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Niches Seeking Legitimacy: Notes about Social Innovation and Forms of Social Enterprise in the Italian Renewable Energy Communities

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Abstract: Renewable energy communities (RECs) are increasingly seen as key innovations for the development of decentralized energy systems that leverage on renewable energy co-production, sharing, and consumption. However, they still represent a niche in search of development and consolidation, and the social innovations they might bring to the energy systems need to be further scrutinized. Innovations related to the capacity to support forms of social entrepreneurship in the energy system are central to this analysis, even if they have been little studied in Italy in relation to the emerging field of renewable energy communities. Through a theoretical discussion aimed at fulfilling descriptive objectives, this paper examines, on the one hand, the social innovations related to community energy projects and, with a focus on Italy, the legal forms required to create an REC in the light of the constantly changing regulatory framework, where new actors, such as the Third Sector, can play a leading role as intermediary actors to develop the social implementation of REC initiatives. The paper navigates through the literature on community energy in the light of the social innovation they can bring to the energy system, discusses the niche condition of RECs, and addresses the Italian case with particular reference to the role of the Third Sector in disseminating REC innovations.

Keywords: renewable energy communities; social enterprises; energy community; energy citizenship; energy transition; renewable energy; decentralized energy systems; Italy



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1. Introduction

The paper reflects on the implementation of Renewable Energy Communities (hereafter, RECs), taking the Italian case as an ‘operational’ example to discuss social innovations in community energy. The aim is to discuss the social innovations that RECs may bring to the energy system by scaling-up from a ‘niche’ condition towards legitimization as an alternative solution to co-produce, share and consume renewable energy, facilitated by intermediaries and forms of ‘social enterprise’. With a brief descriptive focus on Italy the paper attempts to assess whether and how RECs can define new forms of social enterprises, according to their heterogeneity of legal forms. Since RECs are enacted for the co-production, sharing and consumption of renewable energy, leveraging on three pillars (decarbonization, localization, and decentralization), the analysis of how they bring innovations to the energy system is timely. RECs foresee an active role for local communities, which can include both citizens and public administrations, and small and medium-sized enterprises. RECs aim at fulfilling social, environmental, and economic benefits for their members, identified through patterns of renewable energy sharing, decarbonization and electrification of domestic energy use, and forms of energy efficiency and saving.

Against this background, RECs are gaining momentum as configurations for decentralized energy systems [1] that encourage end-users to adopt “sustainable energy technology and strategies in groups and/or on shared property, in contrast to traditional individualistic adoption” [2]. In the Renewable Energy Directive II, RECs are defined as legal entities based on open and voluntary participation, which are autonomous and effectively controlled by

shareholders localized close to the renewable energy projects that are owned and developed by that legal entity. The recently introduced RED III reinforces the framework of the 'Fit for 55' package to adapt existing climate and energy legislation to the new EU target of at least a 55% reduction in greenhouse gas (GHG) emissions by 2030, where the renewable energy targets have been increased from 32% to 42.5% of renewable energy consumption to be achieved by 2030. In this framework, RECs play a pivotal role in promoting an increase in renewable energy production and consumption in 'community settings', as recognized by several European organizations that pay particular attention to community-based energy initiatives, as in the case of the federation of the renewable energy cooperatives *RESCoop.eu*, which provides an online tracker of the transposition of the directives from the EU to the member states.

In addition, the concept of 'community' is also fundamental for identifying the social relations characterized by a participatory governance aimed at providing benefits to the members, thus implementing principles of distributive justice within the energy system [3]. The modalities through which communities are organized respond to different business and organizational models [4,5], inspired by prodromal cooperative experiments that have influenced heterogeneous decentralized energy projects in the last two decades [6]. With reference to Italy—briefly explored in this article through a focus on the legal forms for creating an REC—three main models have been identified [7]: a 'public lead' model sees public administrations as key stakeholders for the development and management of the REC project, with a predominant top-down approach; the 'pluralist' model is based on a horizontal community model inspired by bottom-up and grassroots attitudes to involve members (including NGOs, energy service companies and third/sector actors), and prosumers who are already informed about local low-carbon energy transitions. The model of the 'Community Energy Builder' refers to the role played by intermediary actors [8,9] in supporting public administrations and other stakeholders to organize an REC project, involve civil society, and conduct the requested technical and scientific consultancies. This model combines both top-down and bottom-up approaches.

