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GROWTH IN RENEWABLE ENERGY COOPERATIVES: A CASE ON MEMBERS' SELF-IDENTIFICATION WITHIN THE ORGANIZATION

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ABSTRACT

The present study aims to analyse the consequences of growth on the cooperative economic model, specifically in the renewable energy sector. The focus was on exploring how the need for financial sustainability due to the expansion can be balanced with keeping people engaged within the organisation. Indeed, a paradox arises between the necessity of maintaining a high member's degree of self-identification with the given cooperative and the urge of being economically sustainable. From the interview of three cooperatives, data were drawn to elaborate insightful hints regarding possible approaches to overcome this contradiction.

Keywords: Management, Social Enterprise, Social Impact, Renewable Energy, Energy Transition, Finance

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Introduction

In the majority of industrialised countries, the energy sector is characterised by a long history of state- or corporate-owned centralised production and distribution. Since the Stockholm Conference on the Human Environment (1972), it has been recognised that energy use has detrimental effects on the environment, and that an effective management requires a better understanding of these impacts. Meaning that power is both a factor and a challenge for sustainable development (International Energy Agency et al., 2020).

With increasing concerns about security of supply and environmentalism, various efforts have been made to make the systems more sustainable. Indeed, global green energy governance has undergone significant transformations. At the beginning of the 1990s, when renewable energy (RE) technologies started to become more widespread, their implementation happened mainly thanks to large-scale corporate-led initiatives. Recently, however, there has been a shift towards a polycentric regime, resulting in the formation of RE cooperatives and similar forms of community ownership. Here, individuals aim to provide bottom-up collective solutions, focusing on specific circumstances in a region and on global environmental issues (Bauwens, Gotchev & Holstenkamp, 2016).

A cooperative is defined as “an autonomous association of persons voluntarily united to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise” (Statement on the Cooperative Identity, 1995). Meaning that it is a type of business managed by and for its members, with a streamlined organisational structure, consisting of a general assembly, an executive and a supervisory board. This definition concerns cooperatives in a broad sense of the term, as there is no standard one for a renewable energy coop. However, despite different financing models

and administrative frames, there are some common elements, in particular regarding core principles and values. Such fundamental points are listed below:

- Voluntary membership: organisations are accessible to anyone, without discrimination.
- Democratic control: the members themselves define their policies and take decisions, through elected representatives.
- Member economic participation: there is an equal contribution in the capital of the cooperative, which is democratically controlled.
- Autonomy and independence: when making agreements with organisations or raising funds, they do so by ensuring a fair regulation and the coop autonomy.
- Education, training, and information: services provided to members to more actively be engaged.
- Cooperation among cooperatives: to optimise the quality of services, RE movements work jointly across different frameworks.
- Concern for the community: the purpose is to achieve a sustainable local development.

These alternative socio-economic structures stand in contrast to the classical power supply regime, as there is a direct participation of individuals in the production process and highly centralised energy infrastructure are not involved. Indeed, the traditional model is characterised by the fact that a single entity or few partners have both the ownership and the control, which contrasts with an organisation in which member-owners equally share the regulation power. Another distinguishing factor is that most of the conventional models operate with the primary goal of turning a profit, placing capital at the centre of the business rather than people. There are also big differences concerning the organisational structure. Traditionally, it is a built upon levels of management, where decisions are made by one or a few members at the top of the pyramid (Steil, 2002).

Such structure shift in the energy market equates into positive effects on both the practical activities of individuals and economic organisations. Indeed, it results in the formation of an element of identification that translates into motivating and rewarding community processes, promoting sustainable development in three fundamental dimensions: environment, society and economy. The involvement of citizens is a key aspect in the transition towards sustainability, as evidenced by the fact that renewable energy cooperatives are growing exponentially worldwide. In Europe alone there are about 1900 organizations adopting this approach (REScoop.eu, 2021).

The main implications of RE coops are the creation of new social mechanisms for learning and using renewable technologies, support for economic growth and encouragement of the participation of local population in the implementation of energy policy.

The present project aims to analyse and investigate renewable energy cooperatives, where citizens jointly own and contribute to electricity production or energy efficiency projects. From previous studies, a correlation emerged between the size of cooperatives and the members' degree of self-identification with the given organisation. Indeed, the smaller it is and the more focused on the common good, the more involved its members are and the more they identify with the organisation. However, as the cooperative grows, the need to be economically sustainable becomes more pressing, risking to weaken the connection with its members. Hence the paradox to which this dissertation will attempt to respond: How can it be possible to balance the necessity of economic sustainability, satisfied by enlarging the members' network, with the identification and involvement of the members with the RE coop?

Literature Review

1. RE cooperatives growth

Prior research suggests the spread of renewable energy is socially contagious (Jaeger, 2021). For this reason, RE cooperatives and their role in the energy transition have been receiving great research attention. Nevertheless, the majority of studies is centred on single countries or cases. Whereas these coops differ in size and approach, cross-country analyses demonstrate that there are common components among them. (Wierling et al., 2016).

One of these similarities is the differentiation between communities-of-location (also called communities-of-geography or communities-of-place) and communities-of-interest. Within communities-of-location, existing levels of trust, familiarity with cooperatives, and a record of successful community projects are identified as drivers influencing the RE coops (Tarhan, 2015). Prior research highlight that RE initiatives are experienced directly in a local dimension, when developed by communities-of-location (Willis and Willis, 2012; DTI, 2004), increasing the degree of involvement. Conversely, communities-of-interest aim to attract a larger population motivated by economic and environmental reasons (Tarhan, 2015). Whilst these approaches may have a positive influence in expanding cooperatives, there is a risk of greater psychological and geographical distance between members (DTI, 2004). It can also result in less involvement and thus diminish the social impacts of RE coops.

Some studies suggested that the structure adopted at the creation of an organisation is fundamental in the process of shaping its growth strategy (Bauwens, Huybrechts and Dufays, 2019). Particularly, in non-profit organizations it is affected by the dimension and the members' composition in terms of common experiences. (Eisenhardt and Schoonhoven, 1990). Those social enterprises with a general interest mission tend to adopt a breadth-scaling approach that is inclined to reach out to individuals beyond the local community, and

consequently, is more likely to scale geographically. On the other hand, mutual interest-oriented associations act in the best interests of their affiliates, favouring depth scaling, such as horizontal diversification. (Smith and Stevens, 2010).

2. Social identification

Henri Tajfel defines social identity as a person's perception of who they are based on their group membership (McLeod, 2019). Being part of a community gives a sense of belonging to the social world, which is also reinforced by an emotional factor, resulting in the linkage of one's own self-esteem with the association to the group. It follows that the stronger individuals self-identify with an organisation, the higher the likelihood that the subject will act in accordance with its interests (Harris and Cameron, 2005). The literature has pointed several elements that are crucial for social identification within an organisation, which strictly depend on the appeal of its identity. Namely they are membership duration, involvement in the decision-making, image and reputation, internal interactions and procedural justice (Cicognani et al., 2012).

The cooperative model is a singular form of organisation, not only due to the nature of the membership, but also because of its express adherence to values as guidelines. Those principles play a key role in shaping the profile of such forms of associations and can influence the individuals' motivation to be part of them. Therefore, the measure of how well a coop meets its core ideologies is crucial to affect members' self-identification and sense of affiliation (ibid.). What the literature has not yet addressed is how such perception of self-identification changes as the cooperative evolves. More specifically, what are the effects of organisational growth on the members' sense of belonging. To this end, the present study will focus on analysing RE coops.

Research Methodology

In order to understand the impact of growth on the development and the membership of RE cooperatives, multiple case studies were conducted involving different European countries. We used several sources of data, predominantly online interviews. These were complemented by material provided by the cooperatives themselves, information from the respective websites and annual reports. Subsequently, the gathered findings were analysed and evaluated. Finally, the results and outcomes were compiled in a research study.

The first step of the process was to structure the interview to obtain relevant information for the investigation. The topics were divided into four main thematic areas: general questions about the entity and its activity; business model and financing method; members' perceptions and participation; cooperative's interaction and challenges within its country (the complete interview can be found in the Annex 1).

The RE cooperatives were assessed as follows. First, the database of REScoop.eu was consulted, where most of the European renewable energy cooperatives are registered. From this list, ten coops, with similar characteristics in terms of business and organisation, were selected.

The successive step was to contact the chosen entities, with the aim of scheduling an interview. The first contact took place on October 14th 2021, followed by a reminder of invitation one week later. A positive response was received from three of the ten cooperatives reached. Explicitly, they are: GreenVolt (Belgium), Energiamo (Italy) and Plus Écolo (France). For confidentiality reasons, the real names have been omitted. Hence, the ones listed above are fictitious ones, which we will use to refer to the organisations in this the research.

Coming to the final step, the interviews took place in the period between October 28th and November 3rd 2021. The material collected covers a total of three hours of recordings, which were subsequently transcribed in order to be able to carry out an effective data analysis.

Case 1: GreenVolt

1. The cooperative

GreenVolt is a Belgian renewable energy cooperative founded in 1991 by a group of young people linked to the environmental movement. The number of members has increased steadily since the installation of the first wind turbines in the town of Eeklo in 2001. A further boost was provided by starting to supply electricity in 2003, as a consequence of the liberalisation of the relative market. Nowadays, GreenVolt is a cooperative with 64,114 members (November 2021), of which about 50,000 are clients (1.7 % of the Flemish household market) (Annual Report, 2020).

The main areas in which the coop works relate to investing and building RE-installations, with subsequent energy production. Up to date, GreenVolt owns 47 plants, comprising wind turbines, hydropower and cogeneration implantations and decentralised PV across Flanders. Since 2003, the coop has also been directly involved in distribution. Although this activity was introduced later, it is now the main one.

2. Growth process: community of interest or place

GreenVolt follows to the "green-collar army" model (Vickers & Lyon, 2014) defined by significant structural expansion and a good level of professionalization (Bauwens, Huybrechts, Dufays, 2019). Three are the main element that triggered GreenVolt's growth: two concerning the decision on RE technology and one regarding the takeover of the power

supplier role. These three development phases correspond to shifts in inclination towards public or mutual benefit.

The first period (1991-99) is characterised by the aim of collecting little sums of money from committed people to finance the restructuring of small hydroelectric plants. GreenVolt started by building its expertise in wind energy, while the founders were promoting renewable sources in general. At this time, the RE coop was not yet dedicated to electricity production. Consequently, there is a total orientation to public benefit, as no remaining surplus was to be distributed to members. Furthermore, it did not restrict to a specific place whenever seeking project possibilities, thus reinforcing its wider geographical focus.

The following phase (2000-02) started with the construction of three wind turbines in Eeklo. At the time, the organisation has been comparatively more mutually beneficial than in the prior stage. Hence, it began to distribute part of the remaining surplus to its members, as dividends.

The last stage started with the distribution of electricