



RECs: A Comparative Study Towards the EU Green Deal

Edited by
Renata Gravina



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EDITOR' S NOTE

One of the key pillars of the energy policy of the European Commission is to put citizens at the centre of energy transition. Citizens should become an active part of the decarbonisation process by adopting, e.g., self-consumption or selling renewable electricity and flexibility services to the market. Renewable Energy Communities (RECs) are one of the models envisaged by the EU legislation to promote such active role of citizens and achieve ambitious decarbonisation targets. The volume aims at investigating the legislative framework of different EU Member States (Bulgaria, Denmark, Germany, Italy, Portugal) to achieve an understanding of the state of the art of national legislation in promoting RECs. The most relevant aspect of the book is its comparative and methodological value. Key ideas are that RECs must remain independent from members and other market players, that participation in energy communities must be open to all potential participants. Members must retain control over the activities and assets of the REC and, eventually, RECs cannot have profit-making as their primary objective, but rather, achieve environmental benefits. The volume is precisely designed to be a useful tool for policy and decisionmakers on national and European level.

Renata Gravina

Fondazione Luigi Einaudi ETS

SECTION I



Chapter 1

Introduction

Chapter 2

An overview of the EU legislation on RECs

Chapter 3

Methodological framework

Introduction



CHAPTER 1

Chapter 1

Introduction

Simona Benedettini

The EU Directive 2018/2001¹ establishes a set of principles and actions to guide Member States in encouraging the use of renewable energy sources in final energy consumption. Because of the extraordinary spikes in electricity and gas prices observed following the Russian invasion of Ukraine, the European Commission gives to renewable energy sources an even more relevant role in promoting energy transition.

The REPower EU Plan considers renewable sources a key driver to end the dependence of the European Union on Russian fossil fuels. In particular, the Plan proposes to increase the 2030 target for renewable sources in final energy consumption from 40% to 45%.² On March 2023, the European Parliament, the EU's executive Commission, and EU Member States have reached an agreement to set such target at a value of 42,5%.³

1 DIRECTIVE (EU) 2018/2001 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 December 2018 on the promotion of the use of energy from renewable sources (recast).

2 European Commission, 2022. Communication from the commission to the European Parliament, the European Council, the Council, the European economic and social committee and the committee of the regions. REPowerEU: Joint European Action for more affordable, secure and sustainable energy. https://eur-lex.europa.eu/resource.html?uri=cellar:71767319-9f0a-11ec-83e1-01aa75ed71a1.0001.02/DOC_1&format=PDF

3 Euractiv, March 23, 2023. EU strikes deal on renewable energy law, agrees 42.5% target by 2030. <https://www.euractiv.com/section/energy-environment/news/eu-strikes-deal-on-renewable-energy-law-agrees-42-5-target-by-2030/>

To this aim, renewable energy communities ('RECs' henceforth) are considered an enabling factor to promote renewable energy sources as well as to protect final customers from price volatility. In the view of the European Commission, indeed, RECs might favour social acceptance for renewable energy infrastructure, reduce energy bills by means of self-consumption, and promote greater awareness of end-customers about the benefits of energy transition and their active participation to electricity markets. In other words, RECs allow the realisation one of the key goals of the EU approach to decarbonisation, i.e., putting citizens at the heart of the energy transition. Since the publication of the Energy Union strategy,⁴ the EU encouraged a vision on energy transition where 'citizens take ownership of the process, benefit from new technologies to reduce their bills, and participate actively in the market'.

Across EU Member States, RECs have received a different level of attention for many reasons. While countries as Germany and Denmark have a much longer experience with RECs, dated well before the EU Directive 2018/2001,⁵ other countries have adopted a specific legislative framework on RECs only after 2018. The figure

The EU Directive 2018/2001 establishes a set of principles and actions to guide Member States in encouraging the use of renewable energy sources in final energy consumption

4 COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE, THE COMMITTEE OF THE REGIONS AND THE EUROPEAN INVESTMENT BANK A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy. https://eur-lex.europa.eu/resource.html?uri=cellar:1bd46c90-bdd4-11e4-bbe1-01aa75ed71a1.0001.03/DOC_1&format=PDF

5 See Benedettini, S., and Stagnaro, C., 2022. Energy Communities in Europe: a revision of the German and Danish experience in Sabine Löbke, Fereidoon Sioshansi, David Robinson (Eds), "Energy Communities. Customer centered, Market-driven, Welfare Enhancing?", Academic Press.

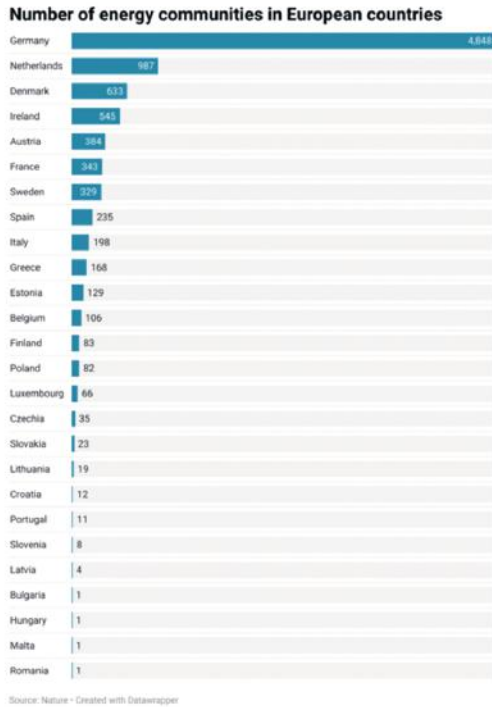


Figure 1: Wierling, A., Schwanitz, V.J., Zeiss, J.P. et al.

A Europe-wide inventory of citizen-led energy action with data from 29 countries and over 10.000 initiatives. *Sci Data* 10, 9 (2023).

This publication presents the findings of the research ‘Citizens and energy transition: the role of Renewable Energy Communities’. In particular, the research investigates the state of advancement of legislative and regulatory framework in selected Member States – Bulgaria, Denmark, Germany, Italy, and Portugal – to promote the role of RECs in accomplishing energy transition. The aim of the research is to provide a representation of the state of the art of the legislative and regulatory framework concerning the promotion of RECs across selected Member States.

The document is organised as follows: an overview of RECs according to

the EU legislative framework, a description of the methodological approach. Then, a discussion on the findings of the analysis for, respectively, Bulgaria, Denmark, Germany, Italy, and Portugal. The volume, in the end summarises the results of the analysis to promote the achievement of EU decarbonisation targets by means of RECs.

Renewable energy communities ('RECs' henceforth) are considered an enabling factor to promote renewable energy sources as well as to protect final customers from price volatility

An overview of the EU legislation on RECs



CHAPTER 2

Chapter 2

An overview of the EU legislation on RECs

Simona Benedettini

The EU Directive 2018/2001 introduces both the definition of RECs in the EU legislation (art. 2) as well as their governing principles (art. 22). In particular, article 2 (see Box 1), establishes the salient dimensions of RECs.

First of all, RECs shall be a legal entity distinguished from their members and, therefore, RECs should remain independent from the members and other market operators that might participate or assist the community.

Secondly, participation in energy communities shall be open to all potential local participants based on objective, transparent, and non-discriminatory criteria. At the same time, participation shall be voluntary, meaning that each member can decide whether or not to participate into a REC and for how long. To this end, the Directive considers eligible for the participation to RECs the following type of actors: natural person, SME, municipality or local authority.

Third, members shall maintain a control on the activities and assets of the REC even when they are performed or owned by third parties as, e.g.,

utilities which support the development of a REC.

Fourth, RECs cannot have profit-making as their priority goal. Rather, they should achieve environmental, economic, or social community benefits for its shareholders or members or for the local areas where it operates.

Article 2

Renewable energy community' means a legal entity:

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

Given the definition of REC, article 22 provides a more in-depth representation of the principles guiding the development and operation of RECs by Member States (See Box 2). In particular, the principles established in article 22 emphasize the relevance of removing Member States' legislative and regulatory barriers which may hamper the participation of RECs as active actors in national electricity markets.

Article 22

1 Member States shall ensure that final customers, in particular household customers, are entitled to participate in a renewable energy community while maintaining their rights or obligations as final

customers, and without being subject to unjustified or discriminatory conditions or procedures that would prevent their participation in a renewable energy community, provided that for private undertakings, their participation does not constitute their primary commercial or professional activity.

2 Member States shall ensure that renewable energy communities are entitled to:

- produce, consume, store and sell renewable energy, including through renewables power purchase agreements;
- share, within the renewable energy community, renewable energy that is produced by the production units owned by that renewable energy community, subject to the other requirements laid down in this Article and to maintaining the rights and obligations of the renewable energy community members as customers;
- access all suitable energy markets both directly or through aggregation in a non-discriminatory manner.

3 Member States shall carry out an assessment of the existing barriers and potential of development of renewable energy communities in their territories.

4 Member States shall provide an enabling framework to promote and facilitate the development of renewable energy communities. That framework shall ensure, inter alia, that:

- unjustified regulatory and administrative barriers to renewable energy communities are removed;
- renewable energy communities that supply energy or provide aggregation or other commercial energy services are subject to the provisions relevant for such activities;
- the relevant distribution system operator cooperates with renewable energy communities to facilitate energy transfers within renewable energy

communities;

- renewable energy communities are subject to fair, proportionate and transparent procedures, including registration and licensing procedures, and cost-reflective network charges, as well as relevant charges, levies and taxes, ensuring that they contribute, in an adequate, fair and balanced way, to the overall cost sharing of the system in line with a transparent cost-benefit analysis of distributed energy sources developed by the national competent authorities;
- renewable energy communities are not subject to discriminatory treatment with regard to their activities, rights and obligations as final customers, producers, suppliers, distribution system operators, or as other market participants;
- the participation in the renewable energy communities is accessible to all consumers, including those in low-income or vulnerable households;
- tools to facilitate access to finance and information are available;
- 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;
- rules to secure the equal and non-discriminatory treatment of consumers that participate in the renewable energy community are in place.

