SCORE

Co-own. Prosume. Renew.

Supporting Consumer Ownership in Renewable Energies

D 5.4 RE Prosumership Policy Recommendations

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Executive Summary

Consumer (co-)ownership in renewable energies (RE) is an essential cornerstone to the overall success of energy transition. With the recast of the Renewable Energy Directive (RED II) – once the Directive has been transposed into national law – consumers, as prosumers, will have the right to consume, store or sell RE generated on their premises. Either individually or as part of Renewable Energy Communities (REC).

The SCORE project is facilitating consumers to become (co-)owners of renewable energies (RE). The project developed models how to best organise joint prosumership projects so that co-ownership in the RE systems and the sharing of the energy produced within the REC can be guaranteed in a fair, inclusive, and sustainable manner, as stipulated by the RED II.

To ensure this balance, SCORE has developed and promoted the application of Consumer Stock Ownership Plans (CSOPs) for renewable energy projects and applied the model in several REC pilot projects.

Based on the experiences in the field, this document analyses the current national conditions for RECs in the countries involved in the SCORE project. The authors put special focus on three aspects defined in the RED II: The legal framework to establish REC business models, the rules for energy sharing within RECs and the opportunities to include vulnerable groups in this transition are evaluated. The analysis often refers to the transposition of the RED II into national law, a process which is still ongoing in several EU member states.

1. Background and Introduction (by Laurenz Hermann)

Financial, technical and social innovations are indispensable prerequisites for a successful energy transition from fossil fuels to renewables. To balance demand with a volatile energy supply and to increase acceptance of new technologies like smart meters, it is necessary to build new energy infrastructure and motivate consumers to change their consumption habits.

Consumer (co-)ownership in RE has proven to be an essential cornerstone to the overall success of energy transition. When consumers acquire ownership in RE, they become prosumers generating a part of the energy they consume, hence reducing their overall expenditure for energy. At the same time, they receive a second source of income from the sale of excess production. This in turn induces positive behavioural changes in energy consumption.

In December 2018, the European Union passed the legal framework for prosumership as part of a recast of the Renewable Energy Directive (RED II) and the Internal Electricity Market Directive (IEMD). From June 2021 onwards – once the Directive has been transposed into national law – consumers, as prosumers, will have the right to consume, store or sell RE generated on their premises. Either individually, for example households and small and medium-sized enterprises (SMEs), and collectively, for example in tenant electricity projects (Art. 21 RED II) or as part of Renewable Energy Communities (RECs) organised as independent legal entities (Art. 22 RED II). They can also set up Citizen Energy Communities under the IEMD which, although they also have the privilege of electricity sharing, however, do not benefit from the specific enabling framework foreseen in the RED II. This document focusses on RECs under the RED II and only mentions the IEMD where relevant.

1.1. SCORE Approach and Pilot Projects

SCORE is a project funded by the European Union under its HORIZON 2020 programme, facilitating consumers to become (co-)owners of renewable energies (RE). A guiding question throughout SCORE has been how to best organise joint prosumership projects so that co-ownership in the RE systems and the sharing of the energy produced within the REC can be guaranteed in a fair, inclusive, and sustainable manner.

RECs require a particular democratic governance model focusing on the local partners. The RED II prescribes that to qualify as an REC, the effective control, that is the majority of ownership stakes, should be held by members based in the proximity of the installations. Furthermore, the autonomy of the REC from single members is to be upheld by the principle that no single shareholder owns more than a third of the shares.

To ensure this balance, SCORE has promoted the application of Consumer Stock Ownership Plans (CSOPs). The CSOP is a prototype of this business model and shows how to implement the new rules of the RED II. CSOPs allow for the inclusion of municipalities and/or commercial investors like SMEs. Moreover, they offer an opportunity of advancing

to economies of scale. At the same time, they retain the benefits of individual consumer participation.

Within the SCORE project, pilot projects in Italy (Susa Valley), Germany (Essen) and the Czech Republic (Prague) were initiated and supported to establish local RECs, apply the CSOP model and explore ways to implement energy sharing within the projects. Furthermore, strategies for the inclusion of vulnerable groups have been developed. This document reflects lessons learned of the SCORE partners, both regarding the necessary regulatory framework in the context of the RED II transposition process and the specific experiences and solutions of the pilot projects themselves.

1.2. Objectives

This document aims to analyse the national situation in the countries involved in the SCORE project regarding the situation of REC to become active as players in the energy markets as foreseen by the EU. In this context, the aspects of REC business models, the rules for energy sharing within RECs and the opportunities to include vulnerable groups in this transition are evaluated. Current challenges are identified, and recommendations formulated on how to address these, supported by good practice examples from the SCORE experiences or international model solutions.

In this context, the state of transposition of the Renewable Energy Directive (RED II, 2018/2001) and the Internal Electricity Market Directive (IEMD, 2019/944) are highly relevant. While several member states have already transposed the directives, others are lagging, among them also countries addressed in this paper, such as Germany or Bulgaria. Therefore, the document to some extent also provides recommendations to be applied when drafting or revising national legislation and regulation at national level.

1.3. Key Factors for Energy Communities

Article 22 “Renewable energy communities” of the EU Renewable Energies Directive (RED II) describes – among other things – that Member States must 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, […]”* (RED II, §22, 1)

Furthermore, RECs are entitled to

> *“…share, within the renewable energy community, renewable energy that is produced by the production units owned by that renewable energy community […]”* (RED II, §22, 2b)

Another important aspect is inclusion: The regulatory framework to be provided by the Member States must, inter alia, ensure that

> *"the participation in the renewable energy communities is accessible to all consumers, including those in low-income or vulnerable households*" (RED II, §22, 4f).

The following country-specific analyses on the challenges and possible solutions on a just framework for REC will consequently put the focus on these three aspects, which have also been main concerns in the SCORE project and its pilots:

- Framework Conditions for REC Business Models
- Energy / Electricity Sharing
- Inclusion of low-income and vulnerable households

2. Country-specific Recommendations

2.1. The Czech Republic (by Vítězslav Malý and Jaroslav Klusák)

As of December 2021, none of the relevant provisions regarding self-consumption and energy communities were transposed into Czech law. A New Energy Act already under preparation is expected to be passed under the new government which took office on 17 December 2021 until early 2023 with the coalition agreement acknowledging the importance of community power and foresees a favourable legal environment. In the meantime, the Energy Regulatory Office is planning to amend implementing regulations in 2022 enabling the functioning of energy communities until the New Energy Act is passed. The first call for funding for energy communities under the Modernisation fund shall be launched during 2022.

2.1.1. Framework Conditions for REC Business Models

Background

Article 22 of the EU Renewable Energies Directive demands of the Member States to ensure that final customers, in particular household customers, are entitled to participate in a renewable energy community (REC).

