

SUSTAINABILITY AS A LEGAL PRINCIPLE AND THE NEW COLLECTIVE SELF-CONSUMPTION RULES: THE ITALIAN LEGAL SYSTEM OF PROSUMERS AND ENERGY COMMUNITIES

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ABSTRACT

The planet's ecosystem is already beyond its natural limit due to modern human activities. It is now essential and urgent to solve the complex problems of our time, such as environmental degradation resulting by the way people live and produce. The first step to pursue this goal has been the creation of a common and coordinated model of sustainable development through international agreements. The European Union has also been strongly determined to achieve the Sustainable Development Goals through a strategic plan, the so-called European Green Deal, which provides for the adoption of various actions to combat climate change, which will be implemented by the various internal regulations. So, the European Union has enacted the EU Directive 2018/2001 (so-called Renewable Energy Directive or RED II) and the EU Directive 2019/944 (so-called Internal Market Directive or IMD II) which, together with other resulting legislative acts, reformed the entire system of the energy sector in line with a decentralization of electricity generation and a greater liberalization of the market. In particular, the EU Directive 2018/2021 has introduced the so-called "Prosumer", and the "Renewable Energy Communities". The prosumer (term that derives from the crasis of the expressions producer and consumer) is defined by art. 21 of the RED II Directive as self-consumer of energy from renewable sources. They are therefore renewable energy consumers who actively participate in the market energy. On the other hand, the Renewable energy communities are aggregations of consumers who, thanks to the conclusion of an agreement, collaborate with the aim of producing, consuming and managing energy through one or more local energy systems. After the approval of the EU

directive 2019/944, the Italian legislator has regulated the new figures of "prosumers" and the "Energy communities", in advance of the European process, in accordance with the law no. 53/2021 and subsequent implementing decrees. In light of the evolution of the Italian legislation, the paper aims at providing an overview of the legal institutions involving the prosumer and the energy communities, in order to present the Italian legal model of collective self-consumption regulation and to offer opportunities for legal transplants through the comparison. with some final considerations on technological innovations and digital platforms such as the blockchain and smart contracts.¹

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1. INTRODUCTION

It is clear to everyone that energy transition and decarbonization are now more than ever a purpose to be necessarily, gradually but firmly achieved. The COVID-19 pandemic has certainly overwhelmed us by an unheard-of whirlwind of health, social and economic hardships, but it has also provided us with a unique opportunity to boost the economy from a green perspective and to harness the enormous

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potential of models, no longer based on fossil energy consumption and waste of natural resources.

An opportunity for economic revitalization and innovation from which to start is the promotion of sustainable production processes as a general principle, by fostering a circular economy model that reduces waste, lowers emissions and improves environmental safety, and more specifically as a legal principle, also in order to support the competitiveness of enterprises and enhance the national "Made in" as for example the "Made in Italy" as far as our country is concerned.

For this reason, as part of the European Green Deal and the action program related to the 2030 Agenda for Sustainable Development (which, as is well known, set 17 goals for the period 2015-2030, the so-called "Sustainable Development Goals or SDGs"), Italy has recently implemented two important European directives concerning the so-called "Energy Communities" (2019/944 EU Directive of June 5, 2019 - on common rules for the internal market in electricity and amending Directive 2012/27/EU) and 2018/2001 EU Directive of December 11, 2018 (on the promotion of the use of energy from renewable sources, so-called RED II), finally initiating prosumerism in the domestic energy sector.

The purpose of this contribution is precisely to present, albeit briefly, the Italian Legal Model of implementation of the EU framework on collective self-consumption, in order to encourage legal thought through comparison so that, in a *de iure condendo* perspective, solid regulatory foundations can be laid to promote the achievement of the above-mentioned sustainable development goals.

2. THE EUROPEAN GREEN DEAL AND THE EU ENERGY DIRECTIVES RED II AND IMD II

According to the European strategy, a new internal electricity market (IEM) set-up could become the key factor for the increased deployment of renewable energy and thus environmental

sustainability in human activities. This is because consumers could (and should) also be able to fully participate in the energy transition, contributing to the overall reduction of energy consumption, by harnessing new technologies and making use of energy services offered by innovative companies.

Therefore, in order to achieve the goals of the Green Deal, the European Union has clearly focused on a shift from centralized production in large power generation plants to deverticalized and decentralized production of energy from renewable sources, ensuring new models of energy efficiency. This, along with the development of new economic systems and the implementation of technologies, will enable a "distributed generation of energy," resulting in the active participation of end consumers as well.

Current European legislation, which until now had referred to citizens' rights only as consumers of energy and not as self-producers, now finally recognizes: the right of all citizens to associate with each other to form an energy community; the right of individuals and communities to self-produce, store, as well as consume self-generated energy from renewable sources and to sell the excess energy at a price at least equal to market value, with the possibility for the remuneration to be higher to take into account the added value that small producers offer to society and environment; the right of members of energy communities to exchange renewable energy; and the basic principle that self-consumption is not subject to charges. Charges may be imposed by EU states only under very specific conditions.²

More specifically, following the 2015 Paris Climate Agreement, 2018/2001 EU Directive (so-called Renewable Energy Directive or RED II) and 2019/944 EU Directive (so-called Internal Market Directive or IMD II) were enacted, which reformed the entire system of the energy sector with a view to greater decentralization of electricity production and market liberalization, along with other pieces of legislation resulting from the so-called "Clean

² See L. RUGGERI *Consumatore e prosumerismo energetico nel quadro regolatorio europeo* in *Actualidad Jurídica Iberoamericana* N° 16 bis, June 2022

Energy package" or "Winter package" presented by the European Commission in 2016³.

The concept of Prosumer and Energy Community has already been introduced in the Clean Energy Package.

In more detail, Articles 21 and 22 of 2018/2001 EU Directive now specify the two new legal figures: on the one hand the so-called "Prosumer" and, on the other hand, the "Renewable Energy Communities" (RECs)⁴, establishing a real right of each European citizen to self-produce - as well as consume - electricity. Besides, the 2019/944 EU Directive, in particular Articles 15 and 16, have the function of adapting the existing rules on the electricity transmission, distribution, storage and supply to the above-mentioned new market realities.

The prosumer (a term derived from the crisis of the expressions "producer" and "consumer") is defined by Article 21 of the RED II Directive as a "self-consumer of energy from renewable sources." It is therefore a renewable energy customer who, however, actively participates in the energy market, also contributing to its production, storage and distribution, as an "end-customer who operates at his own sites located within defined boundaries - or, if allowed by a member state, at other sites, - and produces renewable electricity for his own consumption and may store or sell self-produced renewable electricity as long as such activities do not constitute the main commercial or professional activity for a renewable energy self-consumer other than a household."

Basically, the prosumer is the one who owns his own energy production facility, a portion of which he consumes, while the remaining unconsumed energy is fed into the grid, exchanged with consumers physically close to the prosumer, or even stored in a special system and, therefore, returned

to the consuming units at the most appropriate time. Thus, the prosumer is an active player in the management of energy flows, and can also enjoy the resulting economic benefits, not only a relative autonomy.

The aforementioned EU Directive then defines the group of "renewable energy self-consumers acting collectively" (CAG) as a "group of at least two renewable energy self-consumers acting collectively and located in the same building or condominium"⁵. In the case of renewable energy self-consumers acting collectively, therefore, individuals different from households may associate only: if such activities do not constitute the main commercial or professional activity, and if the self-consumers are located in the same building or condominium.

EU member states are required to provide a regulatory framework conducive to promoting and facilitating the development of self-consumption of renewable energy, i.e., a legal framework that allows renewable energy self-consumers, individually or collectively, to produce renewable energy, store and/or sell surplus production, including by entering into peer-to-peer sale, supply, and exchange contracts, also through the new "aggregation contract" negotiation scheme (see Article 13 RED II Directive).

Prosumer operating margin, which is necessary and preparatory to decentralized distribution of clean energy, must not be subject to discriminatory administrative procedures and/or to disproportionate grid charges. At the same time, it must not imply the relinquishment or loss of his or her rights as an end consumer⁶.