5 The main elements of the enabling framework referred to in paragraph 4, and of its implementation, shall be part of the updates of the Member States' integrated national energy and climate plans and progress reports pursuant to Regulation (EU) 2018/1999.

6 Member States may provide for renewable energy communities to be open to cross-border participation.

7 Without prejudice to Articles 107 and 108 TFEU, Member States shall take into account specificities of renewable energy communities when designing support schemes in order to allow them to compete for support on an equal footing with other market participants.

Methodological framework



CHAPTER 3

Chapter 3

Methodological framework

Simona Benedettini

From article 22 of the EU Directive 2018/2001 relevant dimensions that could be addressed when analysing RECs can be identified.

Dimension:

Legal form:

RECs can take any legal form including association, cooperative, partnership, nonprofit organisation, small or medium-sized enterprise, provided that the entity is entitled to exercise rights and be subject to obligations in its own name.

Actors involved:

The participation in RECs is open to all categories of entities, namely individuals, local authorities (including municipalities), and small and micro-sized enterprises. For RECs, the EU Directive 2018/2001 explicitly mentions that they shall be accessible to all consumers, including those in low-income or vulnerable households.

Participation:

Participation in RECs shall be open and voluntary. For CECs, the EU Directive 2019/944 explicitly mentions that members and shareholders are entitled to leave the community.

Control:

The members or shareholders of the communities shall exert an effective control on energy communities. Control in RECs can be achieved in different manners such as the acquisition of the ownership or the right to use all or part of the assets the community, the right to use all or part of the communities' assets, the acquisition of the majority of the voting rights, etc. In the case of RECs, participation is not allowed to private undertakings whose participation constitute their primary commercial or professional activity.

Activities:

RECs can perform electricity generation, consumption of self-generated electricity, sharing of the self-generated electricity within the community, storage, sales, aggregation. For RECs, the EU Directive 2018/2001 explicitly mentions the possibility to promote energy efficiency at the household level as well as to provide commercial energy services.

The main purpose of RECs is to achieve and provide environmental, social, and economic benefits to her members or shareholders rather than to generate financial profits

Purposes:

The main purpose of RECs is to achieve and provide environmental, social, and economic benefits to her members or shareholders rather than to generate financial profits. Economic benefits can include the creation of local economies, the reduction of the electricity bills, the realization of employment opportunities. Social benefits can include the reduction of energy poverty, raising awareness with respect to climate and energy issues, providing a culture of cooperation, etc. Environmental benefits can entail the increase of consumption from renewable sources and the reduction of carbon emissions.

Support mechanisms:

RECs are allowed to participate in available support schemes and for member States to adopt incentive schemes explicitly directed to promote the diffusion of RECs. To this purpose a variety of schemes can be adopted such as, e.g.: support schemes for RE installations, tax incentives for RE installations, priority access to the grid for RE installation, simplified permitting procedures for small RE installations.

Participation in electricity markets:

RECs can access all suitable energy markets both directly or through aggregation in a non-discriminatory manner. For RECs, the participation is based on renewable energy sources.

The following sections provide an overview of the status of implementation of national legislative and regulatory frameworks concerning RECs in Bulgaria, Denmark, Germany, Italy, and Portugal. The overview of the characterisation of RECs in such member States will enable the identification of best practices and possible recommendations to foster the diffusion of renewable energy

communities.

SECTION II



Chapter 4

The legislative and regulatory framework for RECs

Chapter 5

The legislative and regulatory framework for RECs in Denmark

Chapter 6

The legislative and regulatory framework for RECs in Germany

Chapter 7

The legislative and regulatory framework for RECs in Italy

Chapter 8

The legislative and regulatory framework for RECs in Portugal

The legislative and regulatory framework for RECs in Bulgaria



CHAPTER 4

Chapter 4

The legislative and regulatory framework for RECs in Bulgaria

Slavtcho Neykov

4.1 Bulgaria and the Renewable Energy Communities – Status quo and What is Next.¹

Although bound by the EU acquis in general, including promotion of renewables, Bulgaria is still lagging behind when it comes to the availability of adequate legal and regulatory frameworks concerning renewable energy communities. The key reason is linked to the lack of an adequate energy strategy, which indirectly causes the subsequent non-implementation of the relevant EU legislation. In addition, there is substantial public resistance to the change of the current energy mix, in which, e.g., coal still plays leading role, although the market forces push it back compared to renewables.

This, however, does not mean that there is a full absence of steps in this direction. In the context

¹ The text in this analysis reflects the status quo as by 15 July 2023.

of the continuous rapid growth of renewables, the renewable energy communities will inevitably prove being an effective tool for more active and economically and market-motivated participation of the end consumers in the electricity production. Furthermore, their support is strongly backed up by formal financial and legal means, used by the EU towards Member States, which delay their implementation. Besides, the public perception and the push at local level influence very strongly the national decision makers.

Thus, although with some delays at national level, the process of establishment and actual participation of the renewable energy communities as a nationally spread formats for production of electricity, is moving forward very rapidly.

4.2 Scope of the Analysis.

As an EU Member State, Bulgaria is bound to follow the overall EU approach and the general steps concerning the promotion of renewables both at policy and legislative level – including the establishment and promotion of the Renewable Energy Communities (RECs).

Thus, when it comes to the implementation of the EU legislation, this is backed up in general by the framework rules under Article 194 and 288 of the Treaty of the Functioning of the

Bulgaria is still lagging behind when it comes to the availability of adequate legal and regulatory frameworks concerning renewable energy communities

European Union.² In concrete, when it comes to RECs, the key rulings include the specific obligations, as specified in Directive 2018/2001³ (particularly Article 22 and others).

Taking a further glance at the frame energy policy approach, the promotion of all forms of renewable energy is certainly one of the national energy related priorities. However, in concrete, the point should be reviewed not so much on the ground of statements, but rather on the ground of actual steps in this direction along the relevant legal frame.

On this ground, the current chapter reviews the issue of RECs in Bulgaria concerning the implementation of the relevant EU acquis as well as the necessary and undertaken factual steps at a national level.

4.3 Some Legal Facts in the Bulgarian Context- no Transposition and Infringement Procedures.

When it comes to the transposition of the EU rules concerning the establishment and the promotion of RECs, Bulgaria is lagging behind.

The 2018 RES Directive specifies the obligation for its transposition by 30 June 2021. Furthermore, it obliges the member States to communicate to the Commission the text of the main legal provisions adopted at a national level in the field covered by the Directive.⁴

In practical terms, the delay of Bulgaria is so substantial that in January 2023 the European Commission started an infringement procedure against the country, for failing to transpose the Directive into the national legislation.⁵

2 Treaty of the Functioning of the European Union - <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:12012E/TXT:en:PDF>

3 Directive 2018/2001 on the promotion of the use of energy from renewable sources - <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018L2001>

4 Article 36 of the Directive.

5 See Press release of EC on 26 January 2023 - https://ec.europa.eu/commission/presscorner/detail/en/ip_23_163; see also online details on Information about Commission's Decisions on Infringements https://ec.europa.eu/atrwork/applying-eu-law/infringements-proceedings/infringement_decisions/screen/home?lang_code=en

For sure, these legal steps by the Commission have already had very concrete consequences.

On one side, they clearly demonstrate the Commission's principal approach to push for the actual implementation of the EU rules along the Union, as to ensure the development of RES – which have practical importance for achieving some key goals, particularly linked to climate neutrality. These goals include, inter alia, the reduction of greenhouse gas emissions, the decrease of prices, and the increase of the energy supply security. Additionally, the approach is in a full match with the trends of the electricity market developments, where the place of production is coming closer and closer to the place of consumption.

In concrete, when it comes to Bulgaria, the legal steps related to the infringement as undertaken by the EC certainly show that the acceptable level of expectations for proper implementation steps has been crossed. In fact, despite the readiness for operational support on the transposition of the EU rules prior to the established deadline, it is evident that Bulgaria has not undertaken transposition steps and, respectively, any of such steps have been notified to the Commission as per Article 36 of the Directive.

On this ground, following the infringement procedural rules,⁶ a formal notice has been sent in July 2021, followed by a reasoned opinion in December 2021.

Thus, in March 2023 the case has been referred to the Court of Justice of the European Union – and it is currently active. The reference⁷ to the case clearly underlines the topic about RECs (see Pleas in law and main arguments) by stating that 'Directive (EU) 2018/2001 ... prescribes measures that guarantee that the support for energy from renewable sources is cost effective and that the administrative procedures for

⁶ See Article 258 etc. TFEU; further details available here - https://commission.europa.eu/law/application-eu-law/implementing-eu-law/infringement-procedure_en

⁷ Case – 206/23;

<https://curia.europa.eu/juris/document/document.jsf?text=&docid=274542&pageIndex=0&doclang=en&mode=lst&dir=&occ=first&part=1&cid=431732>

projects concerning energy from renewable sources are less burdensome. It also facilitates citizens' participation in the energy transition, allows renewables self-consumption and establishes renewable energy communities...'.⁸

Undoubtedly, these legal steps have already some reputational consequences about the country's readiness and possibility to actually follow the EU law. Aside, there might be also financial consequences – the Commission's reference to the Court of Justice is with a request for imposing financial sanctions in accordance with Article 260(3) TFEU.

On this ground, the basic question is why things did not work so far in the Bulgarian context – and what is next.