Challenges in the Czech Republic

Consumers can set up associations or cooperatives that can function as energy communities but they do not have all the benefits that the European law foresees for the existence of an energy community. They can invest in electricity generation, storage, sharing by using direct wire, and selling of surpluses to the grid (though not economically viable due to low prices). However, the concept of renewable energy community (REC) does not exist in Czech law as of yet, and therefore it is not possible to use European Funds (RRF, JTF, Modernization Fund). Until now, the Czech authorities are reluctant to support the REC model.

This, however is expected to change under the new government. The Ministry of Industry and Trade is preparing a New Energy Act (NEA) transposing the European regulations which should include REC. The NEA must deal with the new reality of the energy market characterized by a large number of active entities that perform various activities (production, consumption, accumulation or aggregation of energy). The majority of these entities are not expected to operate for profit, but their focus would be primarily on reducing their own electricity costs and respecting the environment. The NEA should be submitted to the government on June 30, 2022. Implementing regulations subsequently should set up market rules (e.g. sharing).

Recommendations for the Czech Republic

a) We suggest to establish a uniform and general definition that would be common to both RECs and CECs: The energy community may choose any legal form of legal entity provided that it meets the following conditions:

(i) the primary purpose of such a legal person must not be to make a profit but to meet the environmental, economic or social needs of its members,

(ii) openness of membership in the legal entity (specify condition under which members can leave or change electricity supplier at any time, or can join the REC),

(iii) voluntary membership of the legal entity.

b) Non-discriminatory and transparent cooperation of distribution companies with energy communities will be essential for their optimal development. Data-based control is a necessary condition for connecting new sources to the distribution system and energy sharing. Unless distribution fees for energy communities are set disproportionately high, most energy communities will not be interested in renting a distribution system, which on the other hand should become possible.

Good Practice

An important support with financing is the EIB ELENA facility, which covers the preparation phase of energy savings and use of renewable resources investment projects to reduce operating costs of buildings and decrease CO2 emissions. It finances related design work, project documentation, tender documentation, energy audits and other necessary documents for the implementation of energy savings and the use of renewable resources, for example in school buildings, social or cultural facilities. Specifically, in conditions of the city of Prague, the implementation of energy saving measures is expected on about 100 buildings, including the installation of photovoltaics.

2.1.2. Energy / Electricity Sharing

Background

Both the RED II and the IEMD demand Member States to ensure that RECs and CECs are entitled to share, within the energy community, renewable energy / electricity that is produced by the production units owned by that energy community.

Challenges in the Czech Republic

Energy sharing should respect the laws of physics, robustness and technology of electricity networks. The sizing of the energy source should be with regard to consumption, so that excessive surpluses do not arise in the summer months and significant energy shortages and insecurity in the winter. For energy sharing, it is necessary to innovate the distribution network with modern technologies, especially smart meters that will measure own production, sharing (among the members of energy community) and the amount distributed to the distribution network. For smaller consumers and community associations, PV plants with the possibility of sharing the energy produced on site is the optimal way. The common effort should then be an extensive program of energy saving measures and data-based energy management using developed algorithms.

The other obstacle and challenge is the digitalization of energy and the accelerated introduction of "smart meters", at least of the AMM type, enabling the processing of consumption and production data and the budgeting of a fair share of each member of the

community using software applications. This level no longer needs to be addressed by the state, but will be a service to communities from companies providing the services of a trader or a supplier of specialized software.

Recommendations for the Czech Republic

a) From this point of view, it is appropriate to distinguish between systems with and without aggregation and / or storage, although in principle it is rather more important what shape the load profiles and the respective production profiles have during the typical period (day, week, month, year).

b) When preparing technical solutions, the composition of the community and the parameters of the source should be methodically directed towards highest possible self-consumption within the energy community not only in the annual balance, but in shorter periods. The government should ensure facilitate this process and possibly entice it within the setting of tariffs.

c) The CEZ group is already installing accumulation on the premises of its power plants to provide system services (deviation regulation). There is no reason why energy communities could not be motivated in a similar way, if they improve the parameters of the distribution and transmission system.[1]

d) The state should provide a set of appropriate tools for suitable tariffs as well. In particular, setting up a suitable tariff system and the possibility of transferring surpluses to the LV system (net-metering). To ensure fair distribution, resp. energy sharing is relatively easy in this respect, as it is a simple formula that guarantees distribution in proportion to consumption and adjustment in the form of "compensation" according to the size of each member of the community.

Good Practice

The CEZ group is already installing accumulation on the premises of its power plants to provide system services (deviation regulation). 472 to 675 megawatts of power can be installed on suitable roofs of residential buildings in the capital Prague, which would supply electricity to 120,000 to 170,000 households. This is based on the balance that every fourth to fifth Prague household can consume only solar energy during the year, this is the Prague decision showing some different way.

2.1.3. Inclusion of low-income and vulnerable households

Background

Article 22 of the EU Renewable Energies Directive demands of the Member States to provide an enabling framework for renewable energy communities (REC) that, inter alia,

[1] However, according to the representatives of energy companies, this *"does not work in the Czech Republic",* respectively, it is not desirable that the economic potential in the form of income from the provision of system services can be used by other entities (except those listed in the law).

ensures the participation in the REC is accessible to all consumers, including those in low-income or vulnerable households

Challenges in the Czech Republic

The goal is to create a system that will support the development of energy communities with the participation of low-income or vulnerable households. The current conditions and the subsidy programs do not allow for the broad involvement of these groups, as they presuppose both the initiative of households and the pre-financing of projects. This, in essence, fully eliminates the interest of low-income or vulnerable households in REC and RES in general.

About half of the public is interested in RE production in their households. There are limits, similarly to the rest of EU, for low-income people to become co-investor in RE. Common reason is a generally low interest in other than in non-existential issues, which make the energy transition more difficult to become widely accepted. Any activity to develop the REC opportunities for people from weaker social classes or poor people can bring the benefits directly to them within their local community.

Recommendations for the Czech Republic

Creation of a service, the so-called One-Stop Shop, which would allow low-income or vulnerable households to become RECs, or at least join REC. A One-Stop Shop is a comprehensive service for homeowners, the aim of which is to facilitate the process of building reconstruction / RES installation. In essence, it includes several phases:

a) Pre-project assessment (pre-project study) - property visit, education, design of a suitable PV system;

b) Financing - securing tailor-made financing;

   In order to secure low-income or vulnerable households to be included in the system, the investment must first be paid for from external sources (e.g. energy fund) and repaid from the energy savings / revenues from electricity energy production. This requires covering the minimum initial costs for the client and should take into account subsidies in financing (subsidies directly repay part of the investment), green loan (e.g. 1%).

c) Project preparation;

d) Investment realization;

e) Reporting and monitoring.

Good Practice

Le Service Public de l'Efficacité Energétique (SPEE) is an integrated service for the renovation of residential buildings. The main goal of the service is to help low-income households with energy poverty and enable them to renovate their homes. The service also includes financing of the renovation. The French province Hauts de France provides the entire investment.

