of shares an entity can hold. In addition, there are specific provisions specifically aimed at the involvement of municipalities and vulnerable households, which is in line with article 22.4 (h) RED II on the positive obligation to stimulate the involvement of public authorities, and article 22.4 (f) on the participation of vulnerable households.

The Greek law furthermore allows an EC to exercise the same activities as envisioned for REC and CEC, as well as some additional ones such as energy innovation, energy poverty reduction and promoting energy sustainability. The supporting framework gives content to many of the abstract rights and privileges in the RED II and EMD, in particular the right to fair, proportionate, non-discriminatory and transparent procedures in article 22.4 (d) RED II and article 16.1 (e) EMD by easing certain requirements around licensing and administration fees and reporting, as well as exempting them from building permitting procedures within a Region where an installation unit owned by the community is already permitted. In addition, the right to a support scheme that accounts for the specificities of renewable energy communities in article 22.7 RED II is given shape by exempting energy communities with installed capacity up to 18 MW from the bidding procedure for subsidies (= easier access to subsidies).

The tables (Table 12, Table 13) below summarize and present the comparison of the Greek law on EC to the EU regulations:

Table 12: Comparison legal concept in Greek law to EU regulation

EMD			RED II		Greek law		
Name	Citizen energy community		Renewable energy community		Energy community		
Energy sector	Electricity sector (tech-neutral)		Renewable energy (heat + electricity)		Electricity and heat (renewable energy and high-efficiency cogeneration)		
Legal form	Any		Any		Cooperative		
Participation	Structure	Actors	Structure	Actors	Structure	Actors	
	Open & Voluntary	Any entity	Open & voluntary	Natural persons, local authorities and SMEs whose	N.S.	<u>For-profit</u> - Minimum 15 members (legal entities and 50%+1 individuals);	<u>Not-for-profit</u> - Minimum 5 members (legal entities and/or individuals);

				participation does not constitute their primary economic activity		- Minimum of 10 members (island municipalities with <3,100)  - Minimum 3 members (2 municipalities and/or legal entities or individuals ; - Minimum 2 members (island municipalities)
<b>Control</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>
	"Effective" control	Natural persons, local authorities and small and micro-sized enterprises	'Effective' control & Autonomy	Natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity	- 1 member 1 vote  - one or more optional shares, with a maximum holding of 20%;  - municipalities (OTAs) may participate in the capital up to 50% for first-degree island regions with a population below 3,100 or 40% for others  - Minimum number of members	Idem
<b>Autonomy</b>	Large energy companies cannot exercise any decision-making power		Explicitly mentioned		The transfer of a cooperative share to a member or to a third party shall be effected only upon the consent of the Board of Directors	
<b>Geographical limitation</b>	No		Those in control need to be located proximity of projects owned and developed by the community		At least 50%+1 members need to be located in the District of the headquarters	
<b>Purpose</b>	Social, economic and environmental benefits for members/shareholders or the local area in which it operates		Social, economic and environmental benefits for members/shareholders or the local area in which it operates		<u>For-profit cooperative:</u> surpluses can be distributed to the members or shareholders	<u>Non-profit cooperative</u> Surpluses remain within the community
<b>Activities</b>	Generation, distribution, supply, consumption, sharing, aggregation and storage of electricity, energy-efficiency services, EV charging-services, other energy-related services (commercial)		Generation, distribution, consumption, storage, sale, aggregation, supply and sharing of renewable energy  Energy-related services (commercial)		Energy innovation, energy poverty reduction and promoting energy sustainability, production, distribution, aggregation, sharing, storage, self-consumption, distribution and supply of energy, enhancing energy self-sufficiency and safety in island municipalities, as well as improving energy efficiency in end use locally and regionally  Energy efficiency services, EV-related services and other energy-related services are allowed	

Table 13: Comparison rights, privileges and responsibilities in Greek law to EU regulation

Rights, privileges and responsibilities	EMD	RED II	Greek law
<b>General rights and privileges</b>			
Provision of regulatory and capacity-building support provided to public authorities in relation to energy communities	YES	YES	YES
Identification/assessment of barriers		YES	Has started
Removal of unjustified regulatory and administrative barriers		YES	
Tools to facilitate access to finance and information		YES	No
Support scheme that takes into account the specificities of energy communities		YES	Exemption from bidding procedures for projects up to 6 MW for wind farms and 1 MW for PV; and a budget of 12,5 million euros managed by CRES
Type of support		YES	Operational and initial investment support
<b>Production</b>	Allowed	Allowed	Allowed
<b>Rights</b>			
Fair, proportionate, non-discriminatory and transparent production licensing and registration procedures	YES	YES	Priority consideration and exemption production license within Region where the energy communities' HQ is located
Transparent, non-discriminatory and cost-reflective production charges	YES	YES	Exemption from the obligation to pay the annual fee for retaining an electricity production license
<b>Responsibilities</b>			
Financially responsible for imbalances	YES		V (can be delegated)
<b>Distribution</b>	Discretion MS	N.S.	Allowed (restricted based on location)
<b>Rights</b>			
Own, establish, purchase, lease a private/public distribution network	YES		YES
Autonomously manage	YES		YES
An agreement with the DSO	YES		YES
<b>Responsibilities</b>			

Unbundling requirements	YES		Not specified
Regulated third party access	YES		
Negotiated third party access	Maybe by exception		YES
<b>Supply</b>	Allowed	Allowed	Allowed
<b>Rights</b>			
Fair, proportionate, non-discriminatory and transparent supply licensing and registration procedures	YES	YES	The same procedures apply
Transparent, non-discriminatory and cost-reflective supply charges	YES	YES	Minimum supply licensing capital is reduced to € 60,000
<b>Responsibilities</b>			
Respect the freedom to switch suppliers	YES	YES	YES
Financially responsible for imbalances	YES		YES (can be delegated)
<b>Sharing</b>	Allowed (for the electricity produced by the production units owned by the community)	Allowed (for the electricity produced by the production units owned by the community)	Allowed (for the electricity produced by the production units owned by the community)
<b>Rights</b>			
Cooperation of the relevant DSO to facilitate transfers	YES	YES	YES
Subject to applicable network charges, tariffs and levies	YES	YES	Virtual net-metering
<b>Collective self-consumption</b>	Allowed	Allowed (building level)	Allowed (building level), but N.S.
<b>Rights</b>			
Cost reflective, transparent and non-discriminatory network charges	YES	YES	(Virtual) net-metering
<b>Aggregation</b>	Allowed	Allowed	Allowed (for the electricity produced by the production units owned by the community)
<b>Storage</b>	Allowed	Allowed	Allowed
<b>Sale</b>	Allowed	Allowed	Allowed
<b>Rights</b>			
Access to all electricity markets either directly or through aggregation in a non-discriminatory manner	YES	YES	YES (through aggregator)
<b>Energy-efficiency services</b>	Allowed	Allowed	Allowed



Other energy-related services	Allowed	Allowed	Allowed
EV charging services	Allowed	Allowed	Allowed

## 2.1.4. Germany

### 2.1.4.1. Existing landscape

Citizen participation in the energy transition has a strong tradition in Germany. Ownership of renewable energy by single owners or communities dates back to the early 70s. It was estimated that individual citizens and communities installed 34% of the total installed capacity of renewable energy - nearly 50% of the total installed PV capacity. 25% of the total installed onshore wind energy capacity is in hands of individual citizens or communities. Energy communities in Germany takes a variety of legal forms. There are over 800 energy cooperatives operational in Germany (see e.g. EWS Schönau eG,<sup>60</sup> Isarwatt eG<sup>61</sup> and UrStrom eG<sup>62</sup>). Other forms include private limited liability companies (see e.g. Buzzn GmbH<sup>63</sup>), limited liability partnerships (e.g. Freiamt Windmühlen GmbH & Co KG<sup>64</sup>), and municipal utilities; local distribution companies which are (partly) owned by municipalities (e.g. Berlin Energie<sup>65</sup>).

### 2.1.4.2. Law on energy communities

In the German Renewable Energy Source Act 2017 (EEG), section 3 (15) defines the concept of “Bürgerenergiegesellschaft”, or ‘Citizens’ Energy Company’ and links it to financial privileges in the wind power auctions.

#### **Legal concept – citizens’ energy company**

A Citizens’ Energy Company exists out of a minimum of 10 natural persons. 51% of the voting rights need to be held by natural persons that - prior to submission of the bid – are located in the urban or rural district in which the onshore wind project is to be developed. In addition, no member or shareholders of the undertaking can hold more than 10 percent of the voting rights.

#### **Activities, rights and responsibilities**

The framework in Section 36g EEG for Citizens’ Energy Companies is focussed on the activity of electricity production from wind. In relation, two privileges are formulated in order to level the playing field for Citizens’ Energy Companies in the auction-based premium tariff scheme. The first privilege is the reduction of the financial security deposit from 30 cent/kWh to 15 cent/kWh. Once the permit is issued and the results of the auction published, they have 2 months to submit the second part of the financial security deposit. The second privilege ensures a clearing price (‘pay as cleared’) instead of

<sup>60</sup> <https://www.ews-schoenau.de/>.

<sup>61</sup> <https://www.isarwatt.de/>.

<sup>62</sup> <https://www.urstrom.de/>.

<sup>63</sup> <https://www.buzzn.net/>.

<sup>64</sup> <https://www.oekostrom-freiburg.de/freiamt>.

<sup>65</sup> <https://www.berlinenergie.de/>.



a bid price ('pay as bid'), which implies that the premium subsidy is set at the highest successful bid of an auction round.<sup>66</sup>

Note that the EEG details additional privileges for Citizens' Energy Companies in Section 36g.<sup>67</sup> However, these are suspended until 1<sup>st</sup> June 2020, on the basis of Section 104, paragraph 8 EEG, after the first auctions in 2017 were nearly completely won by Citizens' Energy Companies.

#### 2.1.4.3. Relation to the CEP

The German law on renewable energy provides an explicit provision on Citizens' Energy Companies. The framework was adopted without the RED II and EMD in mind.

Citizens' Energy Companies can solely operate on the electricity market to the extent that it is generated from wind. The concept is furthermore geared towards ensuring citizen effective control and autonomy by reserving 51% of the voting rights to citizens and introducing cap of 10% on the amount of voting rights one actor can hold and requiring minimum number of members.

Support is limited support is limited to privileges in the form of a temporary financial security deposit reduction and a clearing price in relation to the national wind subsidy scheme. To this extent it gives effect to the right in article 22 (7) RED II on a support scheme that accounts for the specificities of renewable energy communities.

The tables (Table 14, Table 15) below summarize and present the comparison of the German law on Citizens' Energy Companies to the EU regulations:

Table 14: Comparison legal concept in German law to EU regulation

	EMD		RED II		German law	
Energy sector	Electricity sector (tech-neutral)		Renewable energy (heat + electricity)		Electricity sector (wind-based)	
Legal form	Any		Any		Any	
Participation	Structure	Actors	Structure	Actors	Structure	Actors
	Open & Voluntary	Any entity	Open & voluntary	Natural persons, local authorities, SMEs whose participation does not constitute their primary economic activity	Not specified	At least 10 natural persons who are eligible to vote

<sup>66</sup> Tounquet, F., De Vos, L., Abada, I., Kielichowska, I. and Lessmann, C., 'Energy Communities in the European Union', 2019.

<sup>67</sup> For more information on these additional privileges, see Tounquet, F., De Vos, L., Abada, I., Kielichowska, I. and Lessmann, C., 'Energy Communities in the European Union', 2019.

Control	Structure	Actors	Structure	Actors	Structure	Actors
	"Effective" control	Natural persons; Small and micro-sized enterprises; and/or Local authorities	'Effective' control	Natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity	- Minimum amount of members - no member or shareholders holds more than 10% of the voting rights	Natural persons
<b>Autonomy</b>	Large energy companies cannot exercise any decision-making power		Explicitly mentioned		51% reservation of voting rights to natural persons	
<b>Geographical limitation</b>	No		Those in control need to be located proximity of projects owned and developed by the community		The natural persons that hold at least 51% need to have their main residence in the urban or rural district where the wind mill project is located	
<b>Purpose</b>	Social, economic and environmental benefits for members/shareholders or the local area in which it operates		Social, economic and environmental benefits for members/shareholders or the local area in which it operates		N.S.	
<b>Activities</b>	Generation, distribution, supply, consumption, sharing, aggregation and storage of electricity, energy-efficiency services, EV charging-services, other energy-related services (commercial)		Generation, distribution, consumption, storage, sale, aggregation, supply and sharing of renewable energy  Energy-related services (commercial)		Electricity production from wind	

Table 15: Comparison rights, privileges and responsibilities in German law to EU regulation

Rights, privileges and responsibilities	EMD	RED II	German law
<b>General rights and privileges</b>			
Provision of regulatory and capacity-building support provided to public authorities in relation to energy communities	YES	YES	No
Identification/assessment of barriers		YES	Has started
Removal of unjustified regulatory and administrative barriers		YES	No
Tools to facilitate access to finance and information		YES	No
Support scheme that takes into account the specificities of energy communities		YES	V (reduced security deposit ; and a clearing price)
Type of support		YES	Operational
<b>Production</b>	Allowed	Allowed	Allowed

Rights			
Fair, proportionate, non-discriminatory and transparent production licensing and registration procedures	YES	YES	The same procedures apply
Transparent, non-discriminatory and cost-reflective production charges	YES	YES	The same charges apply
Responsibilities			
Financially responsible for imbalances	YES		N.S.
Distribution	Discretion MS	N.S.	Allowed, but N.S.
Supply	Allowed	Allowed	Allowed, but N.S.
Sharing	Allowed (for the electricity produced by the production units owned by the community)	Allowed (for the electricity produced by the production units owned by the community)	Allowed, but N.S.
Consumption	Allowed	Allowed (building level)	Allowed (building and block level), but N.S.
Aggregation	Allowed	Allowed	Allowed, but N.S.
Storage	Allowed	Allowed	Allowed, but N.S.
Sale	Allowed	Allowed	Allowed, but N.S.
Energy-efficiency services	Allowed	Allowed	Allowed, but N.S.
Other energy-related services	Allowed	Allowed	Allowed, but N.S.
EV charging services	Allowed	Allowed	Allowed, but N.S.

## 2.1.5. Ireland

### 2.1.5.1. Existing landscape

Most community energy initiatives in Ireland deliver energy efficiency or saving services to local citizens and communities. In total, this has resulted in 310 communities all across Ireland.<sup>68</sup> The abundance of these types of activities can be partly attributed to the success of the supporting framework developed by the Sustainable Energy Authority of Ireland (SEAI).

### 2.1.5.2. The Sustainable Energy Communities (SEC) Programme

The SEC programme is managed by the SEAI and is underpinned by the energy White Paper<sup>69</sup>, which sets out government actions to engage and enable citizens and communities in (renewable) energy projects.

<sup>68</sup> For an overview of these initiatives, see: <https://www.seai.ie/community-energy/sustainable-energy-communities/sec-map/>.

<sup>69</sup> See Department of Communications, Energy and Natural Resources, 'Ireland's Transition to a Low Carbon Energy Future 2015-2030', 2015 (White Paper).

To this aim, the SEC programme provides technical (develop energy management skills and knowledge) and financial (dedicated funding) support to communities.

### ***Policy concept - Sustainable energy communities***

According to the SEC Handbook,<sup>70</sup> a SEC is a partnership between public, private and community sectors that works together in order to be energy-efficient first, and use renewable energy and smart energy solutions second.

Besides referencing to some common characteristics of energy communities,<sup>71</sup> the Handbook does not limit the concept to any organizational form, geographical requirement or governance and participation criteria.

### ***Associated policy framework – The Sustainable Energy Community Programme***

There are three phases to the SEC programme: learn, plan and do (Figure 6).

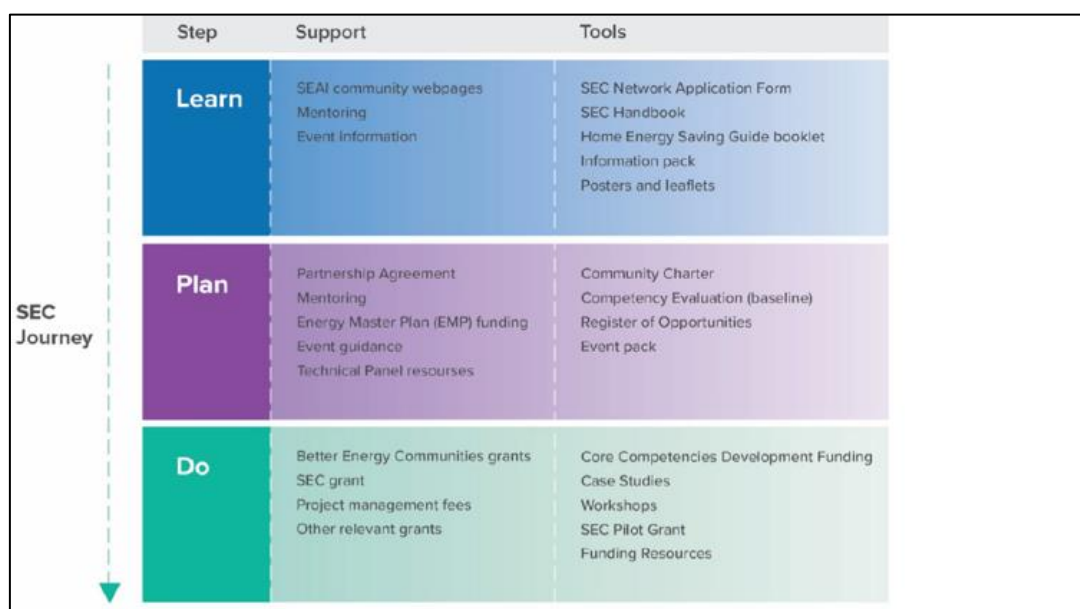


Figure 6: Overview 3-step Sustainable Energy Community Programme<sup>72</sup>

In the first phase, a community can become a member of the nation-wide SEC Network, which creates a space for communities to engage and learn from project site visits, seminars, events, and case-studies in order to help communities to identify and develop energy projects.

In the second phase, the community can enter into a three-year partnership with the SEAI and start designing an Energy Master Plan. During this three-year period the community receives active

<sup>70</sup> Sustainable Energy Authority of Ireland, 'Sustainable Energy Communities Programme', 2018.

<sup>71</sup> These characteristics are: a mix of activities and sectors, a geographical defined area or common field of interest, strong stakeholder commitment, a defined organizational structure, a balance between energy-efficiency projects and development of renewable energy supply. See in this regard Sustainable Energy Authority of Ireland, 'Sustainable Energy Communities Programme', 2018, p. 3.

<sup>72</sup> See Sustainable Energy Authority of Ireland, 'Sustainable Energy Communities Programme', 2018, p. 16.

support and mentoring from SEAI in order to identify energy saving opportunities and other energy-related activities. The three-year partnership is a two-way exchange (Figure 7):



Figure 7: Overview support measures Sustainable Energy Community Programme<sup>73</sup>

In the last phase, the SEC can also apply for dedicated funding from the SEAI to help realize the Energy Master Plan. The SEAI offers different levels of grants and supports to homeowners and communities, depending on their *financial* characteristics (Figure 7). Up to €3 million was made available to communities in the SEC network and a maximum of €200,000 grant funding is available per application. In 2019, SEAI is supporting 57 projects, with €25.3 million being invested.<sup>74</sup> The community grant scheme is currently closed, but will reopen in autumn 2020.

SEC LEVEL	SCALE	SPEND	FUNDING
Level 1	Street/ Village	Up to €2,000,000	€10,000
Level 2	Town / Island	Up to €20,000,000	€15,000
Level 3	County / Regional	Up to €50,000,000	€20,000
Level 4	National / Other	Over €50,000,000	€25,000

Figure 8: Grant system Sustainable Energy Authority of Authority<sup>75</sup>

Projects are judged on the basis of their characteristics (ability to deliver, ambition, diversity of solutions), of which the most decisive one is the extent to which the project provides community

<sup>73</sup> Sustainable Energy Authority of Ireland, 'Sustainable Energy Communities Programme', 2018, p. 7.

<sup>74</sup> See in this regard: <https://www.seai.ie/news-and-media/communities-grant-scheme/index.xml>; and <https://www.seai.ie/grants/community-grants/>.

<sup>75</sup> Sustainable Energy Authority of Ireland, 'Sustainable Energy Communities Programme', 2018, p. 9.



benefits. It is thus also possible for community interest companies allow for participation of local communities in project development can be classified as a SEC eligible for a grant.

Aside from the SEAL's grant mechanism, SEC can also apply for Better Energy Communities (BEC) programme - a competitive national capital grant programme aimed at increasing energy efficiency standards. The initiative grants support of up to €28 million each year.

#### *2.1.5.3. High level design paper on renewable energy support schemes (RESS)*

The high level design paper<sup>76</sup> aims to encourage participation of communities in the design of the renewable electricity support scheme. This high level design paper is a non-binding policy-formulation and still needs to be backed up by legislation.

The following policies and support measures are envisioned to ensure community participation in and ownership of renewable electricity projects:

- early on financial support for feasibility and development studies and capacity building;
- mandatory community benefit fund and register;
- mandatory investment opportunities for communities living in proximity (5 km) of the RESS project (however, if the project fails to collect community investment, it will not be punished);
- separate auction for communities that meet community-led criteria (capacity limited to 10% of the second auction and subject to review for future auctions);
- provision of independent technical, legal, project and financial advice;
- support to guide community-led projects through the grid connection process;
- feedback loops from representative of community projects and projects developers on the adequacy of the support measures.<sup>77</sup>

#### *2.1.5.4. Relation to the CEP*

The Irish policy-framework on SEC has emerged outside of the context of the CEP.

Any actor can participate in a SEC, irrespective of their geographical location within the country, which makes the concept considerably more broad than both REC and CEC in RED II and EMD.

The SEC Programme, as well as the policy-formulations in the high level design paper can be seen as an extensive implementation of the indirect right of REC to tools to facilitate access to finance and information in article 22.4 (g) RED II, as well as the right of REC to a support scheme that takes into account the specificities of RECs in article 22.7 RED II.

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<sup>76</sup> See Government of Ireland, 'Renewable Electricity Support Scheme (RESS). High level design', June 2018.

<sup>77</sup> See Government of Ireland, 'Renewable Electricity Support Scheme (RESS). High level design', June 2018, pp. 17-19.



The tables (Table 16, Table 17) below summarize and present the comparison of the Irish policy framework on SEC to the EU regulations:

Table 16: Comparison legal concept in Irish policy to EU regulation

	EMD		RED II		Irish policy	
Name	Citizen energy community		Renewable energy community		Sustainable energy community	
Energy sector	Electricity sector (tech-neutral)		Electricity & heat sector (renewable energy based)		Electricity & heat sector	
Legal form	Any		Any		Any	
Participation	Structure	Actors	Structure	Actors	Structure	Actors
	Open & Voluntary	Any entity	Open & voluntary	Natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity	N.S.	Any entity
Control	Structure	Actors	Structure	Actors	Structure	Actors
	"Effective" control	Natural persons, local authorities and small and micro-sized enterprises	'Effective' control & Autonomy	Natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity	N.S.	Any entity
Autonomy	Large energy companies cannot exercise any decision-making power		Explicitly mentioned		N.S.	
Geographical limitation	No		Those in control need to be located proximity of projects owned and developed by the community		No	
Purpose	Social, economic and environmental benefits for members/shareholders or the local area in which it operates		Social, economic and environmental benefits for members/shareholders or the local area in which it operates		Community benefits	
Activities	Generation, distribution, supply, consumption, sharing, aggregation and storage of electricity, energy-efficiency services, EV charging-services, other energy-related services (commercial)		Generation, distribution, consumption, storage, sale, aggregation, supply and sharing of renewable energy  Energy-related services (commercial)		(1) Energy efficiency services; (2) use renewable energy; (3) implement smart energy solutions	

Table 17: Comparison rights, privileges and responsibilities in Irish policy to EU regulation

Rights, privileges and responsibilities	EMD	RED II	Irish policy
<b>General rights and privileges</b>			
Provision of regulatory and capacity-building support provided to public authorities in relation to energy communities	YES	YES	Not defined yet
Identification/assessment of barriers		YES	YES
Removal of unjustified regulatory and administrative barriers		YES	
Tools to facilitate access to finance and information		YES	The SEC Programme
Support scheme that takes into account the specificities of energy communities		YES	<u>Present:</u> Better Energy Communities and SEAI Grant Scheme  <u>Future:</u> RESS that ensures community participation and ownership
Type of support		YES	<u>Present :</u> initial investment  <u>Future :</u> initial and operational
<b>Production</b>	Allowed	Allowed	Allowed, but N.S.
<b>Rights</b>			
Fair, proportionate, non-discriminatory and transparent production licensing and registration procedures	YES	YES	N.S.
Transparent, non-discriminatory and cost-reflective production charges	YES	YES	The same charges apply
<b>Responsibilities</b>			
Financially responsible for imbalances	YES		N.S.
<b>Distribution</b>	Discretion MS	Maybe	N.S.
<b>Supply</b>	Allowed	Allowed	N.S.
<b>Sharing</b>	Allowed (for the electricity produced by the production units owned by the community)	Allowed (for the electricity produced by the production units owned by the community)	N.S.
<b>Collective self-consumption</b>	Allowed	Allowed (building level)	N.S.
<b>Aggregation</b>	Allowed	Allowed	N.S.

<b>Storage</b>	Allowed	Allowed	Allowed, at household level
<b>Sale</b>	Allowed	Allowed	N .S.
<b>Energy-efficiency services</b>	Allowed	Allowed	Allowed
<b>Other energy-related services</b>	Allowed	Allowed	Allowed
<b>EV charging services</b>	Allowed	Allowed	Allowed

## 2.1.6. Luxembourg

### 2.1.6.1. Existing landscape

Besides a couple of energy cooperatives involved in distributed electricity production from solar and wind (see e.g. 'TM Energcoop'<sup>78</sup> and 'Energy Revolt'<sup>79</sup>), Luxembourg has little or no experience with energy communities.

### 2.1.6.2. Draft law on energy communities

Luxembourg has a proposal law ready in the Parliament to amend the Law on the Organisation of the Electricity Market of 1st August 2007 and introduce the concepts of collective self-consumption and "Communauté d'Énergie Renouvelable" (CER) or 'Renewable Energy Community'.<sup>80</sup>

#### **Legal concept – Renewable energy community**

A CER is described as a legal person that can consist out of network users who can be natural persons, SMEs or local authorities, including municipalities. The primary purpose of a CER is to provide environmental, economic and social benefits to its shareholders or members or the local territory in which it operates, rather than profit-making

The network users' injection and sampling points need to be located in the same locality, i.e. downstream of the high and/or medium voltage electricity transformer station connected to the low-voltage station operated by the DSO concerned, which provides the network users more flexibility to switch around the network.

Participation in a CER is voluntary and participants have the right to leave with a notice that cannot exceed one year.

<sup>78</sup> <http://grandcentral.snj.lu/news/tm-energcoop-nouveau-projet-photovolta%C3%AFque-%C3%A0-kayl-t%C3%A9tange>

<sup>79</sup> <https://www.eida.lu/en/energy-revolt>.

<sup>80</sup> The progress of the legislative process can be monitored here: <https://chd.lu/wps/portal/public/Accueil/TravailALaChambre/Recherche/RoleDesAffaires?action=doDocpaDetails&backto=/wps/portal/public/Accueil/Actualite&id=7266>.

### ***Activities, rights and responsibilities***

The CER is allowed to produce, consume, share, store<sup>81</sup> and sell electricity, and has access to all relevant energy markets directly or by aggregation in a non-discriminatory manner.

The draft law enables a CER to share, within the community, the renewable energy produced by the production units owned by the CER. The member or shareholders need to be located in the same locality, i.e. downstream of the high and/or medium voltage electricity transformer station connected to the low-voltage station operated by the DSO concerned. A legal entity is required in order to interact with the grid operator to facilitate sharing of electricity amongst the members of the CER.

The allocation of the produced quantities of electricity can be done by a CER or the DSO and this without prejudice to the network access charges, network usage charges and other charges, levies and taxes applicable to each member of a CER. Specific local tariffs are not foreseen in the short term, but could be introduced in the future.

In case a CER decides to make its own allocation of the produced quantities to its members, the CER will need to send load curves to the DSO within some format and some timeframe that is yet to be defined. The DSO will then send the virtual grid consumption load curves to the supplier of the different participants. The CER is authorized to delegate the organization of the allocation of electrical energy to a service provider. The service provider must be able to follow the technical and organizational terms and conditions of the distribution model and cannot be a member of the CER. The quantities of electrical energy taken from the network and the total quantities of electrical energy consumed and produced individually by members of a CER need to be communicated at least every month.

Alternatively, a static and simple distribution model for the sharing of the electricity produced is used by the DSO. The DSO will allocate quantities, create a virtual load curve and goes to the supplier for the remaining energy that is needed from the public network. The sharing key will need to be developed by the regulator in close consultation with the network operators of the network.

In order to operate on the local distribution network, a CER is subject to an acceptance procedure and need to enter into an agreement with the DSO based on a standard contract to be jointly developed by the DSOs. The agreement will need to specify:

- the identity and address of the members of the renewable energy community;
  - the distribution key applied for the sharing of the energy produced. The agreement must be adapted whenever a member or shareholder of the community renewable energy, the facilities concerned or the distribution key change;
- the facility or installations concerned.

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<sup>81</sup> Art. 8quinquies determines that each grid user is allowed to operate an electricity storage within the limits of power and capacity and according to the operating conditions to be decided by the regulator after a public consultation procedure.

The members or shareholders of a CER conclude each individually a supply contract with the supplier of their choice for electricity taken from the public network. The sale of excess renewable electricity and injected into the public network can be done through individual suppliers of members or shareholders of the CER, or if the statutes so provide, via a common supplier.

A CER can also sell its excess production of renewable electricity through renewable electricity purchase agreements, provided that it performs the function of balance manager, including the financial aspects relating to energy balance and equilibrium, or delegate responsibility for equilibrium.

#### 2.1.6.3. *Relation to the CEP*

The Luxembourgian draft law on CER aims to partly transpose the RED II.

The framework is more narrow than the one provided for in RED II for REC, as it is primarily formulates rights and responsibilities in relation to the activity of electricity sharing between network users which are located downstream of the high and/or medium voltage electricity transformer station connected to the low-voltage station operated by the DSO concerned. The associated rights and responsibilities are concordantly focused on the cooperation between the DSO and the CER in order to facilitate transfers within the community in the sense of 22.4 (c) RED II.

A CER is furthermore allowed to sell its excess production of renewable electricity through purchase agreements in accordance with article 22.2 (a) RED II, provided that it takes on balancing responsibilities in line with article 16.3 (c) EMD.

The concept of CER is overall characterized by a more open membership than REC in RED II, as also SMEs whose participation does constitute their primary economic activity are allowed to participate. In order to be involved in energy sharing, the draft law furthermore gives content to the notion of 'proximity' in RED II by requiring that all of the network users' injection and sampling points need to be downstream of the high and/or medium voltage electricity transformer station connected to the low-voltage station operated by the concerned DSO. This interpretation allows participants and customers to switch around the network and for low voltage feeders to be connected to two different medium voltage stations.

The tables (Table 18, Table 19) below summarize and present the comparison of the Luxembourg draft law on CER to the EU regulations:

**Table 18: Comparison legal concept in Luxembourgian draft law to EU regulation**

	EMD		RED II		Luxembourg draft law	
<b>Name</b>	Citizen energy community		Renewable energy community		Renewable energy community	
<b>Energy sector</b>	Electricity sector (tech-neutral)		Heat & electricity sector (renewable energy-based)		Electricity sector (renewable energy-based and cogeneration)	
<b>Legal form</b>	Any		Any		Any	
<b>Participation</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>

	Open & Voluntary	Any entity	Open & voluntary	Natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity	N.S.	Natural persons, local authorities and SMEs
<b>Control</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>
	"Effective" control	Natural persons, local authorities and Small and micro-sized enterprises	'Effective' control & Autonomy	Natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity	N.S.	Natural persons, local authorities and SMEs
<b>Autonomy</b>	Large energy companies cannot exercise any decision-making power		Explicitly mentioned		N.S.	
<b>Geographical limitation</b>	No		Those in control need to be located proximity of projects owned and developed by the community		All of the network users' injection and sampling points need to be located in the same locality, i.e. downstream of the high and/or medium voltage electricity transformer station connected to the low-voltage station operated by the DSO concerned	
<b>Purpose</b>	Social, economic and environmental benefits for members/shareholders or the local area in which it operates		Social, economic and environmental benefits for members/shareholders or the local area in which it operates		Provide benefits environmental, economic or social benefits to its shareholders or members or in favor of local territories where it operates, rather than seeking profit	
<b>Activities</b>	Generation, distribution, supply, consumption, sharing, aggregation and storage of electricity, energy-efficiency services, EV charging-services, other energy-related services (commercial)		Generation, distribution, consumption, storage, sale, aggregation, supply and sharing of renewable energy  Energy-related services (commercial)		Energy production, consumption, sharing, storage, sale	



Table 19: Comparison rights, privileges and responsibilities in Luxembourgian draft law to EU regulation

Rights, privileges and responsibilities	EMD	RED II	Luxembourgian draft law
<b>General rights and privileges</b>			
Provision of regulatory and capacity-building support provided to public authorities in relation to energy communities	YES	YES	No
Identification/assessment of barriers		YES	Has started
Removal of unjustified regulatory and administrative barriers		YES	
Tools to facilitate access to finance and information		YES	Not defined yet
Support scheme that takes into account the specificities of energy communities		YES	No
Type of support		YES	
<b>Production</b>	Allowed	Allowed	Allowed
<b>Rights</b>			
Fair, proportionate, non-discriminatory and transparent production licensing and registration procedures	YES	YES	The same procedures apply
Transparent, non-discriminatory and cost-reflective production charges	YES	YES	The same charges apply
<b>Responsibilities</b>			
Financially responsible for imbalances	YES	YES	YES
<b>Distribution</b>	Discretion MS	N.S.	Not allowed
<b>Supply</b>	Allowed	Allowed	Allowed
<b>Rights</b>			
Fair, proportionate, non-discriminatory and transparent supply licensing and registration procedures	YES	YES	Exempt from supply license within the community
Transparent, non-discriminatory and cost-reflective supply charges	YES	YES	The same charges apply
<b>Responsibilities</b>			
Respect the freedom to switch suppliers	YES	YES	YES
Financially responsible for imbalances	YES		V (can be delegated)
<b>Sharing</b>	Allowed (for the electricity produced by the production units)	Allowed (for the electricity produced by the production units)	Allowed (for the electricity produced by the production units)

	owned by the community)	owned by the community)	owned by the community)
<b>Rights</b>			
Cooperation of the relevant DSO to facilitate transfers	YES	YES	YES
Subject to applicable network charges, tariffs and levies	YES	YES	The same charges apply
<b>Collective self-consumption</b>	Allowed	Allowed (building level)	Allowed (building level)
<b>Rights</b>			
Cost reflective, transparent and non-discriminatory network charges	YES	YES	Different network charges apply
<b>Aggregation</b>	Allowed	Allowed	Allowed
<b>Storage</b>	Allowed	Allowed	Allowed at household level
<b>Sale</b>	Allowed	Allowed	Allowed
<b>Rights</b>			
Access to all electricity markets either directly or through aggregation in a non-discriminatory manner	YES	YES	YES
<b>Energy-efficiency services</b>	Allowed	Allowed	Allowed, but N.S.
<b>Other energy-related services</b>	Allowed	Allowed	Allowed, but N.S.
<b>EV charging services</b>	Allowed	Allowed	Allowed, but N.S.

## 2.1.7. The Netherlands

### 2.1.7.1. Existing landscape

The Netherlands has a rich history in energy cooperatives that dates back to the late 1980s and early 1990s. Today over a hundred energy cooperatives exist in the Netherlands (see e.g. Grunneger power,<sup>82</sup> CoöperatieAuto,<sup>83</sup> De Windvogel,<sup>84</sup> and Energyport Peelland<sup>85</sup>). In addition, there are 17 energy associations and cooperatives active in the Dutch regulatory sandbox (see e.g. Schoonschip, Villa Verademing and Kringloopgemeenschap).<sup>86</sup>

### 2.1.7.2. Current experimental regime

Article 7a of the Dutch Electricity Act 1998 provides the possibility for pilot community energy projects to experiment with developments in relation to production, transport and supply of decentralized

<sup>82</sup> <https://grunnegerpower.nl/>.

<sup>83</sup> <https://www.cooperatieauto.nl/>.

<sup>84</sup> <https://windvogel.nl/>.

<sup>85</sup> <https://www.energyportpeelland.nl/>.

<sup>86</sup> Tounquet, F., De Vos, L., Abada, I., Kielichowska, I. and Lessmann, C., 'Energy Communities in the European Union', 2019.

generated sustainable electricity as well as grid ownership through derogation from the Dutch Electricity Act. This regime is further implemented by the Crown decree of 28 February 2015 on experiments on decentralized sustainable electricity generation, commonly known as the Experiments Electricity Law - regime, which specifies which types of projects are eligible and which exemption can be granted. In turn, these exemptions are further coupled to regulations or restrictions by the Minister of Economic Affairs and Climate in the “*openstellingsregeling*”<sup>87</sup>. The stakeholders involved in the design of the framework were regulators, DSOs, cooperatives, consumer organizations, network organizations, local authorities, civil society, engineering companies.

From 2015 until 2018 there was a yearly opening. Exemptions were granted to 20 projects. The applications for the regime are currently closed. A revised experiment scheme will be designed in 2019 that is likely to offer more options for exemptions from the Electricity Act and the Gas Act. The options and approach of the new scheme are currently being updated. On Monday, April 29, the government sent its proposal for the renewed and broadened experimentation scheme to the House of Representatives. For the scope of this report, both the existing and emerging regulatory sandbox regime shall be discussed.

### ***Legal concept – Energy association or cooperative***

The original experimental regime applies to certain types of community energy initiatives and under certain conditions:

- only cooperatives or associations of owners are eligible for permissions;
- DSOs, TSOs or legal persons that are (in)directly producer or supplier of electricity (larger than produced by the community energy cooperative or association) cannot not have any say in the management of the community;
- the general assembly of members of the community has control over the set-up, progress or cost distribution of the project;
- 80% or more of the customers need to be private end-users/consumers
- a maximum of 10,000 customers can be served;
- no electricity shall be supplied to non-members, unless when it is a legal person under full control of the community;
- all of the customers need to be connected to the same medium or low voltage network of the network operator to which the application relates or can be connected within six months of the granting of the exemption.<sup>88</sup>

### ***Potential activities, rights and responsibilities***

The Minister can grant an exemption from rules pertaining to tasks and responsibilities of the network operator, tariff structures and conditions, conditions for data-processing, transparency and solvency, measurement device requirements, invoicing and information processing for the implementation of a project that envisions for:

<sup>87</sup> See <https://www.rvo.nl/subsidies-regelingen/experimenten-elektriciteitswet>.

<sup>88</sup> Heldeweg M., ‘Normative alignment, Institutional Resilience and Shifts in Legal Governance of the Energy Transition’, Sustainability, 2017, pp. 28-30.

- 'Large' Experiments: optimizing supply and demand of electricity with supply of locally generated sustainable electricity or the installation or maintenance of a part of a network, connection or device and the supply of locally generated sustainable electricity for a maximum of 10,000 customers; or
- 'Project Nets': the construction or maintenance of a project network and the supply of decentralized renewable electricity. A project network has a single connection to the public distribution network and is located within a geographical delimited area or location with shared services to which maximum 500 customers are connected and which supplies primarily end-consumers.

In total a maximum 20 projects were granted per year: 10 'Large' Experiments and 10 Project Nets.

In case a project has been accepted and provided that the conditions in article 13 of the Crown Decree are met, the project will automatically be released from the requirements of a supply license for the supply of electricity to small end-consumers under certain conditions.

The duration of the experimental regime for each individual project is set at a maximum 10 years.

The Minister is allowed to further specify certain provisions in the "*Openstellingsregeling*" with regard to:

- conditions or restrictions to an exemption in order to safeguard public goals, such as transport security, security of supply, safety, environment and consumer protection;
- the maximum amount of projects allowed to apply and which period of time they can apply; or the maximum generation capacity (e.g. in 2015 this was set at the capacity needed to generate the annual electricity consumption of all members of the association with an uncertainty margin of 5%)<sup>89</sup>.

Recent study performed by Lammers and Diestelmeier<sup>90</sup> indicates that in reality five out of nine of the currently approved pilot projects are actually controlled by project developers, a solar PV company, a research centre and a real estate company (which have become members of the associations). In addition, DSOs, energy companies, brokers and aggregators appear to play an important role as partners. The question rises whether the experimental regime is either too restrictive and needs to be opened up to other types of actors; or needs to be better secured in order to avoid outside actors taking the lead in these community energy initiatives.

On the other hand, other projects, in particular Schoonschip, have shown that the Experiments Electricity Law – regime indeed created a framework, enabling citizens to set up local energy communities, which jointly produce, store and exchange electricity and operate their own local grids. As such the regime fulfilled and fulfils its purpose to 'examine whether the exemptions from the electricity law would result in (i) increased application of renewable energy or combined heat and power at local level (ii) increased efficiency in the use of the available infrastructure (iii) increased engagement of energy consumers with their energy supply.

<sup>89</sup> <https://zoek.officielebekendmakingen.nl/stcrt-2015-9908.html>.

<sup>90</sup> Lammers, I.; Diestelmeier, L. 'Experimenting with Law and Governance for Decentralized Electricity Systems: Adjusting Regulation to Reality?', Sustainability 2017, 9, 212.

#### 2.1.7.3. *Future regime: regulatory sandbox for community energy cooperatives or associations*

It appears that the Dutch regulator has decided to open up the next round of the experimental regime to more types of actors. The old scheme is being expanded with more goals and possible partnerships, which will allow for more space for local experiments. The most apparent changes are:<sup>91</sup>

- expansion from the electricity market to the Gas market. The Minister of Economic Affairs and Climate will be competent to allow exemptions from the Gas act;
- all legal persons can now apply for an exemption, also in cooperation. This means that network operators, suppliers and aggregators can also submit or participate in an application;
- local experiments can now have more goals, including sustainable energy generation, energy efficient grid use, energy saving, CO<sub>2</sub> emissions reduction, increase practical knowledge about market models and tariff regulation systems.

The duties and powers of the minister and supervisors remain unchanged, as do the definitions.<sup>92</sup>

#### 2.1.7.4. *Relation to the CEP*

The Dutch's regulatory sandbox for energy cooperatives and associations was created without the RED II and EMD in mind.

The legal conceptualization is limited to cooperatives and associations who can only operate on the electricity sector and needs to be renewable energy based. Participation to the cooperative or association is limited, as 80% of the participants need to be private end-consumers. The autonomy of the initiatives are furthermore guaranteed through an explicit prohibition for DSOs, TSOs or legal persons that are (in)directly producer or supplier of electricity to have any say in the management of the association or cooperative. Furthermore, the principle of effective control is further implemented through the obligation that the general assembly of members need to have control over the set-up, progress or cost distribution of the project.

The experimental regime focuses primarily on sustainable energy generation and energy efficient grid use, which implies that energy associations or cooperatives can possibly be allowed operate their own private community network. Under the experimental regime the Minister can furthermore grant an exemption from rules pertaining to tasks and responsibilities of the network operator, tariff structures and conditions, conditions for data-processing, transparency and solvency, measurement device requirements, invoicing and information processing. Notably the possible exemption from normal grid tariffs appears to be an implementation of the right to (fair), cost-reflective, transparent and non-discriminatory network charges article 22.4 (d) RED II and article 16.1 (e) EMD. In addition, there is an automatic exemption for approved projects from supply license requirements for supply to

<sup>91</sup> See 'Ontwerpbesluit houdende nadere regels voor het bij wege van experiment afwijken van de Elektriciteitswet 1998 of de Gaswet' (<https://www.tweedekamer.nl/downloads/document?id=efa3e89b-decf-49d9-bc8f-b1454f919187&title=Besluit%20houdende%20nadere%20regels%20voor%20het%20bij%20wege%20van%20experiment%20afwijken%20van%20de%20Elektriciteitswet%201998%20of%20de%20Gaswet%20%28Besluit%20experimenten%20Elektriciteitswet%201998%20en%20Gaswet%29.pdf>).

<sup>92</sup> See [https://www.tweedekamer.nl/kamerstukken/brieven\\_regering/detail?id=2019Z08804&did=2019D17921](https://www.tweedekamer.nl/kamerstukken/brieven_regering/detail?id=2019Z08804&did=2019D17921).

small end consumer, which can be considered an implementation of the right to non-discriminatory, fair, proportionate and transparent procedures formulated in those same articles.

The tables (Table 20, Table 21) below summarize and present the comparison of the Dutch experimental regulation on Energy Associations and Cooperatives to the EU regulations:

Table 20: Comparison legal concept in Dutch regulation to EU regulation

EMD			RED II		Dutch regulation		
Name	Citizen energy community		Renewable energy community		Energy association or cooperative		
Energy sector	Electricity sector (tech-neutral)		Heat & electricity sector (renewable energy based)		<u>Present</u> : Electricity sector <u>Future</u> : electricity + gas sector		
Legal form	Any		Any		Now: Association or Cooperative Future: Any entity		
Participation	Structure	Actors	Structure	Actors	Structure	Actors	
	Open & Voluntary	Any entity	Open & voluntary	Natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity	Not open & voluntary	<u>Present</u> 80% private actors	<u>Future</u> Any entity
Control	Structure	Actors	Structure	Actors	Structure	Actors	
	“Effective” control	Natural persons, local authorities and small and micro-sized enterprises	‘Effective’ control & Autonomy	Natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity	General assembly has control over set-up, progress or cost-distribution	Any entity, except DSOs, TSOs or legal persons that (in)directly are producer or supplier of electricity	
Autonomy	Large energy companies cannot exercise any decision-making power		Explicitly mentioned		DSOs, TSOs or legal persons that are (in)directly producer or supplier of electricity do not have any say in the management		
Geographical limitation	No		Those in control need to be located proximity of projects owned and developed by the community		<u>Present</u> All of the customers need to be connected to the same	<u>Future</u> No	



			medium or low voltage network of the network operator to which the application relates or can be connected within six months of the granting of the exemption	
<b>Purpose</b>	Social, economic and environmental benefits for members/shareholders or the local area in which it operates	Social, economic and environmental benefits for members/shareholders or the local area in which it operates	N.S.	
<b>Activities</b>	Generation, distribution, supply, consumption, sharing, aggregation and storage of electricity, energy-efficiency services, EV charging-services, other energy-related services	Generation, distribution, consumption, storage, sale, aggregation, supply and sharing of renewable energy  Energy-related services (commercial)	<u>Present</u>  Local production, distribution, sharing, storage, collective self-consumption	<u>Future</u>  Energy saving included

Table 21: Comparison rights, privileges and responsibilities in Dutch regulation to EU regulation

Rights, privileges and responsibilities	EMD	RED II	Dutch regulation
<b>General rights and privileges</b>			
Provision of regulatory and capacity-building support provided to public authorities in relation to energy communities	YES	YES	YES, through project meetings
Identification/assessment of barriers		YES	Has started
Removal of unjustified regulatory and administrative barriers		YES	YES (this is the purpose of the experimental regime)
Tools to facilitate access to finance and information		YES	No
Support scheme that takes into account the specificities of energy communities		YES	No
Type of support		YES	
<b>Production</b>	Allowed	Allowed	Allowed
<b>Rights</b>			
Fair, proportionate, non-discriminatory and transparent production licensing and registration procedures	YES	YES	The same procedures apply
Transparent, non-discriminatory and cost-reflective production charges	YES	YES	The same charges apply
<b>Responsibilities</b>			

Financially responsible for imbalances	YES		YES (can be delegated)
<b>Distribution</b>	Discretion MS	N.S.	Allowed (restricted based on location)
<b>Rights</b>			
Own, establish, purchase, lease a private/public distribution network	Discretion MS		YES (for private local micro-grids)
Autonomously manage	Discretion MS		YES (for private local micro-grids)
An agreement with the DSO	YES (if distribution is allowed)		YES
<b>Responsibilities</b>			
Unbundling requirements	YES (if distribution is allowed)		No (exempted from unbundling)
Regulated third party access	Discretion MS		YES
Negotiated third party access	Discretion MS		No
<b>Supply</b>	Allowed	Allowed	Allowed
<b>Rights</b>			
Fair, proportionate, non-discriminatory and transparent supply licensing and registration procedures	YES	YES	Automatic exemption supply license requirement for supply to small end-consumers if project is accepted
Transparent, non-discriminatory and cost-reflective supply charges	YES	YES	The same charges apply
<b>Responsibilities</b>			
Respect the freedom to switch suppliers	YES	YES	YES
Financially responsible for imbalances	YES		V (can be delegated)
<b>Sharing</b>	Allowed (for the electricity produced by the production units owned by the community)	Allowed (for the electricity produced by the production units owned by the community)	Allowed, (for the electricity produced by the production units owned by the community or its members)
<b>Rights</b>			
Cooperation of the relevant DSO to facilitate transfers	YES	YES	YES
Subject to applicable network charges, tariffs and levies	YES	YES	YES (deviation from normal network charges possible)
<b>Collective self-consumption</b>	Allowed	Allowed (building level)	Allowed (building and block level)

Rights			
Cost reflective, transparent and non-discriminatory network charges	YES		V (deviation from normal network charges possible)
<b>Aggregation</b>	Allowed	Allowed	Allowed, but N.S.
<b>Storage</b>	Allowed	Allowed	Allowed
<b>Sale</b>	Allowed	Allowed	Allowed, but N.S.
<b>Energy-efficiency services</b>	Allowed	Allowed	Allowed
<b>Other energy-related services</b>	Allowed	Allowed	Allowed
<b>EV charging services</b>	Allowed	Allowed	Allowed, but N.S.

## 2.1.8. Portugal

### 2.1.8.1. Existing landscape

Portugal has a tradition of energy cooperatives owning and managing distribution grids. They operate in individual municipalities and autonomous regions, such as Azores and Madeira. In addition, there is one known energy cooperative involved in electricity production from solar energy, called 'Coopernico'.<sup>93</sup>

### 2.1.8.2. Law on energy communities

Portugal has recently adopted the Decree-Law No. 162/2019 on October 25<sup>th</sup> 2019 that amends Decree-Law No. 153/2014 of 20<sup>th</sup> October 2014 on Decentralized Electricity Generation. The Decree-Law aims to promote and facilitate self-consumption and renewable energy communities by removing obstacles and creating conditions for the establishment of innovative solutions, both economically and socially, based on technological opportunities.

It appears the Law-Decree implements all of the provisions for REC in RED II and creates a space for "*Comunidade de Energia Renovável*" or 'Renewable energy community' under close monitoring of the Directorate General for Energy and Geology until 31 December 2020 in order to identify how to further implement the provisions in the RED II.

For the design of this legal framework, universities, the regulator, DSOs, local authorities, civil society, consumer organizations, as well as the Autonomous Region of the Azores, the Association National Council of Portuguese Municipalities and the National Data Protection Commission were heard.

### **Legal concept – Renewable energy community**

A "*Comunidade de Energia Renovável*" (CER) or 'Renewable energy community' is described as a legal person that can both be for profit or not for profit. The main purpose of a CER is, however, to

<sup>93</sup> <https://www.coopernico.org/>.

provide its member or the location where it operates environmental, economic and social benefits, rather than financial profits.

Participation to a CER is open and voluntary and all kinds of natural or legal public or private entities may join and exercise effective control, including large (energy) companies. The Decree-Law, however, does favor in particular SMEs, municipalities and domestic consumers, endowing the domestic consumer with a right to participate which may not be subject to conditions or to unjustified or discriminatory procedures preventing participation in a CER.<sup>94</sup> The principle of autonomy is also introduced *vis-à-vis* the members and partners of a CER.

Members or participants need to be located in close proximity of the energy projects or develop activities related to the respective energy projects which are owned and developed by a CER. The Directorate General for Energy and Geology (DGEG) will decide whether the proximity aspect is present on a case by case basis, at least until December 2020.<sup>95</sup> In its judgement, the DGEG shall take into consideration the physical and geographical continuity of the project and its prosumers or CER participants. In addition, it can also take into account the processing station to which the project is linked, the different voltage levels associated with the projects, and any other technical or regulatory element.

### ***Activities, rights and responsibilities***

A CER is allowed to produce, consume, share<sup>96</sup>, store and sell electricity generated from production units owned by the community, including through renewable electricity purchase agreements. A CER has access to all relevant energy markets directly or by aggregation in a non-discriminatory way.

The Decree-Law further delegates several responsibilities to the DGEG and the Energy Sector Regulatory Authority (ESRA).

The DGEG will have to make an assessment of the obstacles for and potential of CERs within two years after the entry into force of this Decree-Law and every three years thereafter by publishing a report on their website. Following this assessment, the DGEG will have to design a framework that promotes and facilitates the development of CERs, in particular with a view to ensure:

- the removal of unjustified regulatory and administrative obstacles which hinder the constitution of RECs
- the cooperation of the network operator to facilitate energy transfers within the CER in cases where the production facilities for self-consumption are connected to the public grid
- fair, proportionate and transparent procedures, including the registration and licensing procedure; as well as cost-based network charges, and other applicable charges, fees and taxes, ensuring that they contribute appropriately, fair and balanced approach to sharing the

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<sup>94</sup> Art. 2 (j) Decree-Law on CER.

<sup>95</sup> Art. 5, §2 Decree-Law on CER.

<sup>96</sup> A CER is allowed to share, within the community, the renewable energy produced by the production units owned by the community.

overall costs of the system, in line with an analysis of the cost-effective distribution of energy sources developed by competent national authorities;

- non-discriminatory treatment as regards their activities, rights and obligations as final consumers, self-consumers, suppliers electricity, distribution system operators or other market participants;
- that CERs can provide energy or aggregation services or other energy services
- participation in RECs is accessible to all consumers, including families low-income or vulnerable;
- the availability of instruments that facilitate the access to finance and information;
- regulatory and capacity-building support for public authorities to facilitate and constitution of RECs and to assist authorities to participate directly in them;
- fair and non-discriminatory treatment consumers participating in the CER.

Furthermore, the Law-Decree determines that the Government should take into account the specificities of CERs in the design and approving of support schemes in order to create a level playing field for them.

The ESRA is given the responsibility to assess the feasibility of local grid tariffs for a CER in case it makes use of the local network to transfer electricity for self-consumption purposes.<sup>97</sup> The network access charges will also be determined and established in the tariff regulation, to be approved by ESRA by 31 December 2020.

The Law-Decree proposes the application of the network charges deducted by:

- the charges related to the use of the transmission network when there is no injection of energy from the transmission network;
- part of the charges related to the use of the transmission network when there is inversion of energy flow between the distribution and transmission network.

The charges related to costs of energy policy, sustainability and economic interest may also be partially or totally deducted by means of the Government member responsible for energy and to be approved by September 15 of each year. The proportion to be deducted shall take into account the benefits of CERs to the electricity system, as well as the financial implications for other customers.

The Decree-Law also formulates some direct rights and responsibilities, such as balancing responsibilities for deviations caused to the national electricity city by a CER. This balancing responsibility can be delegated to a market participant or its designated representative.

The right to fair, proportionate, non-discriminatory and transparent procedures in article 22.4 (d) RED II is directly applied to the production procedures for CER and has resulted in several exemptions

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<sup>97</sup> Art. 18 Decree-Law on CER.

from communication, registration, certification and licensing responsibilities in accordance with installed capacity.

More specifically, Article 3 of the Law-Decree provides the following exemptions:

- production units for self-consumption with installed power of 350 W or less are not subject to prior control;
- production units for self-consumption with installed power greater than 350 W and equal to or less than 30 kW are subject to prior communication;
- production units for self-consumption with an installed power greater than 30 kW and less than or equal to 1 MW is subject to the prior registration for the installation and the operating certificate;
- in case the registration request for the production units for self-consumption foresees the possibility of power injection in the utility power grid, the operator's approval is mandatory<sup>98</sup>;
- production units for self-consumption with an installed capacity exceeding 1 MW are subject to licensing for production and operation.<sup>99</sup>

Notwithstanding the preceding paragraph, in the case of UPAC for which provision is made possibility of injection in the public network greater than 1 MVA, the beginning of the procedure to obtain electricity generation license depends on the prior allocation of the public network. The member of the Government responsible for Energy can define further specific requirements with regard to CERs.

#### *2.1.8.3. Relation to the CEP*

The Decree-Law in Portugal copies the framework for REC in RED II, and delegates the further implementation of most of the provisions to executive government agencies.

The DGEG is in charge of implementing most of the rights and privileges in article 22.4 RED II. The design of the support scheme that takes into account the specificities of a CER in the sense of article 22.7 RED II is delegated to the national Government. The Regulator has the responsibility to look at the feasibility of local grid tariffs in case of transfer of electricity through the local network for the purpose of collective self-consumption in line with the right to fair, cost-reflective, transparent and non-discriminatory network charges 22.4 (d) RED II and article 16.3 (d) juncto article 15.2 (e) EMD.

In addition, the Law-Decree formulates several detailed exemptions from production registration and licensing procedures, which can be seen as a direct implementation of the right to fair, proportionate, non-discriminatory and transparent procedures in article 22.4 (d) RED II.

The concept of CER is much broader than a REC in the sense of article 2 (16) RED II, as it is open to all kinds of entities, provided that they are located in close proximity of the energy projects or

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<sup>98</sup> Referred to in paragraph c) of paragraph 2 of article 27-B of the Decree-Law No. 172/2006, of 23 August.

<sup>99</sup> Pursuant to Articles 8 et seq. of Decree-Law No 172/2006 of August 23, in its current wording.



develop activities related to the respective energy projects which are owned and developed by the renewable energy community.

The tables (Table 22, Table 23) below summarize and present the comparison of the Portuguese law on CER to the EU regulations:

Table 22: Comparison legal concept in Portuguese law to EU regulation

	EMD		RED II		Portuguese law	
<b>Name</b>	Citizen energy community		Renewable energy community		Renewable energy community	
<b>Energy sector</b>	Electricity sector (tech-neutral)		Heat and electricity sector (renewable energy-based)		Electricity sector (renewable energy-based)	
<b>Legal form</b>	Any		Any		Any	
<b>Participation</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>
	Open & Voluntary	Any entity	Open & voluntary	Natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity	Open & voluntary	Any entity
<b>Control</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>
	"Effective" control	Natural persons, local authorities and small and micro-sized enterprises	'Effective' control & Autonomy	Natural persons, Local authorities and SMEs whose participation does not constitute their primary economic activity	"Effective" control	Any entity
<b>Autonomy</b>	Large energy companies cannot exercise any decision-making power		Explicitly mentioned		Explicitly mentioned vis-à-vis internal interest participants and external interest	
<b>Geographical limitation</b>	No		Those in control need to be located proximity of projects owned and developed by the community		Participants need to be located in proximity to the energy projects or develop activities related to the respective energy projects which are owned and developed by the community	
<b>Purpose</b>	Social, economic and environmental benefits for members/shareholders or the local area in which it operates		Social, economic and environmental benefits for members/shareholders or the local area in which it operates		Social, economic and environmental benefits for members/shareholders or local area where it operates, rather than financial profits	

<b>Activities</b>	Generation, distribution, supply, consumption, sharing, aggregation and storage of electricity, energy-efficiency services, EV charging-services, other energy-related services (commercial)	Generation, distribution, consumption, storage, sale, aggregation, supply and sharing of renewable energy  Energy-related services (commercial)	Produce, consume, share, store and sell renewable energy-based electricity
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Table 23: Comparison rights, privileges and responsibilities in Portuguese law to EU regulation

Rights, privileges and responsibilities	EMD	RED II	Portuguese law
<b>General rights and privileges</b>			
Provision of regulatory and capacity-building support provided to public authorities in relation to energy communities	YES	YES	YES
Identification/assessment of barriers		YES	YES
Removal of unjustified regulatory and administrative barriers		YES	
Tools to facilitate access to finance and information		YES	V (needs to be specified by DGEG)
Support scheme that takes into account the specificities of energy communities		YES	V (needs to be specified by DGEG)
Type of support		YES	Operation (local grid tariffs)
<b>Production</b>	Allowed	Allowed	Allowed
<b>Rights</b>			
Fair, proportionate, non-discriminatory and transparent production licensing and registration procedures	YES	YES	Exemption from licensing and/or registration procedures for production units with installed capacity of < 1MW <sup>100</sup>
Transparent, non-discriminatory and cost-reflective production charges	YES	YES	The same charges apply
<b>Responsibilities</b>			
Financially responsible for imbalances	YES		V (can be delegated)
<b>Distribution</b>	Discretion MS	N.S.	N.S.
<b>Supply</b>	Allowed	Allowed	Allowed (but limited by proximity aspect)
<b>Rights</b>			

<sup>100</sup> Note that this is a simplification. Please see the proceeding paragraphs for more details on production registration and license requirements for CERs.