Alongside the figure of the prosumer and the CAGs, a key role is played by the above-mentioned "Renewable Energy Communities - RECs," which, on closer inspection, do not only have a European

³ The mentioned directives implement the strategy called "Resilient Energy Union" presented in 2015 by the European Commission. They follow the COM Communication (2015)339, called "A new deal" for energy consumers" See E. BRUTI LIBERATI, M. DE FOCATIIS, A. TRAVI, *La Transizione Energetica e il Winter Package. Politiche Pubbliche e Regolazione dei Mercati*, Milano, 2018.

⁴ Called "Citizens Energy Communities" or CECs according to the wording provided in Article 16 of RED II.

⁵ A so-called "Referent" is appointed for CAGs, who may be the legal representative of building or condominium or of electricity

producer. He or she operates one or more production facilities and acts on behalf of self-consumers on the basis of a mandate without representation to the GSE and may also be delegated to manage collection and payment items.

⁶ Pursuant to Article 21, pr. 2(d) of the RED II Directive, self-consumers of renewable energy are also entitled to receive remuneration, including, where appropriate, - through support schemes - for the self-generated renewable electricity they feed into the grid, which corresponds to the market value of that electricity, as well as its added value for the benefits resulting to the grid itself, the environment and society.

and/or Italian dimension, but are, in fact, a phenomenon that has a more global dimension, since they are an aggregative trend that is growing rapidly in various countries around the world, by seizing the opportunities offered by new technologies.

The RED II defines RECs as a "legal entity that [...] is based on open and voluntary participation, is independent and is effectively controlled by shareholders or members who are located nearby renewable energy production facilities belonging to and developed by the legal entity in question. Shareholders or members are individuals, SMEs or local authorities, including municipal governments; to its shareholders or members or to the local areas in which it operates, rather than financial profits"⁷.

It should be noted that, as far as energy communities are concerned, European legislation provides for two different models: while the RED II Directive describes the Renewable Energy Community (REC), the 'renewable energy communities' refers to the Citizen Energy Community (CEC) or the "citizens' energy community", according to the wording provided in Article 16 of the RED II Directive. Both schemes or organizational models, however, allow their members to collectively engage in the production, distribution, supply, consumption, sharing, storage, and sale of self-produced energy, with the intention of promoting the energy transition.

As part of energy communities, in fact, the function of the prosumer is fully evident, as a user who is not limited to the passive role of consumer (consumer) in the energy market, but actively participates in the different stages of the production process (producer). Innovative forms of prosumption appear most easily implemented through energy communities (ECs), that is, as mentioned, an aggregation of users who, through voluntary adherence to a contract, collaborate with

the aim of producing, consuming and managing energy through one or more local energy facilities, with a purpose, however, other than profit and with a "democratic" model of governance.

In any case, ERC or CEC are legal entities whose main purpose is to provide environmental, economic or social benefits to the community members or partners, or to the local areas in which the community is active. They allow participation even by companies, as long as their participation in the community is not their main commercial and industrial activity, so that the focus isn't on making financial profits.

Decentralization and localization of energy production, therefore, are the principles on which an energy community is based. The community is able to produce, consume and exchange energy in a self-consuming and collaborative manner, effectively contributing to the process of ecological transition, with the involvement of local citizens, businesses and enterprises⁸.

3. THE ITALIAN LEGAL SYSTEM OF PROSUMERS AND ENERGY COMMUNITIES

After the approval of 2019/944 Directive (EU) by the European Parliament and the Council of Europe, Italy first issued DL No. 162/2019 ("Decreto Milleproroghe"). The regulations, introduced by Article 42-bis of Decreto Milleproroghe, had a transitional character and aimed to introduce the first configurations of energy communities and collective self-consumption, in order to fully transpose the Red II Directive⁹.

New nationwide plans, the NECPs (National Energy and Climate Plans), were then developed in January 2020, with the aim of defining national energy efficiency targets to be achieved in line with the technological and financial potential of operators.

⁷ In case of ERCs, the so-called "referent" is the community itself.

⁸ See on this point G. CAPILLI, *I contratti dei consumatori*, Torino, 2021, p. 14 ff.; G. ALPA, A. CATRICALA' (eds.), *Diritto dei consumatori*, Bologna, 2016, in particular *Introduzione* - par. 8; G. FABRIS, *Customer Knowledge Marketing*, in *Consumatori, Diritti & Mercato*, 2008, 1, p. 91 ff.; H.W. MICKLITZ, *Il consumatore: mercatizzato, frammentato, costituzionalizzato*, in *Riv. trim. dir. proc. civ.*, 3,

2016, pp. 859-889; N. REICH, H.W. MICKLITZ, K. TONNER, *European Consumer Law*, Cambridge, Antwerp, Portland, 2014, p. 45 ff.

⁹ In this regard, we recall ARERA (the Energy Networks and Environment Regulatory Authority) Document 112/2020/R/EEL implementing Article 42 bis of Decreto Milleproroghe.

By virtue of Law No. 8/2020 - the Law converting Decreto Milleproroghe - a partial and early transposition of the RED II directive was initiated, so as to test the effects, repercussions and potential critical issues related to the introduction of collective self-consumption schemes and RECs in the Italian context. The participation as third parties of commercial and industrial entities involved in the production and management of energy from renewable sources was ensured, as indicated in the Directive. The legal form is not predetermined, but RECs must compulsorily comply with certain specific constraints regarding the making and distribution of profits.

After that, Italian Parliament instructed the Government to implement in our country the directives established at the European level regarding the electricity market (Law No. 53 of April 22, 2021, "Delegation to the Government for the transposition of European directives and the implementation of other EU acts - 2019-2020 European Delegation Law).

On August 5, 2021 the Italian Government approved the preliminary decrees outline, and after receiving the opinion of the Chamber of Deputies and the Senate, the European RED II and EMI directives were formally transposed through Legislative Decrees No.199 (RED II) and No. 210 (EMI) of November 8, 2021.

In particular, Legislative Decree No. 199/2021 introduced provisions into our legal system that regulate the new configurations of "citizen energy communities" in accordance with the 2001/2018 Directive¹⁰.

In addition, there are regulations aimed at: 1. strengthening the rights of end customers in terms of transparency (offers, contracts, and bills); 2. completing the liberalization of retail markets by safeguarding the most vulnerable players; 3. extending the service market more to new types of players; 4. providing for a more active role of distribution system operators; 5. regulating the possibility of establishing closed distribution

systems; 6. updating public service obligations for companies operating in the electricity generation and supply sector; 7. introducing a system of long-term supply of storage capacity, in order to promote the development of investments necessary for the implementation of NECPs goals, sent in 2020 to 2018/1999 European Commission in implementation of Regulation (EU).

More specifically, RED II Decree provides for the incentive mechanisms to be updated within 180 days of its coming into force. However, waiting for the implementing decrees, RED II Decree explicitly provides for the previous incentive mechanisms, resulting from the enacting measures of Decreto Milleproroghe, such as 318/2020/R/eel Resolution of ARERA (the Regulatory Authority for Energy Networks and Environment), the Ministerial Decree of September 16, 2020 of Ministry of Economic Development, and the GSE (Energy Service Manager) Technical Rules of December 22, 2020 (access to shared electricity valorization and incentive).

Thus, by virtue of this legislation, the Energy Services Manager provides CAGs and RECs with the following sums: an incentive rate in the form of a "Feed-in Tariff"¹¹ in relation to the kWh of energy shared; compensation for tariff components and those related to the cost of energy that are not technically applicable to the energy shared as instantaneously self-consumed energy ("Refund"¹²); the "Fee" for the sale of the energy, to the extent it is produced and fed into the grid (and not self-consumed).

The current Italian legislation, moreover, prescribes certain requirements and conditions for the purpose of configuring the latter in addition to defining the figure of producer-consumer and energy community in the light of the European legal system: 1. legal form, in that the energy community must be an independent legal entity, such as an association, third-sector entity, cooperative, benefit cooperative, consortium, partnership, nonprofit organization; 2. purpose, in that the community's

¹⁰ Also targeted by the provisions are those with a public role concerning the management of the electricity system (transmission and distribution grid operators, electricity market operator and the regulatory authority).