4.4 Why did Bulgaria Delay the Transposition of the Directive?

There is a set of reasons for the delay; however, three of them seem to be of utmost importance – the political instability, the lack of adequate energy strategy, and the delay in the legislative programme of the national Parliament.

A leading factor in this relation is the political instability the country faced for quite some time. Within the last two years, there were five parliamentary elections – therefore, during most of this period the country has been run by care-taking governments in the absence of a Parliament. And for a parliamentary republic, which Bulgaria is, this means that the legislative power did not work well and, respectively, the process of adoption and amendment of laws was accidental.

The second reason is that the country is still lacking an adequate energy strategy. The last one was adopted in 2011 and expired in 2020;

⁸ Underlining is mine.

furthermore, it was based on a completely different policy set up. In between, the EU energy policy priorities changed drastically – inter alia, this affected very strongly the role of renewables and their promotion in variety of forms, including via the renewable energy communities. In this context, it should be also mentioned that according to the Bulgarian law, the national energy strategy is adopted by the Parliament upon proposal by the energy minister, but it has to be firstly endorsed by the Government.⁹

In addition, in Bulgaria the lack of up-to-date national strategic vision strongly influences the general public attitude towards renewables – particularly in their conflict with domestic coal and nuclear. In legal terms at national level, the protection of both sources of electricity (particularly of coal) is to be assessed not only by the lack of transposition of EU rules – further to this, the coal in particular is still subject to strongly politicised decisions of the Parliament in favour of keeping the coal mines and thermal power plants running. While the parliamentary decisions had some economic and social background for justification during the 2022 energy crisis, despite the complete change of the economics of coal's usage after the crisis, these decisions are still in force and are mandatory. In fact, they are very strong indirect hindrance against the promotion of renewables in general.

Thirdly, the question is certainly linked to the prioritisation of the legislative steps – this refers particularly to the list of laws which have to be adopted and/or changed by the Parliament. Unfortunately, Bulgaria is lagging behind with the adoption of a set of laws of different character:

- on one hand, laws of completely internal nature (e.g., adoption of the state budget has been delayed for months, similarly to some institutional reforms, etc.);
- on the other hand, laws whose adoption follows Bulgaria's obligations in the EU context. Explicitly, this is related to the obligations under the National Recovery and Resilience Plan,¹⁰ which shall be further

⁹ See Article 3 para 2 conj. Article 4 of the Law on Energy - <https://lex.bg/laws/ldoc/2135475623> (in Bulgarian).

mentioned.

Furthermore, this prioritisation in the preparation and adoption of laws by the Parliament is linked to the issue mentioned above concerning the lack of a clear strategic view – aside the strategy, some other steps, directly connected to the promotion of RES in general and of RECs in concrete, should have been in place. Thus, e.g., in parallel to the legislative programme, concerning the obligations under the National Recovery and Resilience Plan, the process of revision of the Integrated National Energy and Climate Plan of the country should actively go on. Under the EU law, these plans, adopted under Regulation 2018/1999 on the Governance of the Energy Union and Climate Action, should have been reviewed by each EU Member State, including Bulgaria, by 30 June 2023¹¹ – and in the Bulgarian case this has not happened. Besides, another element of the conceptual assessments at the national level are the so called Just Transition Plans under the EU Just Transition Mechanism.¹² These plans would also very much influence the legislative steps, including in the frame of RES and respectively of RECs.

The plans are of primary importance for Bulgaria as they affect the transformation of the three coal regions in the country – and, as mentioned, the messages at political level (including via official decisions of the Bulgarian parliament) are extremely controversial. This, however, not only blocks the process of envisaged economic reforms, aiming at achieving a climate neutral economy in the country, where the promotion of RES plays key role; but it also hinders the relevant legislative framework in support of RES, including the one linked to the implementation of the 2018 RES Directive. On the top of the legislative and economic delays, Bulgaria is the only EU Member State which has

10 Recovery and Resilience Plan for Bulgaria https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility/recovery-and-resilience-plan-bulgaria_en ; see also detailed information about the Bulgarian Recovery and Resilience Plan at the website of the Council of Ministers of the country at www.nextgeneration.bg

11 See Article 3 etc. in conj. Article 14.1 of Regulation 2018/1999 on the Governance of the Energy Union and Climate Actions - <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018R1999>

12 https://ec.europa.eu/regional_policy/en/information/publications/communications/2021/the-territorial-just-transition-plans

not officially submitted officially its Just Transition Plan for the three relevant regions under the rules of Regulation 2021/1056 establishing the Just Transition Fund.¹³

In principle, this causes the lack of the envisaged synergy between all mentioned key documents,¹⁴ which are required by the EU legislation, but are subject of development at national level. And in concrete, the lack of this synergy causes already substantial organisational and legal problems.

4.5 Still, Steps at National Level Concerning RECs are Already in Place.

As pointed out above, Bulgaria is facing very concrete and substantial problems concerning the steps to be taken in the direction of promoting the RECs.

Nonetheless, despite the delays and the formal start of infringement procedures and the controversial political steps when it comes to renewables in general and to the RECs in concrete, there are specific supportive steps in these relations which have been already undertaken – while others are still in the loop.

Summarising, from the point of view of the steps in question concerning concretely RECs, there is in fact a set of very strong back-up stimuli of different nature: specifically, of political, policy-wise, legal, and even financial dimensions.

In this context, the process of aligning the Bulgarian national policy with the EU overall frame related to RES, and the strictly legal requirements concerning the 2018 RES Directive, has been already mentioned. In addition, however, there are also other factors, which undoubtedly stimulate a lot the Bulgarian authorities for the adoption adequate

¹³ see Article 11 etc. - <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R1056>

¹⁴ See *ibid.* explicitly the requirements of Article 11 2.a for the synergy with the integrated national plan on energy and climate; Article 8, 2.e – for the synergy with the 2018 RES Directive etc.

decisions. This includes, inter alia, the ‘stick-carrot approach’ with very concrete financial dimensions. Thus, the EU envisages to grant financial support for Bulgaria under the National Resilience and Recovery Plan at the level of € 6.27 billion, mostly for supporting climate objectives and partially for fostering digital transition.¹⁵ The provision of the funds, however, is subject to very strong scrutiny for performance of the planned reforms. And the Bulgarian National Resilience and Recovery Plan explicitly envisages measures concerning ‘....

optimization of the consumption, stimuli for establishing energy communities for production and consumption of renewable energy and stimuli for more active role of the consumers.¹⁶

Furthermore, financial penalties might result due to non-performance along other EU funded mechanisms, directly linked to the support of RES in all its forms, including other grant funds¹⁷ – and, as stipulated earlier, the expectation for synergies is clearly stated by the acquis.

Therefore, the facts about the available and planned steps show some positive trends when it comes to performance at national level in favour of RECs. Concrete examples in this relation are to be found below. Concrete key information, concerning few major points, is respectively presented and it is related to: the steps at parliamentary level, the specific topic of the electricity networks, the institutional set up and the role of the civil society.

4.6 Steps at Parliamentary Level.

The last format of the Bulgarian Parliament (49th National Assembly) started its work on 12.04.2023. One of the first proposed draft laws¹⁸

15 Explicitly in Recovery and Resilience Plan for Bulgaria - https://commission.europa.eu/business-economy-euro/economic-recovery/recovery-and-resilience-facility/recovery-and-resilience-plan-bulgaria_en

16 See ref.10, p.255 of the Bulgarian National Resilience and Recovery Plan (in Bulgarian); entering text in italics is mine.

17 During a formal meeting in Bulgaria on 10 July 2023 with representatives of NGOs, EC officials dealing with the issue mentioned the potential loss of 800 million Euros grant funds for Bulgaria only in the frame of the Just Transition Mechanism.

18 The draft law is available at <https://www.parliament.bg/bg/bills/ID/164715> only in Bulgarian.

concerns amendments of the Law on Energy from Renewables- the draft has been formally deposited on the first day after the Parliament started its work, i.e., on 13.04.2023.

In general, the proposals for amendments which, inter alia, are also related to RECs, show very substantial conceptual changes – however, the fact that such amendments have been brought officially forward so quickly should not be confusing. In reality, the expert level activities in this context have never stopped.

The proposal has been filed by the Council of Ministers – and in the case of Bulgaria, this has particular importance. In fact, under the Constitution, the members of the Parliament and the Council of Ministers can propose draft laws. The procedural steps in this context, used by the members of the Parliament, are very simple and speedy. However, when this is done by the Council of Ministers, there is a lengthy and very formal procedure of intragovernmental coordination and public consultations. Moreover, one of the formal elements is linked to the process of proof that the relevant draft law is in compliance with the EU legislation. Therefore, the Motives to the draft law in question, which are part of the documentation, contain concrete reference to the 2018 RES Directive (including, inter alia, the reference to the infringement procedure mentioned above) and the explanation of the proposed amendments in the light of its requirements.

When it comes to RECs, the draft law contains two types of texts which are being proposed. Some are of general nature and concern the overall support of the activities, related to more intensive usage of RES (also valid for RECs). Others of them are of concrete nature and refer explicitly to RECs.

Thus, e.g., rules of general nature, which are in the draft law, refer to:¹⁹

- obligation of the Energy Regulatory Authority to assess the

¹⁹ All references to the draft law in the analysis are based on its text as published on the website of the Bulgarian Parliament – see Reference 16 above.

effectiveness of all schemes, envisaged to support the use of RES, as well as their impetus to the relevant consumers and to the investment process (Para 3);

- obligation of the Executive Director of the Agency for Sustainable Energy Development to prepare guidelines concerning the procedures for construction of energy objects for production of electricity on the ground of RES in line with the national legislation (Para 10);
- obligation of the majors in the municipalities to prepare local plans on the promotion of the usage of RES as well as obligation to inform the Executive Director of the Agency for Sustainable Energy Development about the installed capacities for production of electricity on the ground of RES for personal needs (Para 13);
- introduction of the principle ruling that any end customer of electricity might also become user of his own electricity, produced on the ground of RES (Para 23), etc.