On this basis, the aspects related to community involvement and the social implications of RECs constitute the cornerstone of the theoretical–analytical analysis proposed in this paper. A descriptive focus on Italy delves into two main aspects related to the strengthening of the emerging community-setting that characterizes RECs: the identification of the legal forms that bring 'enterprise approaches' in RECs, and the role of the Third Sector in the implementation of RECs, referring to the intermediary functions that they can undertake. However, these issues are just emerging in the debate on the development of RECs, and therefore—as will be discussed in the first part of the paper, corresponding to a theoretical groundwork—RECs are to be seen as niches of a localized and decentralized energy transition seeking legitimation and institutionalization in the energy system. As such, they can be described as drivers of social innovation that combine social, environmental and economic benefits for a transformation of energy production and consumption patterns. Against this background, the paper is based on a desk analysis that combines various notes collected by the author during two years of monitoring the phenomenon, and the relevant literature on social innovation and on niche development, as well as on the ongoing Italian framework for the implementation of RECs. For these reasons, the paper provides a mere description of the social innovation embedded in emerging community energy settings, paving the way for further, more systemic analyses, and does not illustrate the outcome of a systemic case study. Italy is considered as an example of a member state where, despite significant progress in the legal and regulatory framework for the REC, pitfalls in the scaling-up processes are emerging and the role of some potentially central actors, such as the Third Sector, deserves further elucidation.

2. Renewable Energy Communities as Drivers of Social Innovation

A policy report published by the Joint Research Centre at the European Commission [10] points out that energy cooperatives are today the most prominent citizen-led

energy initiatives, as they allow for collective ownership and management of renewable energy projects [11] but with a limited distribution of profits and a reinvestment of economic surpluses to support the members. Simply put, RECs introduce new systems for empowering the end-users through innovative models that transform the socio-technical energy landscape towards deeper decarbonization processes [12]. In this view, the social innovation of RECs lies behind their ability to innovate citizen engagement and end-user adoption of new technologies in the energy system.

Hewitt et al. [13] (see Figure 1) divide the phases of social innovations in community energy projects into three parts. The first phase, connected to the environmentalist movements of the 1960s and the ‘oil shocks’ of the 1970s, catalyzed new societal responses around the theme of self-sufficiency and emancipation from oil and even nuclear energy. A second phase of social innovation relates to the diffusion of renewable energy and related government support, although the community experience was mostly limited to a few countries. The third phase of community energy innovation relates to the societal response to the austerity phase of 2008 and the decade that followed.

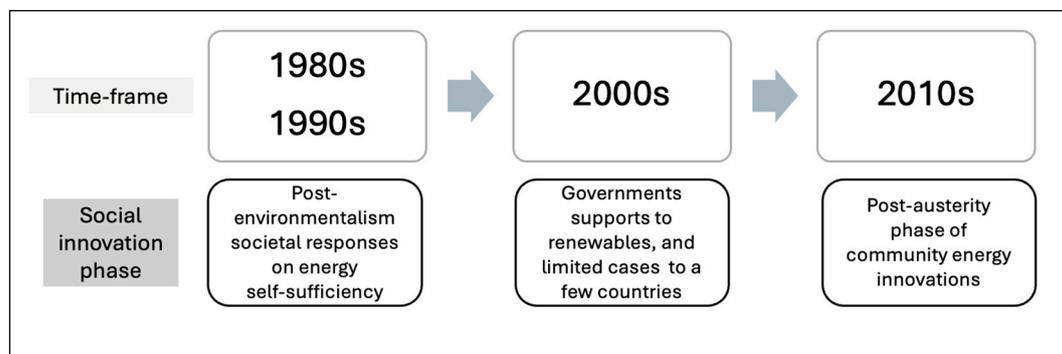


Figure 1. Phases of social innovation in community energy. Source: author’s elaboration, based on Hewitt et al. [13].