¹¹ This is a premium tariff designed to encourage instantaneous self-consumption by members of CAGs and RECs.

¹² It has an equalization function and incentivizes self-consumption of energy, recognizing the benefits associated with lower energy transits on the grid.

main objective is to provide community-wide environmental, economic, or social benefits to its shareholders or members or to the local areas in which the community operates, rather than financial profits; 3. nature of the participation, open to all consumers located within the perimeter referred to in the same transformation cabin, and thus individuals, businesses but also local public entities, with the clarification that, in any case, participation in the renewable energy community must not constitute the main commercial and/or industrial activity.

The Energy Community must have ownership or full availability of the facility, based on a legal title even different from ownership (such as usufruct, or contractual or other titles such as a loan for use), "provided that the mere possession or availability of the facility on the basis of a title other than ownership is not an obstacle to the achievement of the community's objectives"¹³.

As for, then, the acts of a negotiated nature that find expression in the case of self-consumers and energy communities, following the technical-administrative verifications carried out on the documentation and the existence of the objective and subjective legal requirements, the GSE provides for the activation of a contract for the regulation of the service of valorization and incentive of shared electricity.

The purpose of the Contract is precisely to regulate the service of valorization and incentive of electricity shared by a group of self-consumers or a renewable energy community. The Contract also regulates the remuneration of the electricity fed in by the production plants whose energy is relevant for the configuration and replaces any other fulfillment related to the commercial sale of the electricity fed into the grid and access to dispatching and transportation services in relation to the electricity fed in. This occurs in the event that the Referrer has applied to the GSE for all production plants or for all production units for the withdrawal of the electricity fed in under the conditions of the so-

called Dedicated Withdrawal mechanism, as part of the application for admission to the shared energy valorization and incentive service. The incentive period - where provided- lasts 20 years exclusive of any suspensions, and may be implicitly renewed annually in relation to the only parts related to the valorization of shared electricity.

On the other hand, the relationships between members of energy community must be regulated through a contract under private law¹⁴, which must necessarily provide for the preservation of the rights and obligations of the end consumer, in accordance with Article 32, paragraph 1 of RED II Decree and with the GSE's technical rules.

The private self-consumer of renewable energy, as an end-consumer, is therefore entitled to all the safeguards provided for cases of negotiated imbalances to the detriment of one of the parties, even where these are "agreements for exchange between equals".

In addition, private self-consumers will be free to: choose their own energy supplier; indicate the modalities of energy exchange and sharing, and clearly identify a delegated party responsible for the allocation of shared electricity to whom the subjects can, in addition, delegate the management of payment and collection items to the sales companies and the GSE; allow subjects to withdraw at any time and exit the configuration, subject to any fees agreed upon in the case of early withdrawal for sharing in the investments incurred, which must be fair and proportionate in any case.

On the other hand, community members are: subject to cost-compliant, transparent and non-discriminatory appropriate grid charges and separately account for the electricity fed into the grid and that absorbed by the grid, so as to ensure an adequate and balanced contribution to the overall allocation of system costs; they are financially responsible for the imbalances they bring to the electricity grid, and responsible for balancing.

Concerning the sale of excess energy produced within the energy community, then, the Ministry of

¹³ See ARERA Resolution 318/2020/R/EEL, Annex A art.1.1 point O.

¹⁴ In the case of condominiums, for example, the contract may also consist of the minutes of the meeting resolution signed by the condominium owners who join the group of renewable

energy self-consumers acting collectively. In the case of renewable energy communities, the above-mentioned contents are part and parcel of the Bylaws and/or in the articles of incorporation of the same community.

Economic Development has provided for the possibility of selling such energy to the GSE under the so-called "dedicated withdrawal" mechanism.

In addition, the Red II Decree expressly stipulated that excess energy can also be stored and sold to third parties (who, for example, are not part of the energy community) through renewable power purchase agreements (PPA - Power Purchase Agreements), either directly or through aggregation¹⁵.