As mentioned, further to the general rules, there are draft texts concerning RECs specifically outlining their status and activities. In concrete, these are the texts in Para 24 of the Draft Law, providing rulings in several directions, e.g.:

- first, there is a background text allowing the establishment of RECs by end customers of electricity, including households. According to the text, the fact that a REC has been formed does not deprive the participants of their status as end customers. Additionally, any non-justified and discriminatory conditions related to the establishment of RECs are prohibited;
- secondly, once established, the RECs will be entitled:
 - ✓ to produce, use, store, and sell all the extra amounts of electricity on equal terms in accordance with the law;
 - ✓ to freely exchange within the REC the energy, produced by its installations;

- ✓ to non-discriminatory access to all energy markets;
- third, there is an explicit list of concrete stimuli and obligations for the establishment and development of RECs. These include:
 - ✓ removal of non-justified regulatory and administrative requirements;
 - ✓ guarantees for non-discriminatory treatment of RECs when it comes to their activities, rights, and obligations as end consumers, producers, suppliers, operators of distribution systems, etc.
 - ✓ easy access to financing and information;
 - ✓ guarantees for all consumers of their right to participate in RECs, including vulnerable customers and households with low income;
 - ✓ guarantees for equal treatment of all the members of the REC, etc.

However, when it comes to the adoption of the proposed texts there are a few problems which should be duly noted. On one hand, the number of amendments is so conspicuous that it will certainly take some time for their adoption. On the other hand, the substance requires also sufficient time for real implementation. In fact, the draft texts presuppose the adoption of secondary legislation as well as of specific rules by institutions belonging to the executive power, as well as by the Energy Regulatory Authority. Therefore, from the point of view of the availability of these rules, it would be realistic to suppose the effective start of RECs along the proposed formats not earlier than within the first half of 2024.

4.7 RECs and the Electricity Network Dimensions - Legislative acts and Concrete Financial Support Needed.

As mentioned, the amendments proposed by the draft law in question are immense and in some way revolutionary, aiming at lifting the role of RES at completely new level. Such approach is not only in line with the

EU acquis and with the energy policy at European level, but also with the factual realities in Bulgaria. In fact, it is rather the market that pushes towards these amendments than the country's obligations as an EU Member State. Thus, according to the statement of the CEO of the Bulgarian Transmission System Operator at the recent GREEN TRANSITION 2023 Forum (20-22 June 2023),²⁰ there are applications for more than 40.000 MW for the construction of new RES capacities, which is times higher than the capacities in operation.²¹

On this ground, in parallel to these general considerations concerning the procedural steps, there is one major point, related, inter alia, to the adequate possibilities for the development of the RECs – this is the status of the electricity networks for which, e.g., EURELECTRIC (and not only) clearly state that they are the backbone of climate neutrality.²²

Certainly, this pressure on the networks by the booming usage of RES for electricity production (particularly on the distribution ones) is a phenomenon throughout Europe. Nonetheless, this has particular dimensions in Bulgaria. The latest discussions on the topic (March 2023) with the participation of the Secretary General of EURELECTRIC and the representatives of neighbouring countries (particularly Greece) clearly focused on the current problems of common nature, explicitly from the perspective of new capacities and the new technological options.²³ It was clear that these problems, which definitely affect RECs as well, require concrete legislative solutions both via laws and at sub-legal level.

In summary, the attention of the legislative authorities should not be exclusively focused on the support of RES, but also on the support of an adequate network development – and the analysis and the legal steps

20 All information about the Forum is available at www.greentransition.bg

21 Information by the Bulgarian Electricity System Operator - <https://www.eso.bg/doc/?38>

22 EURELECTRIC "Why electricity networks are critical for Europe's climate neutrality" - <https://www.eurelectric.org/in-detail/electricity-networks/>

23 See Conclusions and Comments of the Moderator (Round Table Development of Electricity Network – European and National Trends and Problems" 23 February 2023), <https://www.emi-bg.com/en/%D0%B7%D0%B0%D0%BA%D0%BB%D1%8E%D1%87%D0%B5%D0%BD%D0%B8%D1%8F-%D0%B8-%D0%BA%D0%BE%D0%BC%D0%B5%D0%BD%D1%82%D0%B0%D1%80%D0%B8-%D0%BD%D0%B0-%D0%BC%D0%BE%D0%B4%D0%B5%D1%80%D0%B0%D1%82%D0%BE%D1%80%D0%B0-2/>

should go hand in hand in both directions. Unfortunately, at this stage this is not the case in the Bulgarian context. Currently, e.g., the National Recovery and Resilience Plan envisages funds only for the support of the transmission system network and not for the distribution ones.

However, without a definite change in both legislative and financial directions, the process of development of RECs will be strongly jeopardised. Legislative steps require a more detailed and clear set up of rules in the law and sub-laws (including those adopted by the Bulgarian Energy Regulatory Authority) concerning the relations between RECs and the network operators – this is related particularly to the Distribution System Operators (DSOs), as these will be the most essential counterpart of the RECs.

Without any doubt, the market development will certainly indicate step-by-step concrete problems, but the key frame should be in place since the very beginning of the existence of RECs. Thus, e.g., along merely legal and technical issues, the legislator should not miss to regulate explicitly the financial aspects related to the maintenance of the networks; this, *inter alia*, affects also the consequences of the possibility for the members of RECs to go back to the services of the DSOs when it comes to the electricity supply etc. In these aspects, the interests of both RECs and DSOs should be duly considered. This is of practical importance not only to limit unnecessary expenditures, but also to prevent technical problems possibly affecting other clients of the DSOs, which are not members of the RECs themselves.

As pointed above, some of these questions have been tackled in the draft law; however, the details are certainly not covered yet – this might happen in the sub-laws or even at law level.

4.8 The Institutional Set up and RECs.

In addition to the formal competences as envisaged by the draft law, concerning explicitly RECs, the overall institutional set up at the national level for the promotion of RES along the EU *acquis* is in place in the

existing Bulgarian legislation. Thus, the question about the role of the institutions is not so much linked to their existence, but rather to their proper functioning and coordination. This affects both the national and local level of governance.

At the State level.

In addition to the key State level bodies, which are operationally in charge of the promotion of RES (Ministry of Energy, Ministry on Water and Environmental Protection, Agency for Sustainable Energy Development, the State Energy and Water Regulatory Authority, etc.) there is one specific institutional set up, which is worth mentioning in the context of promotion of RES in general and of RECs in concrete. In fact, it is related to the framework developments along the Green Transition in the Bulgarian context – that is, the availability of a special body under the Council of Ministers, called Consultative Committee on the European Green Deal.²⁴ In reality, this structure has been already existing for three years. The practical importance about its existence in relation to RECs concerns the review of the Bulgarian steps towards the implementation of the European policy towards climate neutrality in all its aspects. Thus, this is a format, where in theory all key amendments in the policy and legislative frame at national level should be discussed. Operationally, this is to be done via a set of specific commissions with different tasks (energy transition, energy efficiency and energy poverty, innovations, etc.).

Surely, the practical implementation of the legal frame concerning RECs will be one of the main areas of scrutiny within the Consultative Committee and its bodies. Further to the performance of the established tasks (which is done on the ground of a Decision of the Government), the reason for this is the fact that as per its rules, the Consultative Committee and its bodies include representatives of a vast number of social structures – NGOs, business associations, academia, etc. Thus, in addition to the administrative requirements, there is a substantial public

²⁴ https://saveti.government.bg/web/cc_2002/1 - in Bulgarian

pressure on the institutions when it comes to the implementation of the green transition in all its forms – and in this case, such public pressure is performed within a body established by the government itself. Certainly, the question of its effectiveness is to be duly reviewed.

About the municipalities and their concrete role.

However, in addition to the state level institutional set-up, the draft law envisages a new structure, concerning the promotion of the usage of RES, including via RECs, which is not at a national, but at a municipality level. This is the so-called 'Center for administrative support', which has the key task of providing administrative support in all aspects, concerning the construction and usage permits related to RES, including for consumers, which produce their own electricity based on RES.²⁵ In practical terms, the approach is linked to establishing one focal point for such kind of services. The concept is worth its support as in practical terms the role of the local governance when it comes to development of RES related projects, including RECs, is crucial. Besides, in a way this focal point approach at the municipality level compensates the fact that there exist a substantial number of national level institutions, which have different competences along the discussed issue. Again, it would be a matter of time when it comes to tracing the effectiveness of functioning.

Nonetheless, in real terms, the municipalities show enormous interest when it comes to development of RECs. This was officialised recently, on 21 June 2023, when more than 30 municipalities formally deposited an Open Letter to several key authorities, containing concrete proposals for promotion of RES – where the topic of RECs is a key topic.²⁶ The addressees of the letter were the Chairman of the Parliament, the Prime Minister, the President of Bulgaria, as well as the Ministers of energy, of Environment and Regional Development. Aside from demanding for

25 Explicitly – Para 13 of the Draft Law. The key texts on the Centers for Administrative Services are also to be found in Para 22. Conj. Para 13.