- In the case of subsidies for property renovations, the client signs the Hauts de France money transfer agreement and this part repays part of the loan.

- Family houses pay as part of the contract « the reconstruction payment » of € 1550 in excess of the loan.
- Haut de France has obtained permission to provide loans related to technical assistance and reconstruction - but they are not financial institutions.

Within the SCORE pilot projects in Prague, the possibilities of installation and use of PV on apartment buildings, schools, social care institutions and elderly homes will be examined in real conditions to reduce energy costs, and preparing the possibility of sharing surplus electricity, still under current legislation. In cooperation with other SCORE partners, discussion is held with the parties concerned, including political representation regarding the implementation of community energy into national law. A purposefully established Prague Renewable Energy Community (PREC) will prepare and install further RES, operate production facilities, supply green electricity to interested parties and provide One-stop-shop services to support the establishment of new communities and secure new RES financing support. Shortly after the announcement of the establishment of PREC, there is already decent interest in cooperation among Prague residents.

2.2. Germany (by Jens Lowitzsch and Laurenz Hermann)

On 21st December 2020 the German legislator entirely revised the Renewable Energies Law (REL 2021, BGBl. I S. 3138) with the explicit aim to transpose the RED II. Further amendments and corrections to the recast of the REL followed in July 2021. However, there are major shortcomings with regard to the transposition and the new government that took office on 8 December 2021 will need to remedy said deficiencies in transposing the RED II and the IEMD**.**

2.2.1. Framework Conditions for REC Business Models

Background

Article 22 of the EU Renewable Energies Directive demands of the Member States to ensure that final customers, in particular household customers, are entitled to participate in a renewable energy community (REC).

Challenges in Germany

Currently, there is no clear definition for Germany of the terms CEC (IEMD) and REC (RED II). Prerequisite for members of a RE cooperative (RESCoop) to consume energy it produces is still that the RESCoop qualifies as energy supplier; this involves complying with various cumbersome laws. The German Renewable Energy Law (REL 2021) limits self-consumption to electricity that is produced in "a direct spatial context to the production" while Art. 2 no. 14 RED II does not restrict it to the same building but allows national legislators to also permit that self-consumed electricity is produced elsewhere.

Except for the limited rules for the participation of „Citizen's Energy Corporations" in tenders for wind projects in § 3 no. 15 REL 2021, no preferential rules for the participation of RECs in tenders or special tariffs for RES exist. The German tendering system for PV plants larger than 750 kWp is major obstacle for citizen energy projects. The high development costs combined with the semi-professional structure of RECs and the uncertainty of winning the tender creates an almost unbearable risk for RECs to participate in such tenders. In the case of smaller systems (e.g., rooftop PV), due to the low feed-in-tariffs for PV, only projects focused on self-consumption are realised, limiting the potentially large overall impact of those systems

Recommendations for Germany

a) National legislation should make a clear distinction between the actor (the energy community) and the activities a community can lead. Existing energy communities – like energy cooperatives – should be allowed to continue in their present form unless their statutes or activities are clearly in contradiction to the spirit of the REDII/IEMD provisions.

b) The legislators should define various categories of "proximity" and "local area" considering: diversity and complementarity of RE sources and other technologies applied (like storage or electric vehicles), the geographical distribution of energy supply and

demand (urban and rural), demographics of investment, and heterogeneity of REC membership.

c) In case auctions are applied, these should contain reserved capacities for RECs of at least 10%. RECs should get specific tariffs for energy produced which could be set slightly higher than market prices (FiT, FiP, or other forms) to reward value provided to the local economy.

d) PV projects of RECs – even when larger than 750 kWp – should be exempted from the obligation to go through the tendering process.

e) Alternatively, a citizen energy fund should be created to reimburse tendering costs of RECs, allowing them again to compete in the tenders with bidders from industry.

Good Practice

In 2018, the German Land Schleswig-Holstein established a citizen energy fund ("Bürgerenergiefonds"). Citizen energy projects can apply for a grant of up to EUR 200,000 to prepare local projects in renewable heat or electricity, new mobility concepts, energy efficiency or digitisation in the energy sector. The grant must be paid back only in case of project realisation. With the help of this fund, energy communities can again participate in public tenders. The main financial risk for a REC, an unsuccessful bid, is being (at least partly) covered by the fund. More information…

2.2.2. Energy / Electricity Sharing

Background

Both the RED II and the IEMD demand Member States to ensure that RECs and CECs are entitled to share, within the energy community, renewable energy / electricity that is produced by the production units owned by that energy community.

Challenges in Germany

The 2021 REL recast does not entail stipulations for collective self-consumption. The German "tenant electricity model" (Mieterstrom) enshrined in §§ 21, 23c REL 2021 does merely provide – to a certain extent privileged – rules for the supply of tenants from PV installations of up to 100 kWp. In general, it fails to provide an equal status with individual self-consumption. The definition of self-consumption in § 3 no. 19 REL 2021 is not in compliance with the RED II as it clearly refers to singular physical or legal persons.

The applied concept of spatial proximity of "Mieterstrom" projects restricts projects to single buildings, while a neighbourhood or village project cannot qualify. Energy sharing among the members of a REC who own an open field PV plant, or a wind power system is presently not possible at all.

No rules for the allocation of electricity consumption to individual members of collective self-consumption – one of the obstacles of § 3 no. 19 REL 2021 restricting allocation to co-owned property like staircases, etc. and therefore a violation of Art. 21 para. 2 lit a (ii) RED II exempting self-consumption from any charges or fees – were included.

§ 61b para. 2 REL 2021 transposed the exemption from the RE surcharge and other levies or taxes for installations below 30 kW (but introduced a not admissible volume limit of 30 MWh per year which, however, was lifted by the July 2021 amendment). The European legislator allows for further exemptions above 30 kW, which, however, were not implemented in Germany.

Recommendations for Germany

a) The restriction for electricity sharing on one building should be lifted and extended to residential complexes, provided that they are connected to the same low voltage substation of the distribution network.

b) It should be possible to organise energy sharing as jointly acting self-consumers but not exclusively: Other options should be possible, like for instance peer-to-peer arrangements where a prosumer can sell excess energy to a neighbour or other local third parties.

c) For shared self-consumption in multi-family buildings, there should be straight-forward regulation and guidance in place that allow swift agreements among flat-owners and/or tenants. There may be special incentives for building owners to make self-consumption available to tenants. Energy sharing should be made possible without complicated administrative procedures or cumbersome contracts between participants.

e) There should be no restrictions for energy sharing within a REC, even over the public network, as long as two metering points belong to that REC. In particular there should be no restriction that the metering points must be located on low-voltage power grids underlying the same MV/LV transformer station.

f) It is strongly advised to lift the requirement of identity of self-producer and self-consumer as it imposes the RE surcharge on RECs that supply electricity to their members.

g) An important step for Germany could be to adapt the metering and settling procedures from the „tenant electricity model“ (§§ 21, 23c REL 2021) to RECs/CECs that foresees a so-called sum-metering model.

h) Energy sharing should be defined as a new form of ‘selling’ energy in the Renewable Energy Act (EEG).

Good Practice

Best Practice: Austria sets the medium-voltage grid as the upper limit with a stepwise reduction of per-unit grid charges.

Best Practice: Italy grants a premium of 11ct. / kWh shared within an REC

In the SCORE pilot project in Essen, a feasibility study investigated the sharing of solar energy from new photo-voltaic installations between an institution for the disabled (Franz Sales Haus) and a neighbouring municipal vocational school (Berufskolleg Ost). More information…

2.2.3. Inclusion of low-income and vulnerable households

Background

Article 22 of the EU Renewable Energies Directive demands of the Member States to provide an enabling framework for renewable energy communities (REC) that, inter alia, ensures the participation in the REC is accessible to all consumers, including those in low-income or vulnerable households

Challenges in Germany

The transition to renewable energies and the climate goals are generally accepted and supported by most of the citizens in Germany. However, there is a growing sentiment that the burdens and gains of climate policies are not distributed fairly among the groups of society. This lack of acceptance is – among other reasons – also a lack of opportunities for less wealthy citizens to participate in and thus identify with renewable energies.

Investing in renewables of course requires capital. Low-income households have limited or no capital, people receiving social welfare even must liquidate all assets ("welfare dilemma"). This naturally limits the extent of a potential involvement.

But even more limiting is the sheer absence of almost any opportunity to become investor in RE with small amounts of money like e.g., a few hundred Euro. To make the energy transition widely accepted and a success, we need to actively establish opportunities for low-income and poor people to directly experience and enjoy the benefits as RE (co-) investors.

Recommendations for Germany

a) As an overarching measure, the Federal Government should start a large initiative to explain and involve regular people in RE and thus increase public acceptance for the energy transition. The following measures are recommended:

b) In publicly tendered or funded RE projects, project developers should be obliged / incentivized to offer a some of the shares to small investors; regional and local authorities should act likewise in their areas.

c) making available subsidies to integrate vulnerable consumers, both to the individuals and to the RECs;

d) Exemption rules in the social welfare legislation allowing small investments in RE for welfare recipients. More specifically, exempting investments in RECs from the necessity to liquidate one’s assets when applying for means-tested social transfers (e.g., cap of EUR 1,000 p.p./year);

e) Stakeholder dialogue on plug-in PV to ease and promote investments in so called balcony PV systems by tenants.

f) Large campaign to inform and invite less wealthy in their specific ‘language’ and environment to get personally involved in RE

Good Practice

For the CSOP structure of the SCORE pilot project in Essen, it is currently being discussed that one of the shareholders in the operating company could be a cooperative representing students at the neighbouring vocational school. The school itself will use large parts of the electricity produced. By subscribing shares in the cooperative, the students will have the chance to become co-investors. Furthermore, the PV system can be used in the school's curriculum to convey knowledge on the technical as well as the economical.

2.3. Italy (by Sara Torabi and Andrea Borroni)

The RED II was passed and entered into force only during the project (11 Dec. 2018). The early (Dec. 2019) Italian transposition of the RED II rules for RECs in its present design unintentionally hinders thermal RE-projects across Italy, i.e., not only in our pilot region. The new law stipulates that legal entities established as RECs are limited by size and by date of entry into operation. The size limit of 200kW of RE was set with PV projects in mind (Borroni, Lowitzsch, Tartaglia 2020); almost all thermal projects are larger by technical design and their nature. As a consequence the bulk of projects implementing block heating systems were put on hold by the public administration involved as mayors correctly feared that not qualifying with their projects as RECs would cut them of subsidies, both existing and those newly to be introduced. These provision are currently under revision and expected to be amended to mitigate the described problems.

Additionally, an incoherence in the incentive system puts existing energy communities with RE plants already in operation before March 2020 – according to the new regulation, these do not qualify as RECs – at a disadvantage vis-a-vis to RECs established after March 1, 2020. In practice, a new energy community that includes (also) older installations and therefore does not qualify as a REC will lose various incentives provided over time for its individual members, while not having access to the new collective incentives provided for RECs. This may result in the RECs not including older installations that however would complement the new RE, and potentially reduce overall system costs and increase benefits. Although the rationale of the legislator to avoid cross subsidies is understandable, the Italian example demonstrates the importance of specifically allowing for RE clusters that include complementarity, and the benefits they confer. Again, these provision are currently under revision and expected to be amended to mitigate the described problems.

At the same time, the transposition of the new European regulatory framework was accompanied by the introduction of a broad variety of very generous incentives both at the national and the regional level. Eligibility criteria were often complicated and sometimes implementation decrees remained incomplete or even contradictory. This massive regulatory overhaul in Italy triggered high interest with all stakeholders. At the same time almost all stakeholders perceived the above situation as one of uncertainty while waiting for a more comprehensive law correcting above legislative deficits.

2.3.1. Framework Conditions for REC Business Models

Background

Article 22 of the EU Renewable Energies Directive demands of the Member States to ensure that final customers, in particular household customers, are entitled to participate in a renewable energy community (REC).

Challenges in Italy

The legislation on RECs, implicitly or explicitly, refers essentially to energy communities from the point of view of the electricity sector, while the contribution, costs and opportunities related to thermal energy are significantly higher, but they did not seem to have priority. It is necessary to dedicate greater interest to the implementation of REC also in the form of thermal energy, and consequently through the construction of district heating networks powered by biomass and solar thermal sources, where technical conditions allow it.

Moreover, the existing Italian legislation on RECs is essentially aimed at promoting the implementation of a nation-wide network of small size plants based on renewables. So the accent is mainly on electricity exchange among the members of energy communities.

Recommendations for Italy

a) As regards RECs consisting of district heating networks fuelled by woody biomass and solar thermal:
   - On the one hand, a system should be implemented that allows the sharing of renewable thermal energy at an affordable cost for users.
   - On the other hand, a model should refer to the territorial availability of biomass, binding the construction of new networks to the entry into the REC of the owners of this raw material (net of what can be used as wood for work), in a convenient way for them too.[2]

b) It is believed that this model could be implemented through local entities, both forestry and plant system engineering. More commercially oriented models instead could lead to the compression of the incoming biomass value without having significant impacts on the tariff, always linked to the fossil source. To implement this model, the creation of RECs via CSOPs becomes essential, in order to be able to finance the initiative at low costs.

c) Moreover, a business model fit for community energy should not be limited to the energy exchange, but should include the promotion of local economic activities all centred on the environmental quality. Thinking especially on marginal areas in mountain or hill districts, a community should try to include activities related to food production, forest management, non-mass tourism and the like. Renewable energy would then be the lifeblood of it all and people would really be empowered for governing and revitalizing their territory.

Good Practice

The District Heating network created by La Foresta Scrl in the Municipality of POMARETTO (TO) is considered worthy of attention. This 600KW power plant, which serves public and private buildings, was built, and is managed by two local companies with locally available wood material. The tariffs for the user are controlled (over 30% less

[2] Only in this way the REC will be considered fully powered by renewable sources and be an engine of territorial development and effective savings. In this way the projects will be able to correctly pay the incoming raw material.

than the natural gas carrier) and very stable, but correctly remunerate the biomass producer. An attempt was made at a territorial-scale emission budget to assess the emission impact.

2.3.2. Energy Sharing

Background

Article 22 of the EU Renewable Energies Directive demands of the Member States to ensure that renewable energy communities (REC) are entitled to share, within the REC, renewable energy that is produced by the production units owned by that REC

Challenges in Italy

Italian legislation considers RECs essentially in terms of the electricity sector, while the contribution, costs and opportunities related to thermal energy are much higher. It is considered necessary to dedicate greater interest to the implementation of REC also in the form of thermal energy, and consequently through the construction of district heating networks powered by biomass and solar thermal sources, where technical conditions allow it. Consequently, the ways in which energy is exchanged must be addressed as the customer receives energy in the form of hot water and the owners of the biomass provide the energy in the form of wood chips. These interactions precisely for the electrical footprint at the REC have not yet been thoroughly analysed.

As already mentioned, the present Italian regulation on RECs only rewards the exchange of renewable electricity among the members of an energy community.

Recommendations for Italy

a) It is necessary that RECs are enabled and incentivised to exchange thermal energy form of biomass and solar thermal sources and there is a need to think of appropriate models of such implementation, which if it will be well managed it can become as an engine of local territorial development, with much wider repercussions than the exchange of power.

b) It is therefore essential to think of a biomass-fuelled network which replaces the fossil with renewable sources, as otherwise the connection with the territory in the context of effective, lasting and sustainable availability of fuel might be lost. It is necessary that the REC becomes an engine for reducing consumption in order to align it with territorial availability, the costs of which must be included in the energy infrastructure project.

c) As currently the investment payback times are unreasonably long, such that they are not attractive for commercial investments, the energy savings and environmental and territorial benefits remain underexplored. Therefore, it is necessary to identify innovative forms of implementation for biomass-based models, and support and provide incentives both economic, social and territorial.

d) In order for the exchange to be effective, the REC should be enabled to responsibly govern real energy exchange. RECs should be enabled to directly know and measure the flows of energy within the community; not just to receive a reward based on measurements made by an external actor far away (GSE).

- the grid in the area of RECs should be should be adapted and optimized for the real exchange among community members;
- the REC should be encouraged to make the grid smart;
- the REC should be allowed to build and use a direct and automated control and management system of internal flows (including common storage devices) in order to optimize the energy exchange at any time.

Good Practice

The District Heating network created by La Foresta Scrl in the Municipality of POMARETTO (TO) is considered worthy of attention. This 600KW power plant, which serves public and private buildings, was built and is managed by two local companies with locally available wood material. The tariffs for the user are controlled (over 30% less than the natural gas carrier) and very stable, but correctly remunerate the biomass producer. An attempt was made at a territorial-scale emission budget to assess the emission impact.

2.3.3. Inclusion of low-income and vulnerable households

Background

Article 22 of the EU Renewable Energies Directive demands of the Member States to provide an enabling framework for renewable energy communities (REC) that, inter alia, ensures the participation in the REC is accessible to all consumers, including those in low-income or vulnerable households

Challenges in Italy

The transition to renewable energies is generally accepted and supported by most of the citizens in Italy. However, there still exist big challenges of acceptance due to the lack of communications channels between local community and public administration. Citizens often do not have any opportunity to participate in REC and they need the support from the public administration. This lack of communication leads to mistrust. The main weaknesses addressed in the SCORE project were about social inclusion, communication with citizens and inclusion of different objectives in the decision-making processes. Considering Art.18 of the RED II Directive, information is a key component for enabling citizens and communities to become active players on the energy markets (European Commission, 2018).

Taking this into account and the main problems discussed during the project, it is essential to reinforce the communication through solid and inclusive channels. These channels should solve questions between the public administration and citizens, to consider other points of views and support information agreement and in particular address the following

issues: Missing knowledge; the need of initial investments and the dependency on subsidies; complex administrative procedures and increased initial investment costs; insecure return of investments; the lack of trust; and the complexity of thermal energy projects.

Recommendations for Italy

a) Local administration should create communication channels with the local community. They can create channels through an application software designed for the local community, to facilitate communication and social inclusion, where the community can send requests or visualize information about the project. This will promote dialogue between two nuclei that usually are unlikely to meet.

b) Considering the COVID-19 pandemic period with social meeting restrictions, the substantial area covered by mobile networks (UN Economic and Social Council, 2020) and the great versatility of software applications, this channel can be useful to receive requests from the population or directly communicate information about RECs in progress.

c) Defining criteria to identify vulnerable and low-income households in order to actively approach and encourage them to participate in joint self-consumption schemes or in RECs as members or shareholders;

d) allowing direct *energy* subsidies for vulnerable consumers to be capitalised as a lump sum to join a REC; offering participation in municipal projects without upfront costs (i.e. PV installations on schools).

Good Practice

In Susa Valley, different participatory workshops have been organized to create the communication channels between citizens and public administration. A WebGIS tool has been developed to allow the population to better understand the project results and to involve them in decision-making processes. Moreover, through social methods such as storytelling tools, the citizens and public administration could express their preferences in terms of the REC creation and define their desired future scenarios.

2.4. Bulgaria (by Radostina Primova)

The RED II and the IEMD have not been transposed yet in Bulgarian legislation. There is no draft legislation released yet and there is also no existing legislation for energy communities to be evaluated. Citizen participation in the energy sector and the model of energy communities is very new in Bulgaria. The transposition process has been delayed due to the lack of an ordinary government in Bulgaria since April 2021. The EU has launched an infringement proceeding for the non-compliance with the EU schedule for transposition. As a result, there is no legal framework and no legal definition for prosumers and renewable energy communities in Bulgaria. The implementation of the RED II Directive will not be sufficient for establishing a comprehensive policy framework for RECs in Bulgaria, as various laws, bylaws and ordinances need to be updated and synchronized as well. The absence of clear regulations for the possibilities for energy communities to sell surplus power to the grid is a major loophole that must be addressed.

2.4.1. Framework Conditions for REC Business Models

Background

Article 22 of the RED II demands of the Member States to ensure that final customers, in particular household customers, are entitled to participate in a REC.