In this third wave, community energy initiatives were focused on the democratization of energy and citizens’ empowerment in the face of rising energy prices, a weaker economy, and the heavy dominance of multinational energy firms. As a result, the author argues that today the community energy landscape is characterized by diverse experiences (including RECs) of decentralized and localized energy transition, in an increasingly consolidated framework, where RECs represent the latest novelties that allow for the transforming of end-users from consumers to active citizens in the energy system [14]. Therefore, at first glance, RECs bring social innovations, insofar as they reframe the social implications related to energy in discourses and debates that outline energy as a civil right, bringing these innovations to the increasingly pivotal concept of ‘energy citizenship’, identified as a keyword for encouraging forms of participation in collective energy projects [15].

Whilst the social innovation of RECs can be therefore be related to the community-engagements embedded in such initiatives towards a transformation from a passive to an active role of the end-users, Dall’Orsoletta et al. [16] demonstrate that local energy transition is also another topic related to the social innovation brought by RECs, but also that such experimentations are currently difficult to scale-up and hence to effectively innovate within the current energy regime. In fact, recent insights suggest that beyond the principle of ‘sharing’, little advantages are tangible in these community energy initiatives. Although RECs are often praised for helping democratization of the energy system, they remain constrained by economic and legal barriers (as also suggested by the Italian case), and their relevance in the energy system depends on the ability to scale up their innovations to a greater extent, not only limiting their action to the local level [17]. Within this effort, the risks of fragmentation and an episodic development of REC initiatives are imminent.

First, to scale up RECs as drivers of social innovation in e energy transition, it is necessary to consider the issue of social acceptance, which is a debate that has been

affecting public support for renewable energy for several years [18,19]. Social acceptance is key to understanding the social innovations of RECs, as it refers to the effectiveness of the benefit system guaranteed to potential members of an REC and is therefore the cornerstone of the legitimacy of RECs to accelerate low-carbon transitions based on the principles of decentralization and localization.

In this respect, a Dutch study has shown how energy community initiatives are often framed in a positive and enthusiastic way, emphasizing economic, environmental and social/community benefits, but that this optimistic stance is primarily related to the instrumental need for such initiatives to demonstrate community acceptance rather than legitimizing their strategic role in the energy transition [20]. Social acceptance is not only related to the willingness to join community energy initiatives, but also involves the ways in which RECs are presented and promoted as innovations that may transform the energy system while achieving decarbonization goals, and, with regard to this attempt, further efforts are needed. Another assessment of the social innovation trajectories of community energy in Scotland, indicates that—according to a well framed policy and institutional context—community energy initiatives provide local beneficial outcomes especially for sustainable rural development, thus ensuring place-making within the framework of sustainable energy transition; however, the carbon emission reduction—seen as a key factor motivating community energy groups—varies due to income generation for local development, and also because the relationship between social, environmental and economic benefits is by no means straightforward [21]. Scotland, together with the Netherlands, is identified as a pioneer and enabling context for community-based and self-organized renewable energy arrangements [22].

Second, there are also issues related to the territorial implications of social innovation processes led by RECs. By transforming the forms of energy ownership and the governance framework for energy co-production and distribution towards a decentralized and localized model, RECs entail a profound change in the energy system by ‘situating’ social innovation oriented towards sustainable models that operate in specific locations. Community energy, broadly speaking, may be seen as a ‘site’ for social innovation that occurs where such energy innovations are welcomed by local groups, or activated thanks to some contextual features. The localized territorial impacts of RECs impact the urban–rural continuum, as they can act both for sustainable development in cities [23], in medium-sized towns [24,25] and in rural areas [26–28], where biomass has historically been a lever to generate localized energy initiatives [29,30]. Evidence from Italy also identifies rural areas as the site of private or public ecological energy-innovation enterprises—translated as ‘ecopreneurs’—which constitute local energy landscapes, seen as the result of a network shaped by different natural, cultural and organizational aspects [31]. However—as mentioned above—the impact of such initiatives on greenhouse gases and carbon emissions is currently low [32].

Yet, since the dissemination of RECs as social innovators is limited by the difficulty in scaling-up their role from localized contexts to a distributed scenario [33], concerns about the enduring configuration of RECs as niches are to be considered.