26 The text of the Open Letter is available in Bulgarian - <https://www.greenpeace.org/static/planet4-bulgaria-stateless/2023/06/30ea5896-%D0%9E%D1%82%D0%B2%D0%BE%D1%80%D0%B5%D0%BD%D0%BE-%D0%BF%D0%B8%D1%81%D0%BC%D0%BE-%D0%BE%D1%82-35-%D0%B1%D1%8A%D0%BB%D0%B3%D0%B0%D1%80%D1%81%D0%BA%D0%B8-%D0%BE%D0%B1%D1%89%D0%B8%D0%BD%D0%B8.pdf>

more concrete State level policy in this relation, in the letter the relevant mayors clearly commit to focus on:

- best practices;
- active participation in analytical and project related activities;
- improvement of the cooperation with the citizens and the business on the issue.

It is certainly only a matter of time that this proactive initiative will expand including other municipalities as well.

4.9 RECs and the Proactive Role of the Civil Society.

Being part of the overall topic concerning the promotion of RES at national level, the aspects concerning RECs in concrete have also been subject to a directly focused analytical work and a public pressure on the institutions on the side of the civil society – this refers particularly to non-governmental organisations of different type in their individual work. Thus, the topics related to RECs are already not only specifically visible but, in general, the civil society finds a set of different formats to promote their development via pushing the decision makers in line with legally established mechanisms.

Thus, e.g., GREENPEACE-Bulgaria recently and explicitly focused on the topic about RECs in a popular and easily accessible manner,²⁷ providing keynote information on substance about the RECs on the steps towards their establishment in Bulgaria, and on the gaps which prevent this to happen. The Energy Management Institute, being the only full-fledged member of EURELECTRIC in Bulgaria, not only provides up-to-date information about analysis, decisions, and so on, at European level on the topic, but also periodically focuses on the issue of RES organising and/or taking part in related events.²⁸ Substantial focus on RES and climate

²⁷ GREENPEACE: What is an Energy Community (in Bulgarian) - <https://www.greenpeace.org/bulgaria/tips/8493/energijna-obshtnost-shto-e-to/>

neutrality is to be also found in the activities of the Center for Study of Democracy²⁹ and other entities. Some other concrete practical guidelines on the energy communities were also recently promoted (in Bulgarian language), based on the experience throughout Europe.³⁰

Finally, there are also other non-governmental organisations working in these directions.

4.10 Some Wrap-up.

The electricity markets throughout Europe undergo enormous changes with unprecedented speed. In fact, unlike some perceptions – that the Green Deal is in place because of Brussels' bureaucracy³¹ – the move towards climate neutrality has mostly an economic dimension; this is why it would be fair to state that the EU institutions (with the active participation of the national authorities of the EU Member States) take steps to channel this process, rather than to create it. Thus, the move towards more and more RES in the European and the national mix is a logical fact. The energy crisis in 2022 gave a breath of fresh air to coal but only for a while – the fact is that coal is already completely non-competitive.

The changes towards climate neutrality, including with more and more RES in place (which is inevitable) put forward new legal and technical challenges. In addition, they also require market adjustments along new forms of production of electricity – and the RECs are very vivid example

28 For more information on the activities of the Institute see www.emi-bg.com

29 Center for Study of Democracy: Green Energy Governance etc. - <https://csd.bg/topics/energy-security-energy-transition-and-economic-development/topic/green-energy-governance/>

30 See e.g. Practical Guidance for Establishing Energy Communities (in Bulgarian) <https://www.rescoop.eu/toolbox/%D0%B5%D0%BD%D0%B5%D1%80%D0%B3%D0%B8%D0%B9%D0%BD%D0%B8-%D0%BE%D0%B1%D1%89%D0%BD%D0%BE%D1%81%D1%82%D0%B8-%D0%BF%D1%80%D0%B0%D0%BA%D1%82%D0%B8%D1%87%D0%B5%D1%81%D0%BA%D0%B8-%D0%BD%D0%B0%D1%80%D1%8A%D1%87%D0%BD%D0%B8%D0%BA-%D0%B7%D0%B0-%D1%81%D1%8A%D0%B7%D0%B4%D0%B0%D0%B2%D0%B0%D0%BD%D0%B5-%D0%BD%D0%B0-%D0%BE%D0%B1%D1%89%D0%BD%D0%BE%D1%81%D1%82%D0%BD%D0%B0-%D0%B5%D0%BD%D0%B5%D1%80%D0%B3%D0%B8%D0%B9%D0%BD%D0%B0-%D1%81%D0%B8%D1%81%D1%82%D0%B5%D0%BC%D0%B0>

31 See in this context POLITICO: The Politics of the Green Deal, 27 October 2020 at <https://www.politico.eu/article/chapter-two-the-politics-of-the-green-deal/> and others

in this direction. Certainly, the formal steps towards the active involvement of the consumers in the electricity production represents a relatively new form of their participation in this process and will take some time while it is effectively in place. While the lack of clear political decisions, supported by adequate legislative steps, causes delays in their establishment and functioning in the country, the actual necessity of RECS focuses explicit pressure on the decision makers to deal urgently with the issue – and this clear trend can be definitely observed in Bulgaria.

However, in addition to the market forces, there are also other factors which favour the development of RECs at a national level – these include inter alia the formal push by the EU institutions along the country's legal commitments, the financial stimuli, the proactive position of the civil society (non-governmental institutions, local authorities, researchers, etc.).

On this ground, some concrete steps in the sphere of legislation, related explicitly to RECs, are already in place in Bulgaria. Although these are in general terms in line with the EU acquis, there is immense field for steps, which should take due note of strictly national factors. Such steps include, inter alia, the adequate development of secondary legislation – both by updating the existing one and creating new rules. The role of the National Energy Regulatory Authority, which is in charge of promoting the development of the market, will be crucial also in this context. Nonetheless, the key frame needs to be urgently established by the Parliament.

In this regard, Bulgaria is privileged not only to adjust to the market and the European push for reforms, but also to benefit in these directions from the substantial experience of other EU countries.

Based on the above, the establishment of RECs in Bulgaria is only a matter of time – and, without any doubt, it seems that one shall not wait too long to see it.

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The legislative and regulatory framework for RECs in Denmark



CHAPTER 5

Chapter 5

The legislative and regulatory framework for RECs in Denmark

Simona Benedettini

At present, RECs are regulated in Denmark under the Electricity Supply Act, cf. Executive Order No. 984 of 12 May 2021 and the Executive order No. 1069 of 30 May 2021 ‘Order on RE communities and citizen energy communities and the relationship between RE communities and citizen energy communities and electricity trading companies and collective electricity supply companies’.

The order defines renewable energy community as follows: ‘a legal entity that is based on open and voluntary participation, and is independent and actually controlled by capital owners or participants that are located in the vicinity of the renewable energy projects that are owned and is developed by this legal entity whose capital owners or participants are natural persons, SMEs or local authorities, including municipalities, and whose main purpose is to provide its capital owners or participants or the local areas in which it operates with environmental, economic or

social community benefits rather than financial profit.’

- The definition provided by the executive order is in line with the EU Directive 2018/2001. However, further specifications are provided:
- participation in a RE community and ownership of capital shares in a RE community may be limited by the RE community’s partnership contract or articles of association;
- if a participant or capital owner in a RE community leaves the community, the relevant company law rules apply depending on the form of company;
- RE community and citizen energy community can be established and run as an association, a partnership, a cooperative, or a capital company;
- natural and legal persons who make decisions on behalf of a RE community may not participate in extensive commercial activities and have the energy sector as their primary area of economic activity. However, a renewable energy community can be established as an electricity trading company, with the aim of arranging the sharing of electricity in the RE community;
- a RE community cannot own, establish, buy, or rent distribution networks;
- RE communities may engage in production, supply, consumption, aggregation, energy storage, energy efficiency services or services for charging electric vehicles, or provide other energy services to its participants or capital owners. To this aim, RE communities are financially responsible for the imbalances they create in the electricity system, and must therefore be balance-responsible parties or delegate their balance responsibility to a third balance-responsible party;
- a RE energy community and a citizen energy community have access to all electricity markets, either directly or via a third party, in a non-discriminatory manner;
- a RE community can, within the renewable energy community and the

citizen energy community via the collective network, arrange for the sharing of electricity that is produced on the electricity production facilities owned by the renewable energy community, or on electricity production facilities owned by participants or capital owners, in the renewable energy community. In this case, the applicable grid tariffs and taxes in connection with these electricity flows apply. The sharing of electricity in the RE community is arranged through an agreement on the supply of electricity with an electricity trading company to participants or capital owners in the RE community. The electricity trading company handles distribution and offsetting between the RE community's participants or capital owners based on the RE community's request;

- supply of electricity to the participants or capital owners of the renewable energy community shall include both electricity that is produced and shared in the RE community, and electricity that is produced outside the RE community, if the shared electricity does not fully cover the electricity consumption of the participants or capital owners in the RE community;
- RE communities may require the issuance of guarantees of origin for the RE community's shared production of RE electricity. The guarantees of origin must be cancelled by the RE community or its electricity trading business in connection with the sharing of the electricity within the RE community.

The table below summarises the provisions on RECs.

Dimension	Description
Legal form	Association, a partnership, a cooperative, or a capital company
Actors involved	Natural persons, SMEs, or local authorities, including municipalities.
Participation	Open and voluntary. The participation and ownership of capital shares may be limited by the RE community's partnership contract or articles of association.
Control	RECs are controlled by participants and capital owners that are located in the vicinity of the renewable energy projects that are owned and are developed by this legal entity.
Activities	RECs can perform electricity generation, consumption of self-generated electricity, sharing of the self-generated electricity within the community, storage, sales, aggregation, sharing of electricity produced outside the RE, other energy services.
Purposes	The main purpose of RECs is to achieve and provide environmental, social, and economic benefits to its members or shareholders rather than to generate financial profits.
Support mechanisms	N/A
Participation in electricity markets	RECs can access all suitable energy markets.