Challenges in Bulgaria

Bulgaria has some of the most burdensome procedures among the EU countries, when it comes to the installation and exploitation of small PV facilities, particularly regarding grid access and system operation. One of the biggest obstacles to the development of new small-scale installations is the ability of DSOs to de-facto reject connection to the grid if there is no technical availability to connect the producer in the requested timeframe, or when the connection of this producer would lead to the deterioration of the supplies for other consumers due to lack of [grid] capacities. This contradicts the preferential status for connecting residential installations provided by the Bulgarian Energy from Renewable Sources Act (ERSA) itself. DSOs also routinely transfer the connection costs related to the modernisation or expansion of the distribution infrastructure to the investor although under ERSA DSOs are responsible for covering them in full until the point of connection at the facility's property.

The lack of finance and the lack of awareness about renewable energy communities in Bulgaria are two other major bottlenecks. Bulgarian banks have not been active in lending to small scale distributed PV/RES and community energy projects in Bulgaria. For example, a commercial bank based in Austria with extensive business operations in Bulgaria, which provides financing for energy community projects in other countries throughout the EU, does currently not offer any similar loan products in Bulgaria.

In addition, owners of renewable energy installations have been subject to numerous taxes, fees, and administrative charges (access fee, a 5% tax on the revenue of selling excess electricity, and/or a 10% corporate tax on the income generated from electricity

sales) that in some cases exceed the profits of selling the excess electricity. The creation of energy communities is not encouraged at municipal level in Bulgaria, neither are there schemes to support market development.

Recommendations for Bulgaria

a) There is the need for a comprehensive enabling framework for energy communities in Bulgaria that is fully aligned with the RED II, the upcoming Energy Poverty strategy and provides regulatory certainty for prosumers and RECs, including their definition, activities they can engage in, how they can access markets and compete for support with other market participants on a level playing field and without facing discrimination

b) The transposition of the RED II will likely require coordinated efforts from many different government agencies and ministries, as well as the collaboration of the interested municipalities. The different laws, bylaws and ordinances need to be synchronised to ensure a consistent and non-discrimination of small-scale renewable energy producers and RES communities.

c) A concrete action plan for jumpstarting investments in small-scale renewable energy plants must be designed. It should include a piloting phase for a new support scheme in several municipalities to be followed up by a nation-wide program borrowing from the experience of energy efficiency investment initiatives.

d) Legislation amendment to allow and promote installation of small RES at end consumers' locations through one-stop shops at municipalities and diminished administrative burden; Introducing guidelines in the renewable energy act that would outline the steps for setting up a REC; the energy ministry and municipalities should develop a "one-stop shop" for the establishment of energy community projects;

e) The national assessment of the various barriers that acts as bottlenecks for the creation of RECs that has to be carried out as part of the implementation of the RED II need to suggest a simplification of administrative steps that are related to permitting procedures in order to decrease unfounded delays and grid connection denials;

f) The regulatory cost model for the distribution grids must be changed so that the prices for access to the grid are not dependent on the quantity consumed; DSOs should be prevented from arbitrary changing the administrative procedures for trading excess electricity with the grid;

g) The discriminatory grid access should be considered as one of the key bottlenecks in the assessment analysing the barriers for REC. In order to prevent rejections by DSOs, regulatory monitoring and control toward DSOs should be enhanced to allow for less rejections of small RES connections;

h) Municipalities should be included as active partners in public-private initiatives for the development of renewable energy cooperatives to increase energy self-sufficiency of small communities;

i) Clear rules for the compensation and remuneration of net surplus generation from energy community projects such as Surplus Power Tariffs are needed in Bulgaria; the

national government shall consider introducing preferential tax treatment for potential participants in a community-based renewable energy projects;

j) Community-based criteria could be included in the procurement of energy services by local authorities in a way that community projects should benefit from targeted support schemes.

2.4.2. Energy Sharing

Background

Article 22 of the EU Renewable Energies Directive demands of the Member States to ensure that renewable energy communities (REC) are entitled to share, within the REC, renewable energy that is produced by the production units owned by that REC

Challenges in Bulgaria

There is no draft legislation released yet and there is also no existing legislation on energy sharing to be evaluated.

Recommendations for Bulgaria

a) The Bulgarian government should consider designing electricity sharing schemes tailored to the needs of the households in order to facilitate joint household renewable energy projects.

b) The introduction of the possibility for “virtual net metering” is an interesting scheme that has been successfully applied in Greece for the needs of vulnerable consumers. It allows householders to participate in the same net metered system and share the electricity output from a joint facility that is not physically connected to their property or meters. The most significant advantage of this scheme is that the bill credits could be assigned to the electricity generated in one location but at the same time these could be bought, sold and/or transferred to the bill of an electricity customer at another location. ‘Virtual net-metering’ is particular attractive for tackling energy poverty in Bulgaria, since around 60% of citizens live in multi-family, apartment-based residential buildings.

c) The government should consider designing peer-to-peer electricity sharing schemes that would allow households to share their local energy resources based on an agreed cost-sharing mechanism that could be defined in a contract

2.4.3. Inclusion of low-income and vulnerable households

Background

Article 22 of the EU Renewable Energies Directive demands of the Member States to provide an enabling framework for renewable energy communities (REC) that, inter alia, ensures the participation in the REC is accessible to all consumers, including those in low-income or vulnerable households

Challenges in Bulgaria

Energy poverty has remained a persistent challenge for Bulgaria. On the one hand, a growing share of the population has experienced problems with covering their bills, as energy prices increase alongside the gradual liberalization of the market. On the other hand, low household energy efficiency, far below the EU and OECD average, has pushed energy consumption up. As a result, energy poverty among the population, defined as affordable access to energy resources (electricity, heating, and gas), has remained stubbornly high. Over a third of the Bulgarian citizens are unable to afford to heat their homes adequately, with roughly 50% reporting using wood and coal as their major heating source. Additionally, stakeholders are rarely consulted or invited to actively take part in the process of transposition and the development of the governing framework, which is another reason that the current regulatory framework contains so many gaps.

The latest version of the Bulgarian Recovery and Resilience Plan (NRRP) has been criticized by the European Commission for the lack of inclusive and citizens-oriented approach towards green recovery that does not ensure a level playing field for small and medium enterprises on the energy market and in access to finance. Moreover, one of the weaknesses identified by Commission's experts are indeed the lack of specific measures for addressing social inequalities and the inclusion of vulnerable citizens. The focus of the NRRP and the bulk of the financial resources allocated to the low-carbon transition of the electricity sector remains on one large-scale tender scheme for RES investment with a mandatory quota for installed storage capacity. The renewable energy project for the installation of 1.7 GW in new renewable energy places an unnecessarily large focus on electricity storage. It requires a very high minimum storage capacity threshold – 25% of the capacity of the whole plant. The NRRP includes additional measures for the improvement of the management and dispatching of the electricity system such as a reform of the balancing market and the digitalization of the electricity transmission system. The project follows a financing model that provides discriminatory support for utility-scale renewable investors. The Plan mentions the role of energy cooperatives but does not propose any specific measures or innovative financial mechanisms on how to support their creation.