3. Renewable Energy Communities as Niches for Energy Transition

According to the regulatory framework disciplined at the EU level by the directives for the energy market on the one hand, and on community energy in the race towards decarbonization on the other hand, RECs are currently limited to episodic initiatives shaped by cooperative or grassroots models, localized in a few specific countries where prodromal cooperative solutions or area-based projects have been enacted for several years, as suggested by insights from England [34,35], Germany [4,36] and the Netherlands [37]. Many studies from these countries indicate that a complex but well-defined institutional configuration at the intersection between public policy and civil society involvement is requested to adequately implement community energy projects [38].

Against this background, RECs can currently be seen as niches of local innovation for localized energy transitions. The literature on community energy as a niche is extensive.

Niches, according to Smith et al. [39] (p. 411), “are constituted by networks of local experimentation, facilitated, and coordinated by an intermediary infrastructure of shared knowledge, guidance, and resource provision [...] through workable knowledge taken up by an increasing number and variety of actors, which becomes increasingly standardized and institutionalized”.

However, the institutionalization of local niches entails long processes. It is worth saying that localized energy systems show a tension-driven institutional change process influenced by four principles: institutional contradictions, practice, social construction, and totality, resulting in contradictions and tensions for the consolidation of localized energy systems [40]. The current state of implementation of RECs suggests that community-based and community-owned energy pathways are still limited to some best practices that attribute a key role to citizens [41]. Thus, grassroots approaches strongly influence the governance processes of RECs [42,43], but as such, they remain limited in a sphere of initiatives that are merely inserted in an energy regime still shaped by centralization. As a result, the transformation of RECs from niches to leaders of decentralized energy transitions requires an adequate institutional framework and public support that is difficult to observe, despite the increasing relevance attributed to community-based initiatives [44]. Indeed, transitions are the result of an interaction between innovations (literally, ‘niches’), structure (i.e., the existing ‘regime’) and exogenous long-term trends (defining the ‘landscape’), which enables transformative change [45]. According to Geels and Schot [46], transitions take shape when niche innovations build up internal momentum, landscape-level changes create pressure on the regime, and regime destabilization uplifts niche innovations.

To strengthen the role of RECs in the energy transition beyond an episodic implementation, intermediary actors and organizations play a key role in the support of REC projects with reference to the local scale of action, the community engagement, and the nature of interactions and resources within the constituted network of different actors [47]. Therefore, intermediary functions are key to scaling-up and diffusing specific energy innovations, as in the case of technological innovations in the energy system [48]. Intermediaries connect activities related to REC support and disseminate lessons learned by providing an infrastructure of conferences, guides, web platforms, business models, design, and service support [8]. Put simply, they not only provide technical and scientific support for REC initiatives, but also work to disseminate the social innovations behind RECs to civil society. In other words, the process of diffusion of RECs as drivers of both energy transition and social innovation relies heavily on intermediary functions [48]. On this basis, it is possible to locate ‘intermediary’ as an operational concept at the intersection between the ‘niche’ condition and the social innovation scenario. Whilst aimed at facilitating energy transition, intermediaries shape and transform the landscape of innovation, which refers to RECs, and disclose the socio-environmental aspects behind the economic ones. Although crucial to accelerating energy transition, niche intermediaries need to be complemented by a full ecology of intermediaries, including regime-based transition intermediaries, process intermediaries and user intermediaries [49]. Intermediaries bridge social innovation and niche development insofar as they act for the diffusion of niches—i.e., RECs—towards their affirmation as innovations that transform the way renewable energy is co-produced, distributed, and shared. As expected, the interaction between the niche and the existing energy regime is influenced by dialectical tensions in the affirmation of innovative practices such as RECs [40].

Italy provides some further insights into the intermediary functions. According to the tripartite division of the organizational models of RECs identified by De Vidovich, Tricarico and Zulianello [7,50], resulting in the ‘public lead’, ‘pluralist’ and ‘community energy builder’ (CEB) models, the latter category identifies a plurality of actors, coming mainly from the energy cooperative landscape or from academia, dedicated to the provision of technical, scientific and engineering services for the comprehensive implementation of REC projects, including forms of community engagement. In particular, the intermediary functions carried out by CEBs are developed within a composite set of actors that support

various types of direct and indirect connection in innovation systems [48]. To scale-up RECs from niches to key components of a decentralized energy system that transform the existing regime, intermediaries support low-carbon energy community initiatives also to create new pathways for the social acceptance of renewable energy [51], with the aim of overcoming the cultural barriers that hinder a concrete diffusion of RECs. From this viewpoint, intermediaries jointly address governance, social, cultural and organizational factors that may determine the success of an REC initiative [52].