The executive order does not regulate the provision of subsidies to RECs. However, over years and at present different enabling financial schemes are adopted. In 2021, the European Commission approved a two-way contract-for-difference scheme¹ to support electricity produced from renewable energy sources, namely onshore wind turbines, offshore wind turbines, wave power plants, hydroelectric power plants, and solar PV. The aid is corresponded by means auctions organised in 2021-2024. The measure has a total maximum budget of approximately € 400 million. The premium will be paid for a maximum of 20 years from the time of the connection of the RES installation to the electricity grid. Local energy communities can participate to the support schemes.

In particular, the support scheme can be cumulated with another

1 See. European Commission. State Aid SA.56831 (2021/N) – Denmark Multi-technology RES tenders 2021-2024 https://ec.europa.eu/commission/presscorner/detail/en/ip_21_2242.

support scheme that over years has proved to be relevant in promoting renewable energy communities. Actually, beyond two-way contracts for difference, locally based citizen groups can apply for a guarantee from the Guarantee Fund when raising loans for activities in the early project development stage such as screening of potential sites, preparations of documents for relevant approvals, etc. It is a measure under the de minimis rule and, therefore, deemed not to constitute an aid, where the guarantee can be issued to a maximum of DKK 500,000 per project and it is aimed at a different stage of the project – where its completion is uncertain.

Over the years, and especially with respect to the installation of wind turbines in local communities, several policies have been adopted in Denmark:

- a compensation scheme to neighbours: property owners living very near turbines are to be compensated by wind farm developers for any loss of property value of dwellings greater than 1%;
- a co-ownership scheme: any person/entity that erects one or more onshore (or offshore if not subject to tender) wind turbine higher than 25 meters shall, prior to commencement of erection, offer at least 20% of the ownership shares to residents in the municipality or living within 4.5 kilometres from the planned turbine(s).

The widespread diffusion of local energy communities in Denmark explains the variety of support schemes for RECs. In turn, the leading role of Denmark in the EU with respect to the diffusion of local energy communities has two historical reasons: 1) cooperatives date back to the early XIX century in Denmark, when they were established in the agricultural sector providing a stimulating ground for citizen participation in other economic sectors; 2) some public services such as electricity generation and district heating were required by the law to have a not-for-profit statute (this changed in 2004 for electricity generators, but not for district heating). The prices of electricity and district heating were set at a level that allowed for recovering the costs. This disincentivised large

corporations to enter the market, at least until the liberalisation in the early 2000s, and left the place open to municipal companies or small cooperatives – or even individual ownership, in the case of wind turbines.

Citizen ownership of wind power was triggered by the oil crisis in 1973. The Danish Parliament and industrial sector pushed strong to invest in nuclear power. The decision, however, raised a strong opposition, that resulted, on one hand, in the Parliament voting a ban on nuclear power in 1985; on the other hand, in a push towards investments in alternative energies, particularly wind power.

The result of the Danish policies on energy communities are quite encouraging. In 2019 at least 3.500 MW of 3.800 MW land-based wind power is established by citizens and private investors, and 64% of all Danish heating is delivered via district heating systems owned by 350 consumer cooperatives and 50 larger municipal owned nonprofit companies.

The widespread diffusion of local energy communities in Denmark explains the variety of support schemes for RECs

The legislative and regulatory framework for RECs in Germany



CHAPTER 6

Chapter 6

The legislative and regulatory framework for RECs in Germany

Gero Shaeck

In order to analyse RECs in Germany, it is important to distinguish between the different concepts of 'Bürgerenergiegenossenschaft' ([citizen] energy cooperative) and 'Bürgerenergiegesellschaft' ([citizen] energy community). The term energy cooperative describes a cooperative regulated under the German Cooperatives Act that owns and operates a renewable energy plant. Legally, an energy cooperative does not differ from any other cooperative. The term 'Bürgerenergiegenossenschaft' is not legally defined but rather emerged as energy cooperatives started to play a significant role in the German energy market. Prior to 2017, the term 'Bürgerenergiegesellschaft' also has not been legally defined and was used in the literature to describe a company that operates locally, pursues non-economic goals, and is represented and controlled by citizens.¹ In its core, this definition resembles the definition of

1 Kahla, F., Holstenkamp L., Müller J. R., and Degenhart, H. (2017), 'Entwicklung und Stand von Bürgerenergiegesellschaften und Energiegenossenschaften in Deutschland' <http://fox.leuphana.de/portal/de/publications/publications/59823930-f0b2-4ac1-9055-9810b6a8dbaf.html>.

a REC in EU Directive 2018/2001.

With the 2017 amendment to the German Renewable Energy Sources Act ('Erneuerbare-Energien-Gesetz', EEG), the term 'Bürgerenergiegesellschaft' was legally defined for the first time. In the 2023 amendment to the EEG this definition was revised to weaken potential influence of a single big actor. In the 2023 EEG the term 'Bürgerenergiegesellschaft' is defined as a cooperative or other company that fulfils the following criteria:

- consists of at least 50 natural persons as voting members;
- 75 % of the voting rights need to be held by natural persons that live within 50 kilometres of the plant;
- non-natural persons may only have voting rights if they are SMEs;
- no single member may hold more than 10 % of the voting rights.

While this does legally define the term 'Bürgerenergiegesellschaft' in the context of the EEG, this definition is only relevant with regards to public tenders that are obligatory for all new photovoltaic and wind power plants upon a certain size in the 2017 EEG amendment. Energy companies that fulfil those criteria can construct wind power plants up to 18 MW installed capacity, and photovoltaic power plants up to 6 MW installed capacity without having to win a public tender. However, the purpose of those companies is not defined and can be focused on financial profits. Therefore, a Bürgerenergiegesellschaft under the EEG is not necessarily a REC under the EU definition and vice-versa.

Until 2017, there was no direct governmental support for RECs. Despite this fact, ever since renewable energy plants emerged in Germany, energy communities owned a significant market share of those plants. In 2019, over 30% of the installed renewable energy capacity was owned by private citizens, and an additional 10 % was owned by farmers.² The number of energy communities shows a similar picture. Over 100 energy communities already existed in Germany in 1999; the number surpassed

² trend:research (2020), Eigentümerstruktur: Erneuerbare Energien, 4. Auflage.

1.000 in the year 2012³ until growing up to almost 5.000 energy communities in the year 2021.⁴

Mainly two legal changes impacted RECs and likely helped to further establish them in Germany. In the year 2000 the first version of the EEG came into force, and in 2006 the German Cooperative Act ('Genossenschaftsgesetz', GenG) was amended. These reforms did not target RECs by themselves, but rather renewable energy on one hand, and cooperative law on the other hand. Both legislative changes correlate with a steep increase in the founding of energy communities, a 175 % increase from 1998 to 1999 and a 150 % increase from 2008 to 2009.^{5,6}

One of the most important instruments introduced with the EEG are guaranteed producer prices for energy from renewable sources. In early EEG versions, these guarantees came in the form of a fixed feed-in tariff that is paid over the period of 20 years for every kWh of renewable energy fed into the national grid. As the EEG was amended multiple times over the years, its focus shifted away from feed-in tariffs and more towards market premiums, a minimum price that renewable energy plant operators are guaranteed to receive when selling on the electricity market.

Guaranteed producer prices assure a relatively easy market entry and better investment calculability, especially for risk-averse individuals, as this policy nearly abolishes output price, demand, and contract risk.⁷ Nonetheless, this should not imply that energy communities are mainly driven by profit interests. A survey among energy cooperatives that entered the market relatively early shows that while most energy cooperatives do pay dividends, the generation of renewable energy and CO2 mitigation are named as their most important goals.⁸ This shows

3 Kahla, F. et al. (2017), 'Entwicklung und Stand von Bürgerenergiegesellschaften und Energiegenossenschaften in Deutschland'

4 Wierling, A. et al. (2023), 'A Europe-Wide Inventory of Citizen-Led Energy Action with Data from 29 Countries and over 10000 Initiatives'

5 Newly founded energy communities by year: 1998: 9; 1999:25; 2008: 52; 2009: 133

6 Kahla, F. et al. (2017), 'Entwicklung und Stand von Bürgerenergiegesellschaften und Energiegenossenschaften in Deutschland'

7 Dóci, G. and Gotchev B. (2016), 'When Energy Policy Meets Community: Rethinking Risk Perceptions of Renewable Energy in Germany and the Netherlands', *Energy Research & Social Science*, 22 (December), 26–35. <https://doi.org/10.1016/j.erss.2016.08.019>.

that German energy cooperatives are mainly motivated by ecological goals. But still, the legal framework provided by the EEG was needed to create enough economic security, allowing a wider range of citizens to safely and successfully implement solutions to work towards those goals.

The 2006 amendment to the GenG made founding a cooperative easier by decreasing the number of needed members from 7 to 3, allowing small cooperatives to only have one executive member and other minor conveniences. Up until 2006, most German energy communities were legally structured as 'GmbH & Co. KG' (private limited partnerships), but starting in 2007 cooperatives saw a steep increase in founding numbers, overtaking GmbH – that only saw a mild increase.⁹ Besides the GenG amendment, the long tradition of cooperatives in Germany helped fuelling the founding of new energy cooperatives. As they recognised rising public interest in founding energy cooperatives, cooperative associations and cooperative banks promptly created tool kits that supported interested citizens in all the relevant areas, from writing a constitution to acquiring members, that proved to be a model of success.¹⁰

In Germany, energy communities owned a significant market share of those plants

8 Volz, R. (2011), 'Zur Umsetzung des Förderauftrags in Energiegenossenschaften'. *Zeitschrift für das gesamte Genossenschaftswesen*, 61 (4), 289–304. <https://doi.org/10.1515/zfgg-2011-0405>.