4. TECHNOLOGICAL INNOVATIONS AND DIGITAL INFRASTRUCTURES TO SUPPORT THE NATIONAL LAW APPROACH TO THE PROSUMERISM. SOME CONSIDERATIONS ON BLOCKCHAIN AND SMART CONTRACTS

In light of the above, therefore, Italian legislation has opened the door to collective and shared self-consumption and has proven to be more than ready to support this momentous change and absolutely proactive in the country's energy development.

Moreover, it is worth mentioning - and again with a view to fostering comparative insights and reflections - some Italian projects on the regulation of energy communities that may soon be implemented, such as Project 1.7 "Technologies for the efficient penetration of the electric carrier in end uses" funded by MISE under PT19-21 Electric System Research.

This project, in particular, aims to develop methodologies, technological infrastructures, management and economic models to support and promote prosumer initiatives, their aggregation and the development of self-organizing processes to enable a community to self-manage a range of energy-grid-related functions, including through the use of aggregated services, enabling technologies and innovative tools such as the use of blockchain,

remuneration of flexibility and the enhancement of energy virtuous behavior¹⁶.

In a nutshell, the goal is to provide the various actors participating in the Energy Community with a wide range of services and operational tools through a digital platform that connects the various enabled smart meters, where supply and demand for energy - self-generated from renewable sources - and services - including social services - meet and are exchanged through blockchain technology and smart contracts (computer protocols that enable economic transactions, when the conditions stated in the "smart contract" are met).

On the other hand, it is clear that the emergence of an intermediate figure between professional and consumer still poses inevitable problems of framing and protection, although - as seen - this figure now receives explicit regulatory recognition in Italy, at least in the electricity sector. And this is even more so during the project of digitization on blockchain platform of acts and contracts related to the service offered to prosumers and energy communities.

Italian energy market is also at the forefront in this field from a regulatory point of view, because it has anticipated other European countries in opening up to decentralized renewable energy production and its regulation (consider, on this point, Piedmont Regional Law No. 12 of 03/08/2018 called "Promotion of the establishment of energy communities"), thanks to its smart electricity meters. Nevertheless, it still needs to be refined.

There is still a need, for example, to adequately protect individuals who deal with prosumers to purchase or share energy produced by prosumers¹⁷, and to understand how contracts for service access will be replaced by smart contracts in the digital platform.

It turns out, in fact, that several acts are necessary for access to the service: in addition to the private contract/statute to regulate the relations between the subjects that are part of the configuration, there is the potential contract

¹⁵ See also the GSE Consultation of March 4, 2021.

¹⁶ On the applications of blockchain technologies to foster sustainable development, see S.S. MUTHU Blockchain Technologies for Sustainability, Springer, 2021.

¹⁷ See C. Sartoris, *Piattaforme digitali e tutele: dal "consumer" al "prosumer*, in *Actualidad Jurídica Iberoamericana*, N° 16, febrero 2022, pp. 962-983.



between the subjects that are part of the configuration and the subjects that are relevant for the configuration although they are not part of it ("third party" producers), as well as the mandates of both types of subjects (part and relevant for the configuration) to the Referent.

In this last regard, there is also the problem of Referent's responsibility, the person who is jointly entrusted by the producers and final customers. They are present within one of the organizational configurations with the mandate for the technical and administrative management of the application for access to the valorization and incentive service, to process the data and to sign the relevant contract with the GSE for obtaining the benefits provided by the above-mentioned service. The Referent must therefore assure (personally, or through specific agreements or through self-certifications issued) the existence of all the necessary requirements provided.

While the gradual development of technology has brought unquestionable advantages, it has also caused an increase in the processing and dissemination of personal data that are transmitted and exchanged every day, as well as a greater danger of their misuse by unauthorized parties and, thus, a possible violation of privacy.

Finally, there is a need to make available tools that encourage the conclusion of public-private partnerships and the other initiatives between Public Administration and individuals for the establishment of Renewable Energy Communities and enable participation and the collection of memberships (e.g., through a platform that also allows equity crowdfunding).

This justifies the need to place the issue of prosumers and energy communities at the center of the international and supranational political, social and legal debate regarding environmental sustainability as a general principle and technological innovation. The wish is that scientific research and legal comparison in this field will contribute to the fulfillment of energy transition, with a view to achieving the above-mentioned sustainable development goals.