The intermediary actions taken by the ‘Community Energy Builders’ (CEBs) simultaneously look at the territorial, societal, technological, and cultural aspects behind low-carbon energy transition, to be promoted through the development of RECs. The broad idea of working for ‘energy commons’ [53] influences the CEBs’ action in the simultaneous observation of the territorial—and even polycentric—implications inherent to decentralization, of the translation and intermediation practices necessary to inform civil society about RECs’ benefits. Equally, Goldthau [54] suggests that next to scaling issues, decentralization and polycentricity represent two pillars for new forms of governance of the energy system. Territorial factors are therefore relevant to CEBs’ supporting role in the creation of an REC.

In summary, the promotion of RECs relies on ‘niche intermediaries’ “that connect different experimental projects and aggregate the build-up of new solutions for future socio-technical configurations” [49] playing a number of roles: negotiation, creation of a consolidated framework through advocacy activities, and mediation between the emerging and dominant socio-technical system configuration, while operating on different spatial scales (from local to national, with reference to RECs). Thus, intermediary actors that lie at the intersection between technical, contextual, and societal implications are embedded in the development of decentralized energy projects, such as RECs. These intermediaries, identified in Italy within the organizational cluster of the ‘Community Energy Builders’, now define forms of ecological enterprises concerned with the aim of realizing RECs that move from the local contextualities with the aim of scaling-up their capacity to ensure social, environmental and economic benefits to the members, from the local scale of action to the global transformation of energy systems guided by decarbonization, decentralization and localization of energy co-production, distribution, sharing, and consumption. In this regard, notes from the Italian framework are useful.

4. Discussion: RECs and Forms of Social Enterprises

On the basis of the two theoretical sections, it is possible to proceed to a reflection on the ways in which RECs can be legitimized as drivers of social innovation, even if they are still limited as a niche for the low-carbon energy transition. The discussion is based upon two themes related to the Italian debate on RECs: the overview of the possible juridical forms to be adopted for an REC project, and the role of the third sector in carrying out intermediary functions. The reflection is based on the outcomes of the research ‘Community Energy Map’, carried out in 2021 [7,50], combined with further sources based upon the legislative updating process for RECs which occurred between 2022 and 2023, which led to a new decree on shared and community-based energy, presented in 2023 and officially introduced in 2024 (See the new Decree on Renewable Energy Communities introduced by the Italian Minister of the Environment and the Energy Security: <https://www.mase.gov.it/sites/default/files/Decreto%20CER.pdf> (accessed on 26 February 2024)).

4.1. Legal Forms for RECs in the Italian Context

In Italy, several legal structures have been identified—in particular by the CEBs through their advisory and brokering activities—to define the principles and implementation pathways for an REC. When the term ‘enterprise’ is juxtaposed with the term ‘RECs’, it addresses the ways in which technical aspects of the energy transition interact with the involvement of end-users and civil society, thus addressing community engagement, social acceptance of the low-carbon energy transition, and the social, economic, and environmental benefit system. The overview of the legal forms foreseen in Italy to create an REC sheds

light on the different typologies of approaches based upon enterprises' principles, even in the light of the most recent updates in the regulatory framework for RECs in Italy. In fact, as previously anticipated, between late 2023 and 2024 the Italian Minister of the Environment and Energy Security presented a new decree on shared energy and community energy projects and self-consumption schemes, which introduced some updates: (1) a new system of incentives for shared energy in the power grid according to the dimension of the plant, (2) the allocation of non-refundable financial contributions to small municipalities identified within the post-pandemic National Recovery and Resilience Plan (NRRP), and (3) the maximum power that can be financed (5 GW by 2027). This framework is complemented by the guidelines on self-consumption defined by the Italian Regulation Authority for Energy and Environment (ARERA).

Against this background, 'Community Energy Builders' and other professionals have identified—on the basis of existing REC projects—the main typologies of legal forms to promote RECs' implementation, as well as the relevant strengths and weaknesses for each typology (Table 1). The four main legal forms are thus the result of an ongoing discussion, crystallized—for the purposes of this paper—within the assistance provided by the author to a small public administration in Italy, together with a consultant, who provided the administrations with economic scenarios for the feasibility of RECs, thus summarizing the possible solutions for the creation of a legal entity, which was considered as a milestone for the launch of the REC project. For the sake of brevity, further insights into this consultancy activity are not reported in this manuscript but are simply mentioned to illustrate the context in which the reflection on legal forms took shape, i.e., at the crossroads between research on the innovation of RECs and action for the implementation of RECs in a small town.

This subdivision of the legal forms suggests that the business forms in REC settings are hybrid, heterogeneous, and differently subject to the economic investments for the initiation of the project, but also to the predicted size of the power plants for the production of renewable energy. Currently, data from GSE (*Gestore Servizi Energetici*, the national Energy Services Manager) and *Legambiente* count thirty REC schemes, whether they are officially enacted and on duty or under enactment [55], and among these, the non-recognized association is the most adopted legal form, due to the small size of the power plants installed for this first prodromic REC initiative. Therefore, a local scale presently corresponds to a small scale of action, underscoring the importance of the territorial implications of an REC. All the four legal forms—but the associative forms especially—strengthen the configuration of RECs (and CEBs) as social innovators, by suggesting that community energy projects refer not only to the benefit system and the pillars of decarbonization, localization, and decentralization, but also to the capacity of combining grassroots approaches with top-down approaches where the public administrations of small settlements play a leading role in encouraging the birth of an REC. This territorialized understanding of social innovation in renewable and community energy leverages on the interplay between entrepreneurship (referring to the forms of social enterprise in community energy), inclusion (related to community-engagement), and co-production (related to the technical modalities for producing renewable energy with power plants set up for the REC) [56]. The territorial implications of the development of niches in community energy are therefore influenced by social enterprise approaches, which consider social inclusion as a key objective in the implementation of the co-production, sharing and consumption of renewable energy, whether they are fully rooted in grassroots initiatives or rather at the crossroads of top-down and bottom-up approaches.

On this basis, further reflections lead back to the intermediary functions played by 'Community Energy Builders', discussing whether Third Sector entities can be identified as CEBs.

Table 1. Main legal forms for enacting Renewable Energy Communities in Italy. Source: author's elaboration with the decisive support of Antonio Kaulard (*eco & eco s.r.l.*).

↓Legal Form Pros and Cons→	Strengths	Weaknesses
Non-recognized association [<i>Associazione non riconosciuta</i>]	<p>Low set-up costs.</p> <p>Simple operation (no management rules; no balance sheets).</p> <p>Compatible with the participation of local authorities and with non-commercial aims.</p> <p>Recorded as Third Sector entity through a simplified procedure for agreements with local authorities.</p> <p>Revenue stream dedicated to reducing electricity bills or other collective ends.</p>	<p>No assets separation.</p> <p>Non-deductible VAT due to the non-commercial nature.</p> <p>Not suitable for RECs with bigger dimensions (beyond 200 kW power).</p>
Recognized association [<i>Associazione riconosciuta</i>]	<p>Compatible with the participation of local authorities with non-commercial aims.</p> <p>Recorded as Third Sector entity through a simplified procedure for agreements with local authorities.</p> <p>Revenues dedicated to reducing electricity bills or other community-based initiatives.</p> <p>Compatible with tax deductions.</p>	<p>It requires a notarial deed of incorporation, which entails a substantial economic effort.</p> <p>Non-deductible VAT.</p>
Cooperative with mutual purposes [<i>Cooperativa con finalità mutualistiche</i>]	<p>The mutual purpose enables significant fiscal benefits.</p> <p>A suitable form for RECs aimed at reducing energy bills.</p> <p>Local administration can be involved without membership.</p> <p>Deductible VAT.</p>	<p>It requires a notarial deed and a social capital with a minimum of EUR 3000.</p> <p>Not easy to include local administrations.</p> <p>It is an effective enterprise, and therefore it cannot be subjected to non-commercial aims.</p>
Participatory foundation [<i>Fondazione di partecipazione</i>]	<p>Assessed as an appropriate form by the <i>Corte dei Conti</i> in the case of public participation.</p> <p>It can be recorded as a third sector entity.</p>	<p>It requires a notarial deed, with an investment of about EUR 30,000.</p> <p>It is a public entity, and thus it entails more complex management.</p>

4.2. The Third Sector in the Development of RECs

In Italy, CEBs can be identified as intermediary actors that respond to different entities: academic spin-offs and research clusters (such as the 'Energy Center' from the Polytechnic University of Turin), groups of professionals and experts in renewable energy (such as 'Energy4Com'), energy cooperatives with expertise in community energy projects (such as *ènostra*), and energy service companies specifically framed for the Third Sector [such as *Fratello Sole Energie Solidali* (translated as 'Brother Sun Solidarity Energies')]. A turning point in the involvement of Third Sector's actors in the implementation of RECs was introduced at the end of 2021, when two decrees (Decree 199/2021 and Decree 210/2021) updated the guidelines established by the Law 8/2020, the transposition law of the European Directives. Until then, the Third Sector was not included among the actors and organizations able to create an REC project.

The Third Sector, in Italy but not only in Italy, refers to the voluntary sector, the economic sector in the field of non-profit or non-governmental organizations, and other cooperative entities that work for the service provision towards specific communities, whether they are target groups (such as the elderly, people with disabilities, poor populations, fragile young people, or other individuals in need). Theoretically, the engagement of Third Sector actors can weave issues and projects related to the low-carbon transition through the themes of local development, sustainable development, citizen empowerment and participation. In other words, the Third Sector can be described as "a sector of organized human action composed of collective actors beyond the family and distinct from the state and the market" [57] (p. 175). Throughout the Italian regions, the Third Sector—and

cooperatives in particular—has played a leading role in defining local welfare systems capable of innovating service provision and co-provision, introducing an active role for beneficiaries and guaranteeing forms of prosperity at the local level [58]. Overall, the Third Sector is closely linked to the provision of social care, with reference to a wide range of services related to poverty, health, exclusion and other vulnerabilities [59], although they are not the only non-state actors working for the well-being of the population, especially in the current period where profit- and market-oriented rationales are increasingly prevalent [60]. This critical point also applies to the emerging field of RECs and the role that the Third Sector can play in their development, in terms of the social implications of engaging in an REC as an end-user. Yet, this role—with reference to Italy—is far from being clear and well-defined.

According to Table 1, the legal form of ‘recognized association’ entails the creation of a Third Sector actor, and the more structured forms of cooperative with mutualistic aims, and participatory foundation, reproduce ways of acting coherent with the Third Sector framework. However, since the Third Sector is now included in the development framework of the RECs, some caveats are identified, starting from the evidence that the RECs can transform the relationships between public administrations and territorial entities located in the vicinities or within the target areas identified for an REC initiative (including local Third Sector actors). The caveats are identified as follows:

- A public administration often encounters difficulties in understanding which legal form is the most appropriate for a CER, and this difficulty makes the role of Third Sector entities more nuanced and less framed within the current scenario of RECs.
- If one thinks of a cooperative form, there are complexities in including the municipality (i.e., the public administration within the CER project, due to some inconsistencies with the *Consolidated Text on Public Participation (Testo Unico sulla Partecipazione Pubblica)*).
- If the flexible form of the ‘association’ is preferred, registration with the *RUNTS (Registro Unico del Terzo Settore)* is required after the latter has given a positive opinion on the statutes. However, this is not always the case, since *RUNTS* and the *GSE (Gestore Servizi Energetici)* register have not yet exchanged questions and ideas with each other until now, since they are two registers that respond to two different fields (the Third Sector and philanthropic actors on the one hand, and the energy system on the other hand).

In other words, RECs initiate new inter-institutional fields of confrontation between different actors, and for the Third Sector entities they potentially represent a new vector for inter-institutional learning on how to address citizens’ well-being with specific reference to energy. Various Third Sector actors (such as foundations) are starting to become involved in the funding of RECs aimed at addressing vulnerabilities, social fragilities, and energy poverty. This is the case, for instance, of *Fondazione con il Sud* in Southern Italy, which contributed to financing the first solidaristic renewable energy community in Italy, located in San Giovanni a Teduccio, a fragile periphery of Naples, and aims to pursue concrete support for the implementation of RECs in the lagging regions of Southern Italy.