Recommendations for Bulgaria

a) Citizens and the key local stakeholders should be included in a broader societal dialogue on the opportunities and benefits of decentralised production and drive toward a prosumer society.

b) Private sector investment in the proliferation of decentralized energy systems is crucial for unlocking the potential for small-scale renewable energy systems in Bulgaria, estimated at around 5 GW of installed capacity. In this respect, the Bulgarian government needs to adopt a regulatory framework including net-metering and energy storage use to ensure that all consumers, including low-income households, can participate in renewable energy communities that are clearly defined by the national legislation. Consumer Stock Ownership Plans or similar business models could be incorporated into funding programs as innovative financial instruments to promote the co-ownership of renewable energy sources by vulnerable consumers and the upscaling of renewable

energy communities. Micro-grant schemes should be used for financing projects for community-owned renewable energy projects and more generally to incentivize individual energy supply investments.

c) The country should adopt a more inclusive approach to green recovery and decarbonisation that is reflected also in its funding priorities in the NRRP, the Territorial Just Transitions Plans and the Cohesion Policy Funding. For this purpose, the national, regional and local authorities should identify all vulnerable groups early in the process, develop a strategy how to include them and also find the best channels to reach them.

d) The development of an energy poverty strategy envisioned as a separate reform in the NRRP should outline a strategy about how energy-poor households will be supported as a special target group of vulnerable consumers and in particular what kind of specific incentives for energy saving in addition to consumer behavior shift and reduction of energy bills will be created to make these households direct participants in the energy transition.

e) Prioritize energy poverty in the policy frameworks of the energy and environment ministries, in close cooperation with the social policy ministry; municipalities could also play a role in mobilizing investments and involving vulnerable groups through special public procurement schemes.

f) Special attention should be paid to Art. 18 of the RED II Directive on information and training, which is a key component for enabling citizens and communities to become active players on the energy markets. National policy-makers and implementing agencies shall develop plans for wide and targeted communication activities and capacity building programmes to increase the awareness of the citizens on these opportunities.

2.5. Poland (by Katarzyna Goebel)

Currently, there is no legal definition of energy community in the Polish legal system. There is, however, a draft law amending the Energy Law and the Renewable Energy Sources Act of June 2021(No. UC74)[3] (no information on the expected date of adoption of this amendment), which contains a legal definition of the CECs, the introduction of which is aimed at transposing the RED II and IEMD directives.

However, with the 2018 amendment of the Renewable Sources Act (RES Act) for the first time introduced the term *prosumer* defined in Art. 2(27a) as *the end consumer and producer of energy from renewable sources in micro-installations for own use and non-commercial purposes.* Owners of micro-installations (up to 50 kW capacity as defined in Art. 2 (18) RES Act) do not take part in auctions but are allowed to exchange the surplus of energy production, kind of net-metering system.[4] The same 2018 amendment introduced FITs and Feed-in-Premiums (FIPs) for agricultural biogas, biogas from sewage and hydro energy. FITs are applicable for installations smaller than 500 kW, while FIPs for installations with installed capacity between 500 kW and 1 MW.

Another legal instrument dedicated to smaller actors in the energy market are the so-called clusters. The idea of clusters was initiated with the *Clean Energy for All Consumers* to effectively manage locally available resources (see MoE 2018). The concept was introduced with Art. 2(15a) RES Act and embraces projects involving many types of actors and activities in the energy sector. It is gaining on popularity in practice.

In course of the transposition of the RED II and IEMD, the Polish legislator revised the Renewable Energy Act. With the amendment from December 2021 net-metering was replaced with net-billing for owners of micro-installations. Like in the net-metering system, consumers are able to offset retail electricity purchases under net-billing. The main difference is that there are differing rates used to value the excess energy fed into the grid and energy received from the grid.[5]

2.5.1. Framework Conditions for REC Business Models

Background

Article 22 of the EU Renewable Energies Directive demands of the Member States to ensure that final customers, in particular household customers, are entitled to participate in a renewable energy community (REC).

[3] Draft law accessible at: Projekt ustawy o zmianie ustawy - Prawo energetyczne i ustawy o odnawialnych źródłach energii.

[4] The relation is specified in Art. 4 (1) RES Act and amounts 1 to 0.8 for capacity up to 10 kW and 1 to 0.7 in the case of micro-installations between 10 and 50 kW. The motivation for this type of conditions was to remunerate possible gaps in energy production, not to reward the *prosumership*.

[5] The goal is to enhance self-consumption (MoCE 2021). The Polish legislator provided an algorithm for distributors to calculate the values and express them monetary (Art. 4 RES Act 2021). The algorithm includes all surchargers and levies (MoCE 2021).

Challenges in Poland

In the recent development of the law in Poland a positive trend can be noticed as regard the enabling framework for citizen participation in renewable energy. However, some points require improvements. The necessity to transpose RED II and IEMD offers a room to adjust these regulations and provide for a favourable framework for citizen energy, i.e. to provide for official recognition of and support for citizen projects as equal market players. The crucial elements here are the rules for energy cooperatives and the particularly promising concept of cluster.

Recommendations for Poland

a) Provide for an additional instrument to accompany energy cooperative and cluster: The cooperative model, although introduced by law, has not been successful so far. Next to lacking financial incentives for citizen-based energy projects, this is mainly because the fact that the model is negatively associated with the socialist past.

b) A new alternative model to energy cooperatives corresponding the RECs pursuant to Art. 22 RED II and complementary to the concept of cluster should therefore be considered. The aim of such model should be to lower the threshold to enable participation of a broader public (especially among private persons), as lacking financial means is among the main hurdles for investments.

c) Introduce a special category of energy clusters: While the concept of energy clusters is promising for professional actors and for activities in different subsectors of the energy market and gains even more on importance. However, the model falls short to provide for a broad public participation, as it is not attractive for private persons with limited financial assets. Thus, the concept could be extended and a special category of clusters that qualifies as an REC pursuant to Art. 22 RED II could be introduced. Both categories could be combinable in order to provide for scalability.

d) Adjust the concept of energy cluster: The concept of cluster could be redefined in order to fit into the definition provided by RED II. That means, the definition should be limited to renewable energy only and lower the threshold for participation of natural persons. The concept should maintain its biggest asset, which is its professional character, and should remain compatible with the industry.

Good Practice

Inspired by the project interim results, the city of Słupsk (former pilot project that turned in to a follower city for political reasons) introduces a complex energy project that is estimated to produce a total of 70 GWh per year, 45 GWh of which from renewable energy. Its structure is pursuant to the definition of REC given in Art. 22 RED II and of energy Clusters given in Art. 2(15) RES Act. As such it is not oriented on financial gains, but environmental, economic and social profits for local actors. Applying CSOP financing a specially established company SKB (Słupska Wyspa Energetyczna) limited liability company will invest in the infrastructure and operate the project (*Operating Company*). A fiduciary *Energy for Citizens* (*Fiduciary Entity*) will held the shares cumulated on behalf of the housing company and place them in the SKB. Participation of other types of investors (business prosumers) is envisaged. Local government is about to support the project

with an area for the photovoltaic installations and an investment (not specified yet). Local government will act as an intermediary for public transportation and social initiatives.

2.5.2. Energy Sharing

Background

Article 22 of the EU Renewable Energies Directive demands of the Member States to ensure that renewable energy communities (REC) are entitled to share, within the REC, renewable energy that is produced by the production units owned by that REC

Challenges in Poland

The latest amendment of the RES Act of December 2021 introduced new categories of prosumers – collective and virtual – that extend the possibility of (co-)ownership of renewable energy installations to many city dwellers that were so far excluded. This is a revolutionary step for citizens' participation. Combined with the newly introduced net-billing system, the number of prosumers can increase substantially in the following years.

Recommendations for Poland

However, in order to enhance the implementation of the models for collective ownership in renewables, Poland should provide for proper incentives that would make such investments profitable.

a) Administrative procedures in Poland are too complicated for non-professional prosumers and their groups. The procedures should be made clear and transparent, with limited licencing and register obligations and without hidden costs, for both individuals and collective models. The latest amendment of the RES Act introducing the possibility to involve aggregators was an important step in this direction. Additionally, a unified catalogue of rights and duties should be provided.

b) The potential of tenant models should be recognised. With the introduction of collective and virtual prosumers, the Polish legislator transposed the joint-acting renewable self-consumers from RED II, given them a clear legal status. They open the possibility to share electricity with neighbouring (also public) buildings. However, the RED II advised incentives (e.g. no grid charges for self-consumption); ownership rights for tenants; setting a maximum price for landlord-to-tenant electricity; lower the rate charged by the default utility; requiring new build-to-rent schemes offering tenancy for a specified period of time, with an appropriate break clause for tenants in order to enhance their participation.

c) The potential of citizen participation in district heating should be acknowledged. Given the importance of heating in the market and for air quality, particular attention should be granted in future amendments of the RES Act. In practice, the law should recognize heating as a field for citizen energy projects and enhance public-private partnership, e.g. by granting ownership of a part of the heating network to the public.

d) Self-consumption should be promoted: With the concepts of collective prosumers and virtual prosumers, the Polish legislator made a great step forward in promoting self-consumption. Not only does it enable participation without direct ownership rights over the facilities, where the renewable energy installation is located, but also extends the self-consumption on neighbouring buildings enabling to avoid energy losses. Further support, such as surcharge and levies exemptions should be taken into consideration. At the moment, prosumers have to pay all surcharges and fees, including distrubtion costs. The legislator claims, they would otherwise be charged from other consumers, including vulnerable.

e) Financial incentives for net-billing should be improved: The net-billing 1:1 scheme, although better as the previous net-metering (1:0,8), is not expected to enhance investments. As assessed by the EU Commission, dynamic pricing able to respond to changing market situation would be the best solution.

Good Practice

The Italian legislator introduced a 110 EUR premium per MWh of shared electricity in renewable energy communities. More generally, the transposition of the new European regulatory framework was accompanied by the introduction of a broad variety of very generous incentives both at the national and the regional level. This massive regulatory overhaul triggered high interest by all stakeholders with an example being the “Decreto Rilancio” of 15 May 2020 (overall volume EUR 55 billion). One of the measures included is the so called „Eco-Bonus 110“ (exact volume of this partial measure to be defined) to boost spending of individual citizens – with a particular impact on low-income households – in the aftermath of the Corona Crisis:

- The bonus is financing private household investments above all in a) RES (e.g., PV, integrated storage, charging stations) and b) EE measures (substitution of fossil heating systems, installation of heat pumps, insulation measures, etc.).
- Individual bonuses have a cap of e.g., EUR 30,000 for PV and EE measures for each residential unit; condominiums have a pooled ceiling.

2.5.3. Inclusion of low-income and vulnerable households

Background

Article 22 of the EU Renewable Energies Directive demands of the Member States to provide an enabling framework for renewable energy communities (REC) that, inter alia, ensures the participation in the REC is accessible to all consumers, including those in low-income or vulnerable households

Challenges in Poland

Energetically inefficient housing stock, low income and rising energy prices led to energy poverty among some 4.6 million Polish citizens as estimated by the 2018 study “Energy Poverty in Poland, 2012-2016”. This number translates into 12% of population who cannot meet its basic energy needs. Another study from 2016 by Lis et al. estimates that

further 17.2 million are either suffering under or are on the edge of vulnerability. The problem affects mostly owners of detached houses which, as a rule are privately owned with the owners often not disposing of capital to energetically renovate them.

There is no dedicated policy to tackle this problem but limited or indirect support. Low-income families can count on financial support in form of social subsidies and tax reduction. For instance, via programme 500+ they receive PLN 500 monthly per a child. Targeted subsidies for energy expenses are rare. To trigger investments in energy efficiency of buildings, the state offers subsidies and loans as a part of its housing policy. These are however often accessible only for financially better situated households, i.e. with reliable credit scores, saving potential or real estate ownership. This paradox is known also in other countries – while households suffering energy poverty could profit the most from energy efficiency measures and renewable energy installations, they cannot afford the initial investments (Goebel 2019, p. 352).

Recommendations for Poland

a) To overcome this lock-in effect, housing and energy policy support should be combined, for example by allowing the allocation of social subsides to cover the initial investment or own contribution for financing programmes.

b) Vulnerable consumers should be better by the law. Currently two main instruments exist which are, however, not sufficient: Firstly, they can have prepaid meters installed (Art. 6a EL). Secondly, consumers have the right to appeal against the decision of grid disconnection if not providing payment on time. If they do so, the decision is suspended and needs to be re-examined within 14 days (Art. 6c EL).

c) Targeted advisory services for vulnerable citizens should be introduced. The state support system should offer specific advisory services for energy efficiency measures combined with self-consumption. Presently there are only few services for RE project implementation which are limited and too expensive for low-income households (the first central institution is planned within the reform of RES Act of 2021).

Good Practice

An example of an innovative inclusive approach for the transposition of RED II is the French law on energy and climate of November 2019. In addition to defining the compliance criteria for RECs, it also defines the legal entity implementing a social housing project by law as a potential REC. The law also defines the residents of these buildings as REC members by default. In this way, the French legislator has installed an opt-out model for social housing RECs that accelerate participation of the residents. It remains unclear to what extent the new members also share in the ownership of the REC. However, the idea to link RECs to housing projects is also taken up by the Austrian legislator in the September 2020 draft law explicitly acknowledging co-owner associations according to the 2002 Condominium Act as vehicles for RECs.

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SCORE

Imprint

SCORE facilitates consumers to become (co-)owners of RE in three pilot regions and in cities across Europe following these pilot projects. SCORE applies Consumer Stock Ownership Plans (CSOPs) utilising established best practice updated by inclusive financing techniques. Vulnerable groups affected by fuel poverty – as a rule excluded from RE investments – are in the focus of the project.

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