9 Kahla, F. et al. (2017), 'Entwicklung und Stand von Bürgerenergiegesellschaften und Energiegenossenschaften in Deutschland'

10 Rutschmann, I. (2009), 'Genossenschaften auf dem Vormarsch. Bürgerliche Energieerzeuger entdecken die Vorteile einer bisher wenig genutzten Rechtsform' *PHOTON*, no. 2, 78–84.

Article 22 (2) (b) of the EU Directive 2018/2001 states that Member States shall ensure that RECs are able to share produced energy among community members. Although the newly elected German government included energy sharing in its coalition agreement in 2021, it has yet to be implemented into the German regulatory framework. In a publication describing its current fields of action regarding photovoltaics, the German Federal Ministry for Economic Affairs and Climate Action (BMWK) aims to initiate a stakeholder discussion in 2023, regarding the regulation and subsidies for energy sharing within RECs using the national grid.¹¹ Currently, the own usage and sharing of produced energy is only possible if it does not enter the national grid. As soon as the energy enters the national grid, the producer gets a fixed feed-in tariff or must sell either on the electricity market or to a person that he has a power purchase agreement with.

The table below summarises the provisions on RECs.

Dimension	Description
Legal form	Association, a partnership, a cooperative, or a capital company.
Actors involved	Natural persons, SMEs, municipalities.
Participation	N/A.
Control	RECs are controlled mainly by natural persons that live within 50 kilometres of the power plant; a single individual cannot hold more than 10 % of the voting rights.
Activities	RECs can perform electricity generation, consumption of self-generated electricity, storage, and sales. Energy sharing using the national grid is not possible.
Purposes	The main purpose of RECs is not legally defined. An energy cooperative's main purpose is to achieve and provide environmental, social, and economic benefits to its members or shareholders rather than to generate financial profits.
Support mechanisms	Like every other provider of renewable energy, RECs can receive either a fixed feed-in tariff or a market premium for feeding electricity into the national grid. RECs are exempted from needing to win a public tender to construct a renewable energy plant up to a certain installed capacity.
Participation in electricity markets	RECs can access all suitable energy markets.

11. BMWK (2023), 'Photovoltaik-Strategie. Handlungsfelder Und Maßnahmen Für Einen Beschleunigten Ausbau Der Photovoltaik'.

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<https://doi.org/10.1016/j.erss.2016.08.019>.
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<https://doi.org/10.1038/s41597-022-01902-5>.

The legislative and regulatory framework for RECs in Italy



CHAPTER 7

Chapter 7

The legislative and regulatory framework for RECs in Italy

Simona Benedettini

In Italy, renewable energy communities are regulated under the Legislative Decree n. 199/2021 which transposed the EU Directive 2018/2021 in the Italian legislative framework.

According to the Legislative Decree, end customers (SMEs, households, industrial customers) have the right to set up a renewable energy community, provided the following requirements are met:

- the main objective of the REC is to provide environmental, economic, or social benefits at the community level, to its members or to the members of the local areas in which the community operates;
- the main objective of the community is not that of making financial profits;
- the control of the REC is exclusively in the hands of the members of the REC;
- the REC is an autonomous legal entity. Such entity can take one of the legal forms

allowed by the Italian law: association, limited liability company, cooperative, etc.

- the members of the REC can be natural persons, legal entities, public administration entities, or research institutes;
- participation in renewable energy communities is voluntary and open to all consumers, including low-income or vulnerable customers.

The members of the REC can own the renewable generating facility supplying the REC itself. Alternatively, a third party can be engaged to own and operate the power plant. Self-produced energy is primarily used for instant self-consumption on-site or to be shared between the community members by means of the distribution network. The energy community can also promote energy efficiency interventions, provide electric vehicle charging services to its members, as well as operate as electricity retailer and offer ancillary and flexibility services to both global and local flexibility services market.

In Italy, RECs are supported by a premium tariff (€/MWh) corresponded to the electricity self-produced and shared within the members of the community (it applies only to power plants of size lower than 1 MW).

Dimension	Description
Legal form	Association, cooperative, company and any other legal entity form allowed by the Italian legislation.
Actors involved	Natural persons, SMEs, industrial customers, public administration entities.
Participation	Open and voluntary.
Control	RECs are controlled by the members of the REC.
Activities	RECs can perform electricity generation, consumption of self-generated electricity, sharing of the self-generated electricity within the community, storage, sales in retail markets, sales of flexibility and ancillary services.
Purposes	The main purpose of RECs is to achieve and provide environmental, social, and economic benefits to her members or shareholders rather than to generate financial profits.
Support mechanisms	Premium tariff (€/MWh) for the volume of electricity produced and self-consumed.
Participation in electricity markets	RECs can access all suitable energy markets.

The legislative and regulatory framework for RECs in Portugal



CHAPTER

8

Chapter 8

The legislative and regulatory framework for RECs in Portugal

Ricardo Silvestre

On 2 March 2023, in the quaint fishermen's village of Cascais, around 30 km to the east of Lisbon as one heads to the Atlantic Ocean, a public presentation of a kindergarten school that was upgraded to become part of a renewable energy community (REC) took place. As a partnership between the private and public sector, this joint venture allows for the school to reduce the electricity bill in around 30% and share the energy surplus with the surrounding community (some twenty families) that, in turn, will see their bills reduced in 50%. Similar projects are being introduced in the same area, for example in a brand-new university for business and economics, where the REC implemented aims to 'help one hundred families around the campus'.¹

These aren't the only cases. In 2021, the 100 Villages development was inaugurated, an

1 Camara Municipal Cascais (2023), 'Primeira Comunidade de Energia Inclusiva', CMC Ambiente, 2 May, <https://ambiente.cascais.pt/pt/noticias/primeira-comunidade-energia-inclusiva>.

award-winning project² from a start-up³ that aims to fight energy poverty delivering affordable clean energy to over 25.000 families in rural Portugal. The members of this REC have a 30% decrease in energy prices by buying locally sourced energy from prosumers (a customer who generates their own energy). The same start-up (CleanWatts), one year later, would include one hundred RECs in Portuguese small villages in the interior of the country.⁴ In January of 2023, the Portuguese Ministry of Environment and Climate Action stated that '372 licensing processes [for fully operational RECs] had already been submitted'.⁵

The Paris Agreement⁶ calls for investments in clean renewable energy to become a priority, particularly for local and small community size. A country like Portugal gathers the best conditions for these investments, due to high solar radiation⁷ and wind power,⁸ capable to provide a carbon free source of electrification. This is particularly important in the European Union (EU), because of the need to lower energy prices and guarantee energy

A country like Portugal gathers the best conditions for these investments, due to high solar radiation and wind power, capable to provide a carbon free source of electrification

2 <https://cleanwatts.energy/energy-communities/>

3 <https://cleanwatts.energy/pt-pt/sobre-nos/>

4 Portal Ambiente Online (2022), 'Projeto "100 aldeias" já ultrapassou o objetivo e conta com mais de 140 comunidades de energia', PAO, 17 October, <https://www.ambienteonline.pt/noticias/projeto-100-aldeias-ja-ultrapassou-o-objetivo-e-Conta-com-mais-de-140-comunidades-de-energia>.

5 D. Dias (2023), 'Portugal ainda não chegou a uma mão-cheia de comunidades de energia renovável', Público, 5 February, <https://www.publico.pt/2023/02/05/azul/noticia/portugal-nao-chegou-maocheia-comunidades-energia-renovavel-2036970>.

6 United Nations (2015), 'Paris Agreement', United Nations, 12 December, https://unfccc.int/sites/default/files/english_paris_agreement.pdf.

7 <https://www.iea-shc.org/countries/portugal/report>

8 International Energy Agency (2022), 'Portugal Country Report', IEA, <https://www.iea-shc.org/countries/portugal/report>.

independence⁹. To boost these investments, in 2019¹⁰ the Portuguese government¹¹ introduced a National Energy and Climate Plan, that included goals for renewable energy participation in final energy consumption. In 2024, the objectives are to have a contribution from renewable sources in the final total consumption of 34% or above, in 2026 of 40% or above, in 2028 of 44% or above, and in 2030 to be 49% or above. As presented in the Roadmap for Carbon Neutrality 2050,¹² the ambition is to reach the country's carbon neutrality by 2050. Portugal already reached the fourth best rate of incorporation of renewable energy in the electric sector of the EU,¹³ but there is still a large potential to be tapped in small community-centred projects, to take maximum advantage from the country geographical position, particularly related to solar energy. This is seen, for example, in the number of requests that E-Redes,¹⁴ the main operator in the country on electricity distribution in high, medium, and low voltage networks, received for individual auto consumption, that, monthly, reaches 5.000.¹⁵

According to the Portuguese legal system,¹⁶ RECs are legal person organisations with an open and voluntary adhesion of members, partners, or shareholders, public or private, including small and medium-sized companies or local authorities. Members or participants of the REC need to be in proximity of the project, or develop activities related to renewable energy projects of the respective energy community. The main objective of the REC is to provide its members, or the locations

9 R. Silvestre (2022), 'The Importance of Iberian Energy to the Future of European Union and Central and Eastern Europe', 4Liberty.eu, 17, 128-145. https://4liberty.eu/wp-content/files/09-RICARDO_SILVESTRE__THE_IMPORTANCE_OF_IBERIAN_ENERGY_TO_THE_FUTURE_OF_EUROPEAN_UNION.pdf.

10 European Union (2019), 'National Energy and Climate Plan 2021-2030', European Union, December, https://energy.ec.europa.eu/system/files/2020-06/pt_final_necp_main_en_0.pdf.

11 República Portuguesa (2020), 'Resolução do Conselho de Ministros n.º 53/2020. Aprova o Plano Nacional Energia e Clima 2030 (PNEC 2030)', Diário da República, 133, 2-158. <https://files.dre.pt/1s/2020/07/13300/0000200158.pdf>.