Fair, proportionate, non-discriminatory and transparent supply licensing and registration procedures	YES	YES	The same procedures apply
Transparent, non-discriminatory and cost-reflective supply charges	YES	YES	The same charges apply
<b>Responsibilities</b>			
Respect the freedom to switch suppliers	YES	YES	YES
Financially responsible for imbalances	YES		YES (can be delegated)
<b>Sharing</b>	Allowed (for the electricity produced by the production units owned by the community)	Allowed (for the electricity produced by the production units owned by the community)	Allowed (for the electricity produced by the production units owned by the community)
<b>Rights</b>			
Cooperation of the relevant DSO to facilitate transfers	YES	YES	YES
Cost reflective, transparent and non-discriminatory network charges	YES	YES	Potential exemption from upstream-related and energy policy-related costs
<b>Collective self-consumption</b>	Allowed	Allowed (building level)	From January 2020
<b>Rights</b>			
Cost reflective, transparent and non-discriminatory network charges	YES	YES	Potential exemption from upstream-related costs
<b>Aggregation</b>	Allowed	Allowed	Allowed
<b>Storage</b>	Allowed	Allowed	Allowed
<b>Sale</b>	Allowed	Allowed	Allowed
<b>Rights</b>			
Access to all electricity markets either directly or through aggregation in a non-discriminatory manner	YES	YES	YES
<b>Energy-efficiency services</b>	Allowed	Allowed	Allowed
<b>Other energy-related services</b>	Allowed	Allowed	Allowed
<b>EV charging services</b>	Allowed	Allowed	Allowed

## 2.1.9. Slovenia

### 2.1.9.1. *Existing landscape*

Energy communities are not common in Slovenia. There are two known energy cooperatives active; Krajcarca in Gorenjska and Zadruga Soncnih Elektrarn Slovenije, and some other decentralized renewable energy projects in which local communities are engaged.<sup>101</sup> In Nova Gorica and Luce, energy community projects are currently being set up.

### 2.1.9.2. *Law on energy communities*

Slovenia has recently adopted a new By-Law on the Self-supply of Electricity from Renewable Energy Sources that entered into force on the 1st May 2019. The By-Law is an enforcement of the first paragraph of Article 314 and Article 315 of the Energy Act and introduces the concept of 'Renewable Energy Source Community' (RESC). The main actors involved in the design of the framework were regulators, cooperatives and consumer organizations. The By-Law promotes both the activity of individual as well as collective self-consumption.

#### ***Legal concept – Renewable energy source community***

A RESC is defined as jointly acting final consumers behind the same LV transformer station that are engaged in collective self-consumption. A legal entity is not required, but is allowed to be established.

Any type entity is allowed to participate in a RESC. However, a third party power plant owner is not allowed to have effective control over the RESC.

In order to benefit from the virtual net-metering scheme, participants in a RESC need to consume electricity through two or more metering points that are connected to a low-voltage network of the same transformer station as the production unit.

#### ***Activities, rights and responsibilities***

The By-Law views a RESC as a form collective self-consumption, which is formed by customers in buildings (houses) and/or dwellings that consume self-produced electricity via two or more measuring points that are connected to the network of the same LV transformer station as the production unit used for self-consumption purposes.

All participants are obliged to share the produced electricity amongst them, and match it to their consumption profiles. The electricity shares allocated to the different consumers' portfolio's in a RESC should match the anticipated production. If, at the end of the accounting period, the amount of electricity delivered (in kWh) by the customer is greater than the amount of electricity received (in kWh), the customer shall hand over the surplus electricity to his or her supplier. A RESC is exempted from the supply license requirement for electricity that is collectively consumed and shared by its members or shareholders behind the same low-voltage transformer station.

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<sup>101</sup> See <http://energise-project.eu/node/1229>

In case of excess electricity, the owner of the production unit cannot acquire the status of producer and sell the generated electricity to the market. The excess electricity goes to the external supplier and is directly fed into the public grid. The supplier (depending on the agreement between supplier and consumer) then pays for this energy according to the contractual price. The payment can take the form of a discount on the account of the following year. Each participant in a RESC can choose to have its own electricity supplier. The agreed upon shares will then have to be communicated to the DSO to calculate the consumption data that needs to be applied on the electricity bill by each supplier.

The production unit does not have to be in ownership of the community members or shareholders,<sup>102</sup> needs to be connected to a separate measuring point, located behind the same low-voltage transformer station, and cannot be (or have been) included in a support scheme for the production of electricity from renewable energy sources and in high-efficiency cogeneration. The maximum installed capacity of the production unit may not exceed 80% of the sum of the connection capacities of the individual measuring points in the community. The balancing responsibility is transferred to the supplier.

An energy storage device is also allowed to be connected to the installation or the network to which the self-consumption unit is connected. The participants of a RESC then have to agree in advance on the exact shares of electricity distributed among them. The sum of shares should equal 100% of estimated electricity production. The distribution model can be modified, but is subject to prior communication to the DSO.

#### 2.1.9.3. *Relation to the CEP*

The new By-Law in Slovenia was not an intentional implementation of the CEP, although it is considered an important first step.

The focuses on Renewable Energy Communities as a form of collective self-consumption. The associated rights, privileges and responsibilities are consequently aimed at regulating this particular type of activity. This renders the scope of the Slovenian framework considerably narrower than for REC and CEC under the CEP.

In terms of participation criteria, the concept of RESC is more broadly defined than a CEC and REC, since any entity can participate. However, the geographical limitation will be more strict, as all of the participants need to be located behind the same transformer station for the purpose of collective self-consumption.

The tables (Table 24, Table 25) below summarize and present the comparison of the Slovenian regulation on RESC to the EU regulations:

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<sup>102</sup> The production unit must meet the technical requirements as laid down in the regulation governing the technical requirements for the safe and proper operation of self-care devices.

Table 24: Comparison legal concept in Slovenian By-Law to EU regulation

	EMD		RED II		Slovenian By-Law	
<b>Energy sector</b>	Electricity sector (tech-neutral)		Renewable energy (heat + electricity)		Electricity sector (renewable energy-based)	
<b>Legal form</b>	Any		Any		Any	
<b>Participation</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>
	Open & Voluntary	Any entity	Open & voluntary	Natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity	N.S.	Any entity that is a final-customer located behind the same LV transformer station and a third party power plant owner.
<b>Control</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>	<b>Structure</b>	<b>Actors</b>
	"Effective" control	Natural persons, local authorities and small and micro-sized enterprises	'Effective' control & Autonomy	Natural persons, local authorities and SMEs whose participation does not constitute their primary economic activity	N.S.	Final-customers being members
<b>Autonomy</b>	Large energy companies cannot exercise any decision-making power		Explicitly mentioned		A third party power plant owner cannot exercise effective control	
<b>Geographical limitation</b>	No		Those in control need to be located proximity of projects owned and developed by the community		Consumers need to be connected to a low-voltage network of the same transformer station as a self-supply device	
<b>Purpose</b>	Social, economic and environmental benefits for members/shareholders or the local area in which it operates		Social, economic and environmental benefits for members/shareholders or the local area in which it operates		N.S.	
<b>Activities</b>	Generation, distribution, supply, consumption, sharing, aggregation and storage of electricity, energy-efficiency services, EV charging-services, other energy-related services (commercial)		Generation, distribution, consumption, storage, sale, aggregation, supply and sharing of renewable energy  Energy-related services (commercial)		Collective self-consumption in different dwellings	



Table 25: Comparison rights, privileges and responsibilities in Slovenian By-Law to EU regulation

Rights, privileges and responsibilities	EMD	RED II	Slovenian By-Law
<b>General rights and privileges</b>			
Provision of regulatory and capacity-building support provided to public authorities in relation to energy communities	YES	YES	No
Identification/assessment of barriers		YES	Has started
Removal of unjustified regulatory and administrative barriers		YES	
Tools to facilitate access to finance and information		YES	No
Support scheme that takes into account the specificities of energy communities		YES	Eco Fund provides small grants to collective self-consumption communities under strict conditions)
Type of support		YES	
<b>Production</b>	Allowed	Allowed	Allowed
<b>Rights</b>			
Fair, proportionate, non-discriminatory and transparent production licensing and registration procedures	YES	YES	The same procedures apply
Transparent, non-discriminatory and cost-reflective production charges	YES	YES	The same charges apply
<b>Responsibilities</b>			
Financially responsible for imbalances	YES		No (external supplier is responsible)
<b>Distribution</b>	Discretion MS	N.S.	Not allowed
<b>Supply</b>	Allowed	Allowed	N.S.
<b>Sharing</b>	Allowed (for the electricity produced by the production units owned by the community)	Allowed (for the electricity produced by the production units owned by the community)	Allowed (production units do not have to be owned by the community)
<b>Rights</b>			
Cooperation of the relevant DSO to facilitate transfers	YES	YES	YES
Subject to applicable network charges, tariffs and levies	YES	YES	Virtual net-metering

<b>Collective self-consumption</b>	Allowed	Allowed (building level)	Allowed (building and block level)
<b>Rights</b>			
Cost reflective, transparent and non-discriminatory network charges	YES	YES	(Virtual) net-metering
<b>Aggregation</b>	Allowed	Allowed	N.S.
<b>Storage</b>	Allowed	Allowed	Allowed
<b>Sale</b>	Allowed	Allowed	Not allowed to sell excess electricity by a power plant owner. Excess of electricity is transferred to the community member supplier
<b>Energy-efficiency services</b>	Allowed	Allowed	N.S.
<b>Other energy-related services</b>	Allowed	Allowed	N.S.
<b>EV charging services</b>	Allowed	Allowed	N.S.

## 2.2. Intermediate statement on national situations for energy communities in the EU

This report provided an overview of existing and emerging legal and policy developments with regard to energy communities in the EU.

Germany, the Netherlands and Ireland have relatively 'older' and more experienced legal frameworks which focus on one particular activity, such as energy production or providing energy efficiency services. Slovenia, Luxembourg, France and Belgium (Wallonia) have more recently introduced a legal framework for 'Renewable Energy communities' in the context of collective self-consumption or energy sharing. Portugal is the first MS to fully implement the RED II. Finally, Greece has set out a very ambitious and encompassing legal framework for energy communities, consistent out of a variety of financial incentives and support measures.

Despite these differences, each of the legal and policy frameworks have presented a variety of ways to interpret and implement the rights, privileges and responsibilities in article 16 EMD and article 22 RED II. In particular, the following rights were given further shape:

- the right to a customized support scheme in article 22.7 RED II in Germany (temporarily reduced financial security deposit), Greece (exemption from bidding procedures for projects up to 18 MW is granted) and Ireland (separate auction procedure is being considered for community-led projects);
- the indirect right to tools to facilitate access to information and financing in article 22.4 (g) RED II in Ireland (Sustainable Energy Communities Programme);

- the right to fair, cost-reflective, transparent and non-discriminatory network charges in article 22.4 (d) RED II and article 16.3 (d) juncto article 15.2 (e) EMD by considering local grid tariff in Belgium (Wallonia), France, Portugal, and the Netherlands;
- the right to cooperation with the DSO in order to transfers within the community in the sense of art. 16.1 (d) EMD and 22.4 (c) RED II in Luxembourg, Slovenia, and Belgium (Wallonia);
- the right to sell its excess production of renewable electricity through purchase agreements in accordance with article 22.2 (a) RED II in Luxembourg, France and Portugal;
- the right to fair, proportionate, non-discriminatory and transparent procedures in article 22.4 (d) RED II and article 16.1 (e) EMD in Greece and Portugal.

In addition, different implementation approaches to the principles of ‘proximity’, ‘effective control’, ‘autonomy’ and purpose in article 2 (11) EMD and REC in article 2 (16) RED could be observed in Germany, Greece, Belgium (Wallonia) and the Netherlands.

An overview of the different national approaches to the implementation of the governance principles in the definition of CEC in article 2 (11) EMD and REC in article 2 (16) RED is provided in sub-section 2.2.1. An overview of the approaches to the rights, privileges and responsibilities in article 16 EMD and article 22 RED II is given in sub-section 2.2.2.

### 2.2.1. Overview of emerging and existing national legal concepts and associated rights, privileges and responsibilities

To read the table:

- N.S.: not specified

Table 26: Overview of emerging and existing legal concepts for Energy Communities in the context of the Clean Energy Package

Countries	PT	FR	SI	NL	BE (WA)	EL	DE	LU	IR
<b>Name</b>	Renewable energy community	Renewable energy community	Renewable energy source community	Energy cooperative or association	Renewable energy community	Energy community	Citizens' energy company	Renewable energy community	Sustainable energy community
<b>Energy sector</b>	Heat and electricity sector (RE based)	Heat and electricity sector (RE based)	Electricity sector (RE)	Electricity sector	Electricity sector (RE and quality cogeneration)	Electricity and heat sector (RE and high efficient cogeneration)	Electricity sector (wind-based)	Electricity sector (RE and cogeneration)	Electricity and heat sector
<b>Legal entity</b>	Yes, any	Yes, any	Yes, any	Yes, cooperative or association	Yes, any	Yes, cooperative	Yes, any	Yes	Not required
<b>Participation structure</b>	Open & voluntary	Open & voluntary	Open & voluntary	Voluntary	N.S.	N.S.	N.S.	N.S.	N.S.
<b>Actors allowed to participate</b>	Any entity	Natural person, local authority and SMEs whose participation does not constitute their primary commercial or professional activity	Any entity	80% private actors	Natural person, local authority and SMEs whose participation does not constitute their primary economic activity	Dependent on actors involved in whether for-profit or not-for-profit cooperative	At least 10 natural persons who are eligible to vote	Natural persons, local authorities and SMEs	Any entity

Countries	PT	FR	SI	NL	BE (WA)	EL	DE	LU	IR
<b>Control</b>	Effective control	Effective control	N.S.	General assembly has control over set-up, progress or cost-distribution	Left to the discretion of the community in the first place. However, the government may decide to formulate a minimum set of requirements with regard to 'effective control'	<ul style="list-style-type: none"> <li>- 1 member 1 vote;</li> <li>- one or more optional shares, with a maximum holding of 20%;</li> <li>- municipalities (OTAs) may participate in the capital up to 50% for first-degree island regions with a population below 3,100 or 40% for others;</li> <li>- minimum number of members</li> </ul>	<ul style="list-style-type: none"> <li>- Minimum amount of members;</li> <li>- no members or shareholders can hold more than 10% of the voting rights</li> <li>- 51% reservation voting rights to natural persons</li> </ul>	N.S.	N.S.
<b>Actors allowed to be in control</b>	Any entity	Natural person, local authority and SMEs whose participation does not constitute their primary commercial or professional activity – located in proximity of	Any entity	80% private actors	Natural person, local authority and SMEs whose participation does not constitute their primary economic activity	Dependent on actors involved in whether for-profit or not-for-profit cooperative	Natural persons	Natural persons, local authorities and SMEs	N.S.

Countries	PT	FR	SI	NL	BE (WA)	EL	DE	LU	IR
		the projects of the community							
<b>Autonomy</b>	Explicitly mentioned vis-à-vis internal interest participants and external interest	N.S.	N.S.	Yes, DSOs, TSOs or legal persons that are (in)directly producer or supplier of electricity do not have any say in the management	Left to the discretion of the community in the first place. However; the government may decide to formulate a minimum set of requirements with regard to 'autonomy'	The transfer of a cooperative share to a member or to a third party shall be effected only upon the consent of the Board of Directors	51% reservation voting rights to natural persons	N.S.	N.S.
<b>Geographical limitation</b>	Participants need to be located in proximity to the energy projects or develop activities related to the respective energy projects which are owned and developed by the community	Those in control need to be located in proximity of the projects of the community	Consumers need to be connected to a low-voltage network of the same transformer station as the production unit	All of the customers need to be connected to the same medium or low voltage network of the network operator to which the application relates or can be connected within six months of the granting of the exemption	Participants need to be located within local perimeter where it carries out its activities (i.e. an area whose connection points are located downstream of one or more medium and/or low voltage public transformer stations)	At least 50%+1 members need to be located in the District of the headquarters	The natural persons that hold at least 51% need to have their main residence in the urban or rural district where the wind mill project is located	All of the network users' injection and sampling points need to be located in the same locality, i.e. downstream of the high and/or medium voltage electricity transformer station connected to the low-voltage station	No



Countries	PT	FR	SI	NL	BE (WA)	EL	DE	LU	IR
								operated by the DSO concerned	
<b>Purpose</b>	Provide social, economic and environmental benefits for members/shareholders or local area where it operates, rather than financial profits	Social, economic and environmental benefits for members/shareholders or the local area in which it operates	N.S.	N.S.	Provide environmental, social and economic benefits at the local level by synchronizing and optimizing of electricity flows	Dependent on whether for-profit or not-for-profit cooperative, profit can be distributed to members or needs to stay within the community	N.S.	Provide benefits environmental, economic or social benefits to its shareholders or members or in favor of local territories where it operates, rather than seeking profit	Community benefits

Overview of emerging and existing national rights, privileges and responsibilities To read the table:

- N.S.: not specified

Table 27: Overview of emerging and existing rights, privileges and responsibilities for Energy Communities in the context of the Clean Energy Package

Countries	PT	FR	SI	NL	BE (WA)	EL	DE	LU	IR
<b>CEP-related</b>	Yes	Yes	No	No	Yes	No	No	Yes	No
<b>Legal act</b>	Electricity law-decree	Renewable energy law	Electricity regulation	Electricity regulation	Electricity law-decree	Company law	Renewable energy law	Electricity law	Policy papers
<b>Name</b>	Renewable Energy Community	Renewable Energy Community	Renewable Energy Source Community	Energy Association or Cooperative	Renewable Energy Community	Energy Community	Citizens' Energy Company	Renewable Energy Community	Sustainable Energy Community
<b>Sector</b>									
<b>General rights</b>									
Provision of regulatory and capacity-building support provided to public authorities in relation to energy communities	YES					YES			
Identification/assessment of barriers	Has started	Has started	Has started	Has started	Has started	Has started	Has started	Has started	Has started
Tools to facilitate access to finance and information	YES								YES
Customized support scheme	YES				In the making	YES	YES		In the making

Type of support	Operational				Operational	Initial + operational	Operational		Initial + operational
<b>Production</b>	Allowed	Allowed	Allowed	Allowed	Allowed	Allowed	Allowed	Allowed	Allowed
<b>Rights</b>									
Different procedures (incl. reduced financial requirements, administrative burdens)	YES					YES			
<b>Responsibilities</b>									
Financially responsible for imbalances	YES (can be delegated)	N.S.	No	N.S.	YES (can be delegated)	N.S.	N.S.	YES (can be delegated)	N.S.
<b>Distribution</b>	N.S., but possible	Not allowed	Not allowed	Allowed by derogation	Not allowed	Allowed	N.S., but possible	Not allowed	N.S.
<b>Responsibilities</b>									
Unbundling requirements	YES					YES	YES		
Regulated/negotiated third party access	Regulated			N.S.		Negotiated	Regulated		
<b>Supply</b>	Allowed	Allowed	N.S.	Allowed	Allowed	Allowed	Allowed, but N.S.	Allowed, but N.S.	N.S.
<b>Rights</b>									
Different procedures (incl. reduced financial requirements, administrative burdens)		YES (for self-consumed RE within the community)	YES (for self-consumed electricity within the community)	YES (for electricity supply to small consumers)	YES (for self-consumed electricity within the community)	YES (reduction min. supply licensing capital)		YES (for self-consumed electricity within the community)	
<b>Responsibilities</b>									
Respect the freedom to switch suppliers	YES	N.S.	YES	YES	YES	YES	N.S.	YES	N.S.

Financially responsible for imbalances	YES (can be delegated)	YES (can be delegated)	No	N.S.	YES (can be delegated)	N.S.	N.S.	YES (can be delegated)	N.S.
<b>Sharing</b>	Allowed	Allowed	Allowed	Allowed	Allowed	Allowed	Allowed, but N.S.	Allowed	N.S.
<b>Rights</b>									
Cooperation of the relevant DSO to facilitate transfers	YES	YES	YES	N.S.	YES	YES	N.S.	YES	N.S.
Different network charges	Potential local grid tariffs	Potential local grid tariffs	YES (Virtual net-metering)	Potential local grid tariffs	Potential local grid tariffs	YES (Virtual net-metering)	N.S.	No	N.S.
<b>Collective self-consumption</b>	From January 2020	Allowed (building and block level)	Allowed (building and block level)	Allowed (building level and postal code area)	Allowed (building and block level)	Allowed (building and block level)	Allowed (building and block level)	Allowed (building level)	N.S.
<b>Rights</b>									
Different network charges	No	YES (building level)	YES (net-metering)	YES (building level and postal code area)	YES (building level)	YES ((Virtual) net-metering)	YES (building level)	YES (building level)	N.S.
<b>Aggregation</b>	Allowed	Allowed, but N.S.	N.S.	Allowed, but N.S.	Allowed, but N.S.	Allowed	Allowed, but N.S.	Allowed	Allowed, but N.S.
<b>Storage</b>	Allowed	Allowed	Allowed	Allowed, but N.S.	Allowed	Allowed	Allowed, but N.S.	Allowed (household level)	Allowed, but N.S. (household level)
<b>Sales</b>	Allowed	Allowed	Not allowed to sell excess electricity without	Allowed, but N.S.	Allowed	Allowed	Allowed, but N.S.	Allowed	Allowed, but N.S.

			supply license						
<b>Rights</b>									
Access to all electricity markets either directly or through aggregation in a non-discriminatory manner	YES	YES	YES	N.S.	N.S.	YES (through aggregator)	N.S.	YES	N.S.
<b>Energy-efficiency services</b>	Allowed	Allowed, but N.S.	N.S.	Allowed, but N.S.	Allowed, but N.S.	Allowed	Allowed, but N.S.	Allowed, but N.S.	Allowed
<b>EV charging services</b>	Allowed	Allowed, but N.S.	N.S.	Allowed, but N.S.	Allowed, but N.S.	Allowed	Allowed, but N.S.	Allowed, but N.S.	Allowed
<b>Other commercial energy-related services</b>	Allowed	Allowed, but N.S.	N.S.	Allowed, but N.S.	Allowed, but N.S.	Allowed	Allowed, but N.S.	Allowed, but N.S.	Allowed

## Annex 3. Examples of Energy Communities in the EU

In Annex 3, the first section (3.1.) highlights and analyses 18 specific cases of energy communities in light of the governance principles in the definitions for REC and CEC in RED II and EMD. The second section (3.2.) looks at four of these cases in more detail, focusing in particular on the governance structure, key actions drivers and institutional barriers in order to inform whether existing enabling legal frameworks for energy communities are proportionate, non-discriminatory and fair.

### 3.1. Classification of Energy Communities as Renewable or Citizen Energy Communities

The following section provides an overview of initiatives that label themselves or have been labelled by others as 'community energy' and classifies them as either a REC or CEC. The provided information and classification are based on a review of their statutes and websites

The most important aspects for classification are the participation and organizational structure, the ownership structure, the activities carried out with regards to energy and the main purpose of the energy community.

#### 3.1.1. Participation structure

Both a REC and CEC require open and voluntary participation in the entity. In the table below we indicate for the listed cases the organization (in the form of legal entity) and the participation structure, whereby we indicate the participation which potentially conflict with EU regulation on energy communities in blue.

Table 28: Participation structures Energy Communities

Name	Legal entity	Participation structure and potential participants
<a href="#">Amsterdam-zuid (Schoonschip)</a>	Association of co-owners	Open for owners of the boats (max. 46 households)
<a href="#">Freiamt Windmühlen GmbH &amp; Co. Beteiligungs KG</a>	Limited liability partnership	Open for inhabitants of Freiamt and neighbouring municipalities
<a href="#">Thermo Bello</a>	Cooperative	<ul style="list-style-type: none"> <li>• Open to residents and companies in direct environment of EVA-Lanxmeer and the residents association EVA-Lanxmeer (BEL) (250 EUR share to become a member)</li> <li>• Voluntary (members can leave whenever they like)</li> </ul>
<a href="#">Ecopower</a>	Cooperative	<ul style="list-style-type: none"> <li>• Open to all natural or legal persons, regardless of their location (250 EUR share to become a member)</li> <li>• Partly voluntary (a shareholders can only leave Ecopower in the 6<sup>th</sup> year after joining)</li> </ul>
<a href="#">Amelander Energie Coöperatie</a>	Cooperative	<ul style="list-style-type: none"> <li>• Open to all natural or legal persons with a socio-economic connection with Ameland (50 EUR share to become a member)</li> <li>• Voluntary (only possible at the end of the financial year, subject to a notice period of at least two months)</li> </ul>



Name	Legal entity	Participation structure and potential participants
<a href="#">Middelgrundens Vindmøllelaug</a>	Private partnership	Open to natural and legal persons.
<a href="#">EWS Schönau</a>	Cooperative	<ul style="list-style-type: none"> <li>• Open to companies and citizens who are customers of subsidiaries and households of children and grandchildren of customers (minimum 5 x 100 EUR shares to become a member)</li> <li>• Partly voluntary (after a 3-year cancellation period, membership can be terminated at the end of the financial year)</li> </ul>
<a href="#">Som Energia</a>	Cooperative	Open (100 EUR share to become a member)
<a href="#">Retenergie</a>	Cooperative	Open to companies and citizens (50 EUR share to become a member)
<a href="#">Berlin Energie</a>	Municipal utility company	Closed. However, there are direct participation mechanisms for local residents (e.g. public meetings, documents made available and a steering committee with representatives of the municipal council and elected citizens)
<a href="#">Energieprojekt Zurndorf GmbH</a>	Limited liability company	Closed
<a href="#">Energent</a>	Cooperative	<ul style="list-style-type: none"> <li>• Open (100 EUR share to become a member)</li> <li>• Partly voluntary (there are restrictions related to leaving the cooperative in the first 5 years)</li> </ul>
<a href="#">Brixton Energy Solar 1,2,3</a>	Cooperative	Open to citizens in the vicinity of the project
<a href="#">Samsø Vindenergi</a>	Coöperatie	Open for Danish citizens that live on Samsø
<a href="#">Samsø Havvind</a>	Limited liability company	Not open for external parties
<a href="#">Ballen-Brundby</a>	Cooperative	Open for Danish citizens that live on Samsø and are also customers
<a href="#">(Green Energy Cooperative) Zelena energetska zadruza za usluge</a>	Cooperative	Open for energy cooperatives in Croatia
<a href="#">Solar.Top Dorfwerfen</a>	None (contract-based)	Open to natural persons living in multi-level apartments

### 3.1.2. Ownership structure and distribution of voting rights

The cases indicated in blue in the below table concern ownership structures that are potentially out of scope of EU regulation for REC and CEC.

Table 29: Ownership structures Energy Communities

Name	Ownership structure	Distribution voting rights	Actors in control
Amsterdam-Zuid (Schoonschip)	Collective private property	Information not available	Citizens in proximity of the project
Freiamt Windmühlen GmbH	Collective private property	1 share, 1 vote	Private companies whose shareholders are natural persons who live in proximity of the project

Name	Ownership structure	Distribution voting rights	Actors in control
& Co. Beteiligungs KG			
Thermo Bello	Collective private property	1 share, 1 vote	Citizens in proximity of the project
EcoPower	Collective private property	1 member, 1 vote	Citizens in Flanders
Ameland Energie Coöperatie U.A.	Collective private property	1 member, 1 vote	Citizens with a socio-economic connection to Ameland
Middelgrundens Vindmøllelaug I/S	Collective private property	1 member, 1 vote	Citizens, housing-associations and companies
EWS Schönaue	Collective private property	1 member, 1 vote	Citizens
Som Energia	Collective private property	1 member, 1 vote	Citizens
Retenergie (recently merged with supply company: Nostra)	Collective private property	1 member, 1 vote	Citizens
Berlin Energie	Individual public property	1 share, 1 vote	Municipality of Berlin
Energieprojekt Zurndorf GmbH	Individual public property	1 share, 1 vote	Municipality of Burgenland (holds 98% of the shares)
Energent	Collective private property	1 member, 1 vote	Information not available
Bro Dyfi Community Renewables	Collective private property	1 member, 1 vote	Information not available
Brixton Energy Solar 1,2,3	Collective private property	1 member, 1 vote	Citizens in proximity of the project
Paludan Flak Coop	Collective private property	1 member, 1 vote	Citizens
Samsø Havvind	Individual private property	1 share, 1 vote	One company (Wind Estate A/S)
Samsø Vindenergi	Collective private property	1 member, 1 vote	Citizens that live on Samsø
Ballen-Brundby	Collective private property	1 member, 1 vote	Citizens that live on Samsø and are also customers
Green Energy Cooperative (Zelena energetska zadruga za usluge)	Collective private property	1 member, 1 vote	Energy cooperatives
Solar.Top Dorfwerfen	Individual private property	1 share, 1 vote	One company (Salzburg AG)

### 3.1.3. Related energy vectors

A distinction between CEC and REC are the possible energy vectors involved. The table below shows all the technologies involved per organization and highlights the initiatives that are involved in activities that potentially conflict with EU regulation in blue.