These reflections are to be seen simply as notes gathered from various research exchanges over the last two years, and do not represent the outcome of systemic and rigorous empirical activity. The actual role of the Third Sector and its capacity to create or support RECs will become clearer in the coming months, also in the light of the updated regulatory framework following the new decree of the Minister for the Environment and Energy Security.

In general terms, beyond the brief focus on Italy, the inclusion of Third Sector and philanthropic actors in the REC framework strengthens the identification of RECs as forms of social enterprise that find in renewable energy a new field of action. However, further clarification of what constitutes a social enterprise is needed. Historically, social enterprises refer to a profound cultural change that needs to take place within the welfare system [61], and especially in the development of local welfare systems. This standpoint will not be lost in the translation from welfare and social policies to energy policies. Social enterprises

began to circulate in the public discourse on social policies at the end of the 1980s as part of the growing focus on the construction of mixes between state, market and Third Sector [62] and they are historically aimed at ensuring well-being among vulnerable populations. In contrast to the emerging framework of RECs, the social enterprise approach should draw on this legacy, which has produced insightful local welfare programs and projects over the past decades. The emergence of RECs can enable a reproduction of these goals of a local welfare system and well-being creation within the energy system, especially with reference to community energy practices, working for their scaling from niches to part of the energy transition. The same process has affected the consolidation of local welfare projects since the late 1980s.

5. Conclusions

This paper has provided a descriptive analysis of the implementation of renewable energy communities including the social innovation they can bring to the energy system and the niche conditions that affect such implementation, thus focusing on the conditions through which community energy settings try to affirm themselves, albeit slowly and thanks to fragmented best practices. The paper navigated the literature on community energy projects as drivers of social innovation on the one hand, and the niche conditions of such initiatives on the other. This debate is based on the acknowledged capacity of RECs to enable grassroots approaches, to give a new role to end-users, and to define new configurations of the co-production, sharing and consumption of renewable energy in the energy system. After presenting this theoretical and analytical groundwork, the paper has provided a focus on RECs with reference to their capacity to develop new forms of social enterprises, moving from the current heterogeneity of legal forms identified to create an REC in Italy. The paper addressed the development of community energy settings with a particular focus on Italy, delving into two the different legal forms that bring 'enterprise approaches' in RECs, and the still not-well-defined role of the Third Sector in the implementation of RECs, placing Third Sector actors as possible intermediary actors for supporting RECs. However, these intermediary functions are just taking shape as a result of the prodromal initiatives undertaken in the Italian context, and before seeing an institutionalization of such intermediary actors, further models and *modus operandi* need to be identified and studied. According to the still limited diffusion of RECs in Italy, it is anything but easy to identify a systemic and tangible role of Third Sector actors for REC implementation. Nonetheless, further elucidations are foreseen, as the most recently introduced decrees defined new technical and operational rules that are going to transform the diffusion of RECs (although it is still unclear whether this transformation will be positive or negative).

This paper suggests that RECs can produce social innovations, but some tensions and barriers are to be considered, even for avoiding enthusiastic approaches towards their implementation. In addition, the paper points out the importance of the intermediary functions in disseminating the innovations that RECs bring to the energy system, and such intermediary roles are put into action by the 'Community Energy Builders' (CEBs) [50]. After some updates, the involvement of the Third Sector amongst the stakeholders able to create an REC places these actors amongst the plethora of CEBs, although some caveats about their action are identified. The Third Sector may juxtapose those social enterprise approaches which, since the late 1980s, have reframed the governance of welfare towards the field of renewable energy and community energy projects. At this moment, this combination does not really exist, and the topic of energy poverty is predominantly a new concern for entities involved in the field of social assistance and well-being. These notes, however, deserve further elucidations and empirical counterparts to be validated. In theoretical terms, Third Sector actors may contribute to the scaling-up of RECs from niches to key drivers for localized energy transitions, but also to the strengthening of the interpretation of energy transition as a topic that lies at the intersection between issues of

well-being (involving welfare planning) and environmental issues [63] related to climate neutrality and decarbonization.

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