12 República Portuguesa (2019), 'Roadmap for carbon neutrality 2050 (RNC2050). Long-term strategy for carbon neutrality of the Portuguese economy by 2050', Ministério Transição Energética, 6 June, <https://www.portugal.gov.pt/download-ficheiros/ficheiro.aspx?v=%3d%3dBAAAAB%2bLCAAAAAABACzMDexBAC4h9DRBAAAAA%3d%3d>.

13 J. Sousa (2018), 'Portugal mantém-se como o quarto país europeu com maior incorporação de renováveis na eletricidade', Sapo.Eco, 12 September, <https://eco.sapo.pt/2022/09/12/portugal-mantem-se-como-o-quarto-pais-europeu-com-maior-incorporacao-de-renovaveis-na-eletricidade>.

14 <https://www.e-redes.pt/en/about-us>

15 D. Dias (2023).

16 República Portuguesa (2022), 'Decreto-Lei n.º 15/2022 de 14 de janeiro. Estabelece a organização e o funcionamento do Sistema Elétrico Nacional, transpondo a Diretiva (UE) 2019/944 e a Diretiva (UE) 2018/2001, Diário da República, 10, 3-182. <https://files.diarioderepublica.pt/1s/2022/01/01000/0000300185.pdf>.

where it operates, community, environmental, economic, and social benefits rather than financial gains.¹⁷ RECs are, by regulations, allowed to produce, use, store, buy, and sell renewable energy with its members or with third parties; share and commercialise, among its members, renewable energy from respective production units for auto consumption (UPACs in the original); and access energy markets directly and through aggregation.¹⁸ Table 1 summarises the RECs provisions in Portugal.

Table 1. Summary of provision on RECs in Portugal

Dimension	Description
Legal form	A collective, juridic and economic, legal entity with legal personality.
Actors involved	Singular or collective persons, including small or medium enterprises and local municipalities.
Participation	Open and voluntary of members, partners, and shareholders, which are in proximity with the REC.
Control	Members or participants that are in proximity with the REC, or that generate activities related to the renewable energy projects of the REC, and of the attached Production Unit for Self-consumption (UPAC).
Activities	Produce, consume, store, and buy and sell renewable energy with its own members or associated third parties.
Purposes	As principal objective to provide the members, or associated localities environmental, social, and economic benefits, instead of financial ones.
Support mechanisms	Environmental Fund, via the Recovery and Resilience Plan (energetic efficiency for residential buildings).
Participation in electricity markets	Possibility to access all energy markets, directly or via aggregation.

17 República Portuguesa (2022).

18 República Portuguesa (2022).

The omnibus bill referred above¹⁹ also defines the relationship between CREs and organisations associated with the process, and with regulators: first, the Energy Services Regulatory Authority (ERSE), whose purpose is to regulate, throughout the national territory, electricity, natural gas, and liquefied petroleum gas, as well as the management of the electric mobility network operations; second, the Directorate-General for Energy and Geology (DGEG), the public administration body whose mission is to contribute to the design, promotion, and evaluation of policies relating to energy and geological resources; third and last, the abovementioned E-Redes – in short, the main operator in the country on electricity distribution in high, medium, and low voltage networks.

Apart from these basic stipulations, there are a set of secondary directives that are worth mentioning:

- energy communities can include condominiums, urban areas/neighbourhoods, business parks, agricultural units, industrial units, parishes, and municipalities;
- there is a clear channel of communication that links the stakeholder at a REC, and the regulating entities;
- simplification of some of the needs for certification and permits, as it is the case when solar energy production units already exist and have permission to inject energy in the grid. If so, there is no need to reassess the project from the start;
- equally, if new energy production facilities inject no more than 30 kilowatts into the energy grid, there is a positive response for an automatic permit from the regulatory agency;
- there is a digital platform accessible to speed up the licensing process;
- there was a reinforcement of technical staff at the regulatory agency, to speed the analysis of licensing conditions of RECs;
- RECs are fully responsible for deviations from programming that it

¹⁹ República Portuguesa (2022).

causes in the National Electric System (SEN) and may transfer this responsibility to an aggregator;

- consumer access to a REC cannot be subject to unjustified or discriminatory conditions or procedures that prevent their participation.

8.2. Support mechanisms.

As mentioned previously, there are private operators that partner with communities, either urban or rural, to streamline the process of acquisition of materials, assembling the conditions needed for energy capture and sharing, and applying for the licensing of the REC. One of the support mechanisms provided by the regulatory agencies has been, and increasingly in the later years, to accelerate the processes, being the approval of the REC by the DGEG, or the licensing by E-Redes.²⁰ This last organisation is also working on increasing the capability of absorbing the surplus energy generated in the RECs.²¹ This is a crucial aspect, because licensing for sharing energy with the grid is needed for the injection of energy from RECs into the SEN.²² As for the government, in particular the Ministry of the Environment, despite not transposing the EU recommendation to have a three-month (maximum) period for granting licensing permits, the Ministry assures that the streamlining of procedures, as they are now applied (and will tend to get better), 'should allow compliance with the [EU] recommendation'.²³

RECs also represent a focus on the work done at the governance level, especially regarding the energy transition included in the NextGenerationEU Fund for Portugal.²⁴ This fund was translated into

20 D. Dias (2023).

21 D. Dias (2023).

22 Agência Lusa (2023), 'Cleanwatts tem 57 comunidades de energia há mais de um ano à espera de licença', Sapó.Eco, 31 January, <https://eco.sapo.pt/2023/01/31/cleanwatts-tem-57-comunidades-de-energia-ha-mais-de-um-ano-a-espera-de-licenca/>

23 Agência Lusa (2023).

24 R. Silvestre (2022a), 'The Portuguese Plan for Recovery and Resilience: Contribution for a comparative analysis between EU Member States on effects on governmental institutions and policies', in G. Bovenzi and O. Łabendowicz (eds.), *NextGenerationEU: Taking Stock* (Brussels: European Liberal Forum), p. 105.

energy and environmental goals for 2030 and presented in the Portuguese National Energy and Climate Plan.²⁵ The Recovery and Resilience Plan²⁶ includes a substantial amount of support for the implementation of RECs, in the order of thirty million Euros.²⁷ This support is to be implemented with an Environmental Fund²⁸ that supports environmental policies for sustainable development related to climate change, water resources, air quality, waste, and the conservation of nature and biodiversity. This is then translated into the financing of entities, activities or projects that contribute to an increased utilisation of renewable energies and of energy efficiency.

This is the case of Investment TC-C13-i01 – Energy Efficiency in Residential Buildings for a reduction of, on average, at least 30% of the primary energy consumption in the buildings upgraded, contributing to reinforce the capacity (of at least 93 MW) in RECs that are part of residential, central public administration, or service sector.²⁹ Funding of these nature is granted by public notices with a competitive tendering procedure, based on clear, transparent, and non-discriminatory criteria. Eligible expenses are related with the ‘acquisition of new solutions’ for renewable energy capture.³⁰ The public notices are clear in what can be supported by the PRR fund and what is not. This is a commendable decision, to avoid the utilisation of European funds for expenses that should be the responsibility of the stakeholders at the REC. This include examples like acquisition of land, buildings and other real estate, expenses with human resources of the beneficiary entity, costs with the maintenance and operation, expenses associated with other interventions in the building that are not related to the eligible interventions, applicable fees and charges, including permits, licensing, and network access fees, or the construction of private energy lines.³¹

25 European Union (2019).

26 <https://recuperarportugal.gov.pt/?lang=en>

27 República Portuguesa (2023), ‘30 milhões de euros para Comunidades de Energia Renovável e Autoconsumo Coletivo’, Recuperar Portugal, https://recuperarportugal.gov.pt/2022/06/20/comunidades_de_energia_renovavel_autoconsumo_coletivo.

28 <https://www.fundoambiental.pt/>

29 República Portuguesa (2023).

30 República Portuguesa (2022a), ‘Apoio à concretização de Comunidades de Energia Renovável e Autoconsumo Coletivo’, Plano de Recuperação e Resiliência, 14 June, https://recuperarportugal.gov.pt/wp-content/uploads/2022/06/Aviso-PRR-C13_CER_VFinal.pdf.

31 República Portuguesa (2022a).

Another interesting project, this time accepted by ERSE, it's the Community of Renewable Energy at Agra do Amial, in the second biggest city of the country, Porto. This is a pilot project that includes another school, and aims to 'combat energy poverty' and to 'test the technical and economic viability of practices and technologies innovative solutions'.³² This RCE is part of a larger societal intervention, the Asprela + Sustentável project, that combines renewable energy actions (self-consumption), energy efficiency, sustainable mobility, circular economy, and citizen involvement, based on technological innovation and business models.³³ This is of particular importance, as a pilot project that hopefully could extend to other areas of the country where energy poverty is a problem. Eurostat data from January of 2020 show that Portugal is the EU Member State with less economic conditions to keep homes properly heated, around 19% of Portuguese people living in energy poverty.³⁴

The Recovery and Resilience Plan includes a substantial amount of support for the implementation of RECs, in the order of thirty million Euros

32 Entidade Reguladora Serviços Energéticos (2020), 'Projetos-Piloto aprovados ao abrigo do Artigo 55.º do Regulamento do Autoconsumo', ERSE, https://www.erse.pt/media/dtmjzpsb/pag_ac_ppiloto_pt.pdf.

33 Entidade Reguladora Serviços Energéticos (2020).

34 Eurostat (2022), 'Can you afford to heat your home?', European Union, 6 January, <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/DDN-20200106-1?inheritRedirect=true&redirect=%2Feurostat%2F>

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