Table 30: Related energy vectors Energy Communities

Name	Activities	Technology	Source
Amsterdam-Zuid (Schoonschip)	Electricity production	Rooftop PV	Solar
Freiamt Windmühlen GmbH & Co. Beteiligungs KG	Heat and electricity production	5 Wind turbines, 240 PVs on roofs of houses, 2 small hydropower plants, 2 biogas plants, thermal solar collectors, several wood chips and wood pellet heating systems	Wind, solar, hydrogen, biogas and pellets
Thermo Bello	Heat production	Water cooler	Water
EcoPower	Electricity and heat production and supply Energy saving and efficiency-services	Rooftop PVs, PV parks, wind parks, pellet and briquette factory	Wind, zon en waterstof, pellets, briquettes
Amelander Energie Coöperatie U.A.	Electricity production and aggregation	PVs on roofs of industrial buildings, PV solar park (in joint ownership with the municipality of Ameland and energy company Eneco)	Solar
Middelgrundens Vindmøllelaug I/S	Electricity production	20 wind turbines (for 50% in property of the company)	Wind
EWS Schöna	Electricity and heat production, distribution and supply Energy saving and efficiency-services Electro-mobility services	PV solar parks and PVs on roofs, cogeneration installations, biomass installations, wind turbines, 8 heat networks, EV charging station.	Solar, wind, wood, natural gas
Retenergie (recently merged with supply company: Nostra)	Electricity production and supply. Energy-efficiency services.	Rooftop PVs, 1 wind turbine, 1 hydroelectric power station	Solar, wind, hydrogen
Energieprojekt Zurndorf GmbH (EPZ) (sold to BEWAG in 1997)	Electricity production	Wind park	Wind
Energent	Electricity production, renovation and insulation services,	Rooftop PVs of public and private entities, batteries, electrical vehicles, smart meters	Solar

	electro-mobility services and storage		
Bro Dyfi Community Renewables	Electricity production	2 wind turbines	Wind
Brixton Energy	Electricity and heat production and storage	Rooftop PVs, combined heat and power installation, LED street lighting, anaerobic fermentation processors that convert food waste into heat and gas	Solar, food waste
Brixton Energy Solar 1	Electricity production	PVs on rooftops of social housing	Solar
Brixton Energy Solar 2	Electricity production	PVs on rooftops of Styles Gardens, five residential blocks in Loughborough Estate (in property of the municipality)	Solar
Brixton Energy Solar 3	Electricity production	PVs op on rooftop of Roupell Park Estate	Solar
Paludan Flak Coop	Electricity production	1 off-shore wind turbine	Wind
Samsø Energy Company ApS	Electricity production	5 off-shore wind turbines	Wind
Samsø Vindenergi	Electricity production	5 off-shore wind turbines	Wind
Samsø Havvind A/S	Electricity production	5 off-shore wind turbines	Wind
Ballen-Brundby	Heat production	1 biomass-installation	Straws
Green Energy Cooperative (Zelena energetska zadruga za usluge)	Provide support to other energy cooperatives in Croatia		
Solar.Top Dorfwerfen (Salzburg AG)	Electricity production	PVs on rooftops multi-level apartment buildings	Solar

### 3.1.4. Purpose

The table below shows the main purposes of a series of energy communities. Those initiatives whose primary purpose is profit making and thus in conflict with EU regulation are indicated in blue in the table below.

Table 31: Primary motivations Energy Communities

Name	Purpose
Amsterdam-Zuid	<ul style="list-style-type: none"> <li>• Cost savings</li> <li>• Lower energy bill</li> <li>• Protection of the environment and climate</li> </ul>
Freiamt Windmühlen GmbH & Co. Beteiligungs KG	<ul style="list-style-type: none"> <li>• Profit-making</li> <li>• Protection of the environment and climate</li> </ul>
Thermo Bello	<ul style="list-style-type: none"> <li>• Cost savings and lower energy bill</li> <li>• Energy autonomy</li> <li>• Protection of the environment and climate</li> </ul>
EcoPower	<ul style="list-style-type: none"> <li>• The collection of financial means for alternative, sustainable and renewable energy production</li> <li>• Developing a decentralized and democratic energy system</li> <li>• Promoting a cooperative economy</li> </ul>
Ameland Energie Coöperatie U.A.	<ul style="list-style-type: none"> <li>• Lower energy bill</li> <li>• Energy autonomy</li> <li>• The sustainable development of Ameland</li> </ul>
EWS Schöna	<ul style="list-style-type: none"> <li>• Abolish nuclear energy</li> <li>• Provide affordable energy</li> <li>• Reduce ecological footprint</li> </ul>
Retenergie (recently merged with supply company: Nostra)	<ul style="list-style-type: none"> <li>• Fair and transparent prices</li> <li>• Reduction of the use of fossil fuels</li> </ul>
Berlin Energie	<ul style="list-style-type: none"> <li>• Facilitate a transition to renewable energy</li> <li>• Reduce energy consumption</li> <li>• Tackle social issues such as energy poverty</li> </ul>
Machynlleth	<ul style="list-style-type: none"> <li>• Generation of renewable energy</li> <li>• Emphasis on regional development and energy goals</li> </ul>
Bro Dyfi Community Renewables	<ul style="list-style-type: none"> <li>• Generate renewable energy as part of the transition</li> <li>• Give co-decision making power to citizens</li> <li>• Tackle social issues</li> </ul>
Renewable Energy Investment Club	<ul style="list-style-type: none"> <li>• Generate renewable energy as part of the transition</li> <li>• Give co-decision making power to citizens</li> <li>• Tackle social issues</li> </ul>
Energy Conservation Fund	<ul style="list-style-type: none"> <li>• Ownership of the public network to maximize local benefits</li> <li>• Providing a vehicle for urban energy transition</li> <li>• Addressing social issues in urban context</li> </ul>

Brixton Energy	<ul style="list-style-type: none"> <li>• Enhance energy autonomy, climate resilience and security of supply</li> <li>• Reduce electricity bill</li> <li>• Reduce CO<sub>2</sub> emissions</li> </ul>
Som Energia	<ul style="list-style-type: none"> <li>• Promote an efficient renewable energy model for citizens</li> <li>• Growth of social economy</li> <li>• Break energy oligopoly</li> </ul>
Green Energy Cooperative (Zelena energetska zadruga za usluge)	<ul style="list-style-type: none"> <li>• To assist citizens in the development, investment and use of renewable energy</li> <li>• Focus on crowd-funding</li> </ul>
Solar.Top Dorfwerfen (Salzburg AG)	<ul style="list-style-type: none"> <li>• Profit-making</li> <li>• Expansion of renewable energy to mitigate global warming</li> </ul>

### 3.1.5. Classification in accordance with EU regulation

The following cases may be classified as REC or CEC in light of the above-provided information. Those initiatives that do not fall under EU regulation are highlighted in blue.

Table 32: Classification Energy Communities in accordance with EU regulation

Name	Country	Organizational model	REC	CEC	Other
Amsterdam-Zuid	NL	Cooperative	REC	CEC	
Freiamt Windmühlen GmbH & Co. Beteiligungs KG	DE	Limited liability company	REC	CEC	
Thermo Bello	NL	Limited liability company	REC		
EcoPower	BE	Cooperative		CEC	
Amelander Energie Coöperatie U.A.	NL	Cooperative	REC	CEC	
ElektrizitätsWerke Schönau (EWS)	DE	Cooperative		CEC	
Retenergie	IT	Cooperative	REC	CEC	
Berlin energie	DE	State-owned company			Other
Energieprojekt Zurndorf GmbH (EPZ) (sold to BEWAG in 1997)	AU	Public limited liability company			Other
Energent	BE	Cooperative	REC	CEC	
Bro Dyfi Community Renewables	UK (Wales)	Cooperative	REC	CEC	



Brixton Energy Solar 1	UK (England)	Cooperative	REC		
Brixton Energy Solar 2	UK (England)	Cooperative	REC		
Brixton Energy Solar 3	UK (England)	Cooperative	REC		
Middelgrundens Vindmøllelaug I/S	DK	Partnership		CEC	
Ballen-Brundby	DK, Samsø	Cooperative	REC		
Samsø Vindenergi	DK, Samsø	Cooperative	REC	CEC	
Samsø Havvind A/S	DK, Samsø	Public limited liability company			Other
Paludan Flak Coop	DK, Samsø	Cooperative	REC	CEC	
Green Energy Cooperative (Zelena energetska zadruga za usluge)	HR	Cooperative			Other
Som Energia	ES	Cooperative	REC	CEC	
Solar.Top Dorfwerfen (Salzburg AG)	AU	None (contract-based)			Other

The overview of cases in the above section provides insight into the practical implementation of the abstract governance criteria of the legal concepts of CEC and REC, as introduced in EMD and RED II. Several conclusions can be drawn from this analysis:

- in practice participation in energy communities is not open to all entities due to the requirement to purchase a certain amount of shares in order to become a member (which is of particular interest for vulnerable households). Nor is an energy community completely voluntary, as many initiatives will have clauses that limit the possibility to leave the energy community in the first months or years;
- energy communities may supply both heat and electricity to its customers, either of which might be fossil fuel based. Due to the divide between a CEC in the electricity sector and a REC in the renewable energy sector, long-standing examples of community energy (such as EWS SchönaueG, which is also involved in natural gas distribution) fall outside the scope of the RED II, but not necessarily the EMD, as CEC are allowed to engage in additional activities outside the CEP focus.
- the cooperative structure appears to be a very common and fitting legal organizational form for energy communities in the sense of the CEP;
- the breakdown into CECs on the one hand and RECs on the other captures only some types of energy communities, but also excludes others, such as energy community clusters, energy community islands, and municipal utility companies.

## 3.2. Detailed case analysis

The following section provides a detailed analysis of some case-examples of energy communities in Belgium (Flanders), the Netherlands and Germany. Each of these initiatives are involved in a peculiar set of activities, ranging from more traditional business models such as production and/or supply in the case of Amelander Energie Coöperatie and Ecopower, to more unconventional or innovative ones, such as local distribution, electro-mobility services and/or storage in the case of EWS Schönau and Schoonschip.

The main purpose of this section is to show how an energy community might look like, illustrate the variety of activities in which they can be engaged, and identify the key actions drivers and institutional barriers.

Each case shall be presented on the basis of the following dimensions: background, governance structure, activities, benefits, institutional barriers, key action drivers and relation to the CEP. The information was collected through a review of the statutes, the websites of the energy communities, as well as interviews with representatives of the Broad of Directors.

### 3.2.1. Amelander Energie Coöperatie U.A. (electricity production)

**Amelander Energie Coöperatie U.A.**  
Ameland, NL



#### Background

*Amelander Energie Coöperatie (AEC) was established in February 2009 by a group of dedicated 'Amelanders'. Today, the cooperative owns 1/3 of the largest solar park in the Netherlands. 23,000 solar panels that are connected to the island's electricity grid and produce enough energy to cover the needs of 1.500 households per year (approximately 5.6 million kWh / 20% of the island's total electricity demand). In the near future, AEC is looking to also invest in electric car-sharing.*

#### Governance structure

##### Organizational model

- Cooperative

##### Participation

- *Open* to those with a social / economic bond with Ameland. Voluntary, subject to a notice period of 2 months.

##### Decision-making bodies

- Board of Directors: allocated powers, simple majority with 50% attendance quorum.
- Supervisory Board: supervision and appointment of Executive Board.
- General Meeting of Members: powers set out in the articles of association or per convocation.

##### Effective control

- '1 member, 1 vote' principle, simple majority unless the articles of association provide otherwise.
- The majority of the members are permanent residents of the island.
- Direct control over the annual statement and profit distribution through the General Meeting.
- Indirect control via the Supervisory Board and the Executive Board.
- Limited indirect control because the members of the Board of Directors can resign no later than the year following the seventieth anniversary of the cooperative. The Board currently consists of five people who were responsible for setting up the cooperative. However, they were never democratically elected by the members themselves.

##### Purpose

- Delivering sustainable electricity and CO2 compensated gas to its members.

- Contribute to the sustainable development of the island of Ameland.

### Activities

Electricity production

### Benefits

#### Environmental

Supply of Ameland residents from locally generated renewable energy. 4,100,475.41 kg CO<sub>2</sub> emissions have already been saved.

### Institutional barriers

#### Disproportionate supply license requirements

- The license for electricity supply is linked to various technical and financial conditions (public service obligations, balancing services and security of supply).
- The scope to which such obligations apply is national, i.e. the supplier must be able to fulfill obligations towards all small businesses and households in the Netherlands.<sup>103</sup>
- The financial and technical obligations that are linked to the supply license are related to this scope, which means that small organizations such as AEC are unable to obtain such a license.
- RED II and EMD formulate the right to proportionally fair and non-discriminatory procedures, including licensing procedures.

### Key Action Drivers

- Government grants: Grants were obtained from the European Agricultural Fund for Rural Development, the province of Friesland, Leader and the municipality of Ameland.
- The right partners: Eneco's know-how and the cooperation of the city of Ameland have considerably accelerated the construction of the solar park.
- A replicable model example: AEC has fully adopted the business model of the energy cooperative "Sustainable Energy Cooperative Schiermonnikoog U.A." on the nearby island of Schiermonnikoog.
- Postcode roos scheme: with this scheme, members of a cooperative receive an energy tax discount on his or her energy bill for locally and sustainably generated electricity.

### Relation to CEP

#### Concept

AEC can be qualified as a CEC and a REC.

#### Barriers

Potentially addressed: RED II and EMD formulate the right to proportionally fair and non-discriminatory procedures, including licensing procedure in article 22.4 (d) RED II and article 16.1 (e) EMD.

<sup>103</sup> Note that art. 95a does provide several exemptions to the supply license requirements, of which the most notable are for customer-owned production facility that self-supplies and -consumes, a cross-border supplier with max. 500 Dutch customers at the border, individual self-consumption of a legal entity.

### 3.2.2. Ecopower CVBA (energy production, supply and energy saving services)

#### Ecopower CVBA (BE)



#### Background

*Ecopower CVBA originated in 1982. Today, it is the most successful energy cooperative in Belgium, and it acts as a producer and supplier of green electricity. The capital raised by the cooperatives is used to finance projects, whether or not in collaboration with other cooperatives.*

#### Governance structure

##### Legal organizational model

- Cooperative

##### Participation

- *Open* to all natural and legal persons, regardless of geographical location, is obtained by purchasing a share worth EUR 250.
- *Semi-Voluntary* (6 months before every 6-year period ends, the members are given the opportunity to step out. The Board of Directors may allow exceptions, but may also refuse if this endangers the stability of the cooperative)

##### Decision-making bodies

- Board of directors: the board of directors is composed of at least three members and is appointed by the general assembly. The board of directors elects a chairman and a vice-chairman from among its members. The board of directors only validly decides on agenda items that are agreed in advance and for which at least half of its members are present. The decisions are taken by a majority of those present. The board of directors is authorized for all acts of management and disposal in all social matters, except for those acts for which only the general assembly is authorized by law or the articles of association.
- Supervisory directors / controlling members of the co-operative: the control over the company is exercised by one or more controlling members or by a statutory auditor. They are appointed by the general assembly.
- General assembly: the general assembly consists of all members. They meet at least once a year. The general assembly is valid regardless of the number of people present or represented. Decisions are taken by a simple majority of the valid votes cast.

##### Effective control

- Natural or legal persons (more than 55.000 citizens now, only few legal persons) Property rights in proportion to the number of shares that one buys.
- '1 member, 1 vote' principle.

##### Purpose

- Collecting financial resources for alternative, sustainable and renewable energy production
- Developing a decentralized and democratic energy system
- Promotion of a cooperative economy

#### Activities

Electricity generation from wind, sun and water in Belgium; and supply in Flanders. In addition, energy efficiency and saving services are provided (e.g. EnergieID). Production of wood pellets and bricks from locally sourced pine wood and supply in Belgium and the Netherlands

#### Benefits

##### Environment

- Avoiding an emission of CO<sub>2</sub>.

##### Economic

- Green electricity supply at cost (members)

#### Institutional Barriers

##### "Unfair" competition about building rights

- to superficies = legal agreement concerning permission to build a structure on someone else's property for a mutually determined but potentially unlimited point in time.

- Normally an annual dividend paid (between 0 – 6%)
- 44 employees
- To date, Ecopower only has 1 rate (no day / night / pure night) and does not have a fixed cost. Moreover, they do not take any profit on the electricity supply: that is a service to the members. This makes us cheap for people with a single counter (still most connections), people with solar panels (reversing counter) and people who consume little. On the other hand, for households that have a high consumption profile, the rate will be proportionately higher than the competition

- Potentially interesting land for wind turbines is being contracted at generous fees by large companies
- Competitive advantage for large players

#### An unfavorable calculation of the profitable peak for PV

- The value of the green energy certificates is calculated on this basis
- The current calculation method for PV states that an economic advantage is already obtained due to local self-consumption, so that the value of the green energy certificates is lower
- This undermines the economic profitability of projects where PVs are placed on roofs of schools or military barracks, for example, and the electricity generated is supplied to a nearby village.
- It is difficult to build a business case for PV projects and results that suitable roofs are not used to the maximum.

### Key action drivers

- Initial investment subsidy: subsidies were obtained from the former monument care service for the first project; the renovation of a watermill and the renovation of two other water mills (4.5 million Belgian francs).
- A favorable arrangement with Electrabel: in 1995, Ecopower obtained a favorable agreement with Iverlek/Electrabel to sell their electricity to them for 2 Belgian francs per kWh. This agreement enabled Ecopower to reinvest in new production facilities.
- The establishment of the Organization for Sustainable Energy Flanders (ODE-Vlaanderen) : through this organization active lobbying was carried out for support mechanisms. Ecopower and its predecessor played a crucial role in the early years of this organization.
- Green power certificates: the introduction of the green power certificates in 2003 enabled Ecopower to build more production facilities and to start producing more power.
- Supplying energy yourself: becoming an energy supplier in 2003 has led to an expansion in the number of members
- To have an ethical story: the story of Ecopower focuses on energy democracy, social justice and sustainability. By promoting this message so early and consistently, it has been able to differentiate itself from its competition in the energy market.

### Relation to CEP

#### Concept


Ecopower can be classified a CEC. The classification of Ecopower as a REC is more controversial, as it will depend on the interpretation of the concept of 'proximity' in RED II. Ecopower has members all across the Flanders, in different municipalities. However, it remains questionable whether the majority is located in proximity of their project facilities. In the end, it will depend on the interpretation of the Flemish government of the aspect of 'proximity' whether or not the cooperative can be classified as a REC.

#### Barriers

- The first barrier is not addressed.
- The second barrier is potentially addressed under art. 22 (7) RED II: the right to a customized support scheme. However, as Ecopower is not a REC, this right is not guaranteed.



### 3.2.3. EWS SchönaueG (energy production, distribution, supply, electro-mobility services and energy saving services)

<p><b>Elektrizitätswerke SchönaueG</b> Schönau, DE</p> 	<p><b>Background</b></p> <p><i>Elektrizitätswerke SchönaueG is an energy cooperative founded by a citizen's movement that calls for an end to electricity generated from nuclear energy following the Chernobyl disaster. Since 1997, the local electricity network has been officially in the hands of the cooperative. The registered office is located in Schönau (Baden-Württemberg), where 5535 people live. The cooperative currently has more than 7872 members.</i></p>		
<p><b>Governance structure</b></p> <p><u>Organizational model</u></p> <ul style="list-style-type: none"> <li>EWS eG (a cooperative company since 2009) with four subsidiary companies; all a GmbH (limited liability), active in a variety of activities including distribution, supply and production of energy with different technologies.</li> <li>Participation (20%) in various civil initiatives, cooperatives and involved in renewable energy production.</li> </ul> <p><u>Participation</u></p> <ul style="list-style-type: none"> <li>Open to natural persons, partnerships and legally private and public persons, but subject to a number of conditions of affinity and the purchase of shares (min. 5 shares or € 500,) and the signing of an unconditional declaration of accession and approved by the Council (discretionary authority to refuse certain applications).</li> <li>There is a limit of 10 shares or 1,000 EUR on the amount of shares that can be bought in order to avoid people joining just to make a profit.</li> <li>Voluntary, subject to 3-year cancellation period</li> </ul> <p><u>Decision-making bodies</u></p> <ul style="list-style-type: none"> <li><u>The Board (3 members)</u>: daily management, simple majority with attendance quorum of 50%.</li> <li><u>The Supervisory Board (7 members)</u>: supervision of Council decisions, simple majority with 50% attendance quorum.</li> <li><u>The General Assembly (AV) (all members of cooperation)</u>: variety of powers, including the election of the Supervisory Council, yearly approval of the actions of the board of directors and the annual accounts. Decisions are made by simple majority</li> </ul> <p><u>Effective control</u></p> <ul style="list-style-type: none"> <li>Mainly natural persons, based on '1 member, 1 vote' principle via the GTC. Legal obligation of physical presence at AV for vote validity.</li> <li>Usually only 250 of 7872 members are present at the general meetings. In 2019, there were approximately 350 people present. In practice mainly citizens from outside Schönau and EWS eG employees attend.</li> </ul> <p><u>Purpose</u></p> <ul style="list-style-type: none"> <li>"The economic promotion and care of the members through secure and affordable supply of climate-friendly and nuclear energy-free energy and drinking water"<sup>104</sup></li> </ul>			
<p><b>Activities</b></p> <p>Electricity production (PV, Wind, WKK, Biomass), electricity, heat and gas distribution, electricity and heat supply, bio and natural gas supply, B2B &amp; B2C services, Public utility services, energy saving services, electro-mobility services.</p> <table border="1"> <tr> <td data-bbox="146 1836 638 1879"><b>Benefits</b></td><td data-bbox="638 1836 1428 1879"><b>Institutional barriers</b></td></tr> </table>		<b>Benefits</b>	<b>Institutional barriers</b>
<b>Benefits</b>	<b>Institutional barriers</b>		

<sup>104</sup> <https://www.ews-schoenau.de/ews/genossenschaft/satzung/>.



### Economic

- 165 employees 2nd largest employer Schönaue.
- Electricity price in 2020 will be 29.2 ct / kWh (+ basic price 9.95 EUR per month). In comparison with an average of 30 c / kWh, the economic benefit for households with regard to electricity is thus small.
- Stimulate the local economy. Eg if EWS Schönaue needs a cable from the distribution network to be repaired, they will hire a community company to do this.
- EWS Schönaue eG provides the largest tax contribution in the city of Schönaue
- Dividends are consistently issued by EWS Schönaue, ranging from 2% to 3.5% of the profit. Although the dividend could be higher, the proposal to increase the amount is consistently rejected by the majority of the members. They want capital to be reinvested in new production facilities and technologies.

### Environmental

- Schönaue is often called the capital of the sun. The total nominal capacity of the PV installations present that were installed by EWS eG is approximately 7.8 MWp.

### Social

- Investment in community facilities, including local football clubs, swimming pools, etc.
- When interviewing the members of EWS Schönaue, it became clear that many were attracted by a sense of community based on a common interest in contributing to the energy transition. Every year they could meet again, exchange ideas and discuss the energy transition.

### Limited access to the transmission network for RES

- The German legislature has put a 45% stop (1550 MW) on access to the transmission network up to and including 2025 in order to prevent congestion. Network extension has not been forthcoming.  
→ Further expansion of EWS eG production facilities and production impeded.

### Grant mechanism

- In Germany, companies have to go to an auction to compete for subsidies. This is a market-based approach that involves the person who needs the least amount of subsidies. Larger energy companies that have more financial resources take part in these auctions and have the capacity to develop a project for the lowest amount of subsidies.
- Difficulty competing for grants with larger enterprises

### Broad conceptualization of "citizens' energy company"

- The German law on renewable energy sources provides for citizens' energy companies a reduction in the deposit that must be paid to participate in the auction for grants. However, in practice the concept is 'hijacked' by larger energy companies through innovative structures, resulting in proxy-communities.  
→ Difficulty competing for grants

### Difficulties winning concession over distribution grid

- To obtain the concession to operate a distribution network, the applicant must meet financial and technical criteria. As the previous operator already has a financial plan and a professional team, it will be re-elected in the majority of cases.  
→ Difficulties in taking over distribution grid

### Fixed rates for collective self-consumption within the community

- The net tariffs for all distribution system operators are determined on the basis of the assumption that everyone must contribute equally to the maintenance, development and operational costs for the distribution system. This requires EWS Schönaue eG to charge a higher price for energy supplied by prosumers within the community to be able to reward the latter. Moreover, it does not take into account the flexibility services that prosumers can provide to the local distribution network.  
→ Difficult to build a business case

### Double tariffing for storage

- Insofar as the energy storage is connected to the distribution network, the operator must pay both an injection rate and a purchase rate for energy storage operations.  
→ Difficult to build a business case

### **Key Action Drivers**

- Knowledge of the local area: Schönaue residents are initiators.
- Local heroes: Ursula Sladek, primary school teacher and her husband Michael Sladek, independent city councilor, were the key figures in the founding of EWS Schönaue eG.
- Strong community cohesion: Schönaue is a small village in the middle of the Black Forest. Everyone knows everyone in the village. This has contributed considerably to the sense of community and thus the possibility of mobilizing a large proportion of the villagers to participate in the community initiative.
- Employees with exceptional expertise: Martin Halm is managing director in EWS Netze GmbH: the company in charge of the distribution networks. He was contacted by Michael Sladek to operate the local distribution network due to his relevant experience; he worked for several years in the electricity sector at the Stadtwerke in Bruchsal

(a water and energy distribution company) – and decided to join EWS Schönaue at the start-up phase to help operate and manage the local distribution grid.

- A positive approach: The associated association "Parents for a nuclear-free future" organized among other things. an energy saving competition, trips to solar parks, wind farms and gave tips and advice on energy saving.
- Citizen-organized referenda: the referral of the operating license to the original local distribution network company was cancelled twice by local referenda.<sup>105</sup>
- A fundraising campaign: Part of the financial resources for taking over the local distribution network (3.5 million DM - 1.77 million euros) was borrowed from the GSL Gemeinschaftsbank - a bank that operates according to certain ecological and social principles. The rest via crowdfunding.<sup>106</sup>
- Media attention & fund-raising campaign: In their struggle to take over the distribution network and to take on a large energy company like KWR, EWS Schönaue received a lot of media attention. This attracted all kinds of environmental associations and celebrities to join their goal and finally enabled them to collect the remaining part of the funds needed to take over the distribution network through a crowdfunding campaign with the slogan "Ich bin ein Störfall" (I am an accident).<sup>107</sup>
- A favorable policy framework:
  - In the aftermath of the liberalization of the German electricity market, each German citizen got the chance to choose their energy supplier. This provided EWS Schönaue the opportunity to expand their customer base considerably and create a source of revenue. As we speak, EWS Schönaue is supplying energy to all over Germany;
  - The announcement by the German federal state to phase out nuclear energy by 2025 has contributed to the success of EWS Schönaue. This pledge was renewed and updated more recently by Angela Merkel to 2020;
  - Finally, there is the adoption of the EEG in 2000 which introduced a subsidy scheme based on feed-in-tariffs for renewable production facilities and guaranteed renewable energy producers a source of income. Today, this subsidy scheme has been replaced by an auction based premium-pricing scheme for installations >100 kW. Whilst old asset still enjoy feed-in-tariffs, this will come to an end in 2021.

## Relation to CEP

### Concept

EWS eG can be qualified as a CEC to the extent that such an entity is allowed to also operate on the heating market (not explicitly prohibited and thus assumed to be allowed). It cannot be qualified as a REC because it supplies natural gas.

### Barriers

Irrespective of the classification of EWS Schönaue, it is of interest to see which of these barriers are addressed by the CEP.

- Network access cap: not addressed
- Unfair competition over auction-based premium prices: potentially not addressed in art. 22 (7) RED II.
- Broad definition citizens' energy companies: potentially addressed through the introduction of RECs and CECs
- Unfair concession system for distribution: potentially addressed
- Fixed tariffs for collective self-consumption within the community: potentially addressed in art. 15 (1a) (e) EMD
- Double grid tariffs for storage: addressed in art. 15 (1c) (b) EMD

<sup>105</sup> Cappelletti, F., Vallar, J-P, Wyssling, J., 'The Energy Transition Chronicles', Energy Cities, January 2016.

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### 3.2.4. Schoonschip Energie Coöperatie (electricity production, storage and sharing through a local micro-grid)

#### Schoonschip Coöperatie

Amsterdam, NL



#### Background

*In 2008, a small group of citizens decided to investigate the possibilities to set up a community, which could take care, as much as possible, of their own needs regarding energy, water and food. The group expanded to a total of 46 households, which decided to jointly set up a new floating neighborhood of 46 houseboats, autonomously producing their own energy, and, as much as possible, cover their own water and food needs. The members of this 'Schoonschip community', as they call themselves, now produce, store and share their self-produced renewable electricity, operate their own grid and participate in the different electricity markets*

#### Governance structure

##### Organizational model

Schoonschip is a cooperative of 46 members. Each member operates its own private solar electricity system. Each houseboat has a battery, which is owned and operated by the community. The community also operates the local grid and the community energy management system, which includes operation of the batteries, demand response, and electricity exchange with the distribution system

##### Participation (who and how)

Schoonschip is a closed local cooperative, consisting of only citizen households

##### Decision-making bodies

- The Board: members from the cooperative, appointed by the cooperative (by voting)
- The Supervisory Board: members proposed by the board, appointed by the cooperative (by voting)
- The General Assembly (AV): all members of the cooperative

##### Effective control (who and how)

The board, controlled by the General Assembly

##### Purpose

An independent community, focussing on 'preservation of the world'

Demonstration of the feasibility of to dramatically reducing the footprint of a household

Demonstration that a joint effort results in a much higher reduction in ecological footprint

**Activities:** production, storage, sharing of self-produced renewable electricity.

#### Benefits

##### Economic :

Possible break even

Future proof

High value of dwelling

##### Social

Strong collaboration

Joint responsibility for safety and maintenance

Mutual care and support

#### Institutional barriers

##### Barrier 1:

Lack of transparency in legislation, particularly regarding energy taxes, real estate legislation.

##### Barrier 2 :

Problems with City administration particularly regarding land use and issuing and allocation of the parking spaces for the cooperative's shared transport means (electric vehicles)

#### Key Action Drivers

Key Action Driver 1: Example of the fully autarkic ship 'Gewoonboot'

Key Action Driver 2: Financial support from City and Province for feasibility studies

Key Action Driver 3: 'Experiments Electricity Law - Regime

**Relation to CEP**Concept:

Schoonschip fully qualifies as both a REC and a CEC, in their most developed form, including grid ownership and operation

Barriers

As for the national framework: Tax issues are not covered under the 'Experiments Electricity Law' – regime, whereas these are these form the main problem for the feasibility of renewable electricity based local energy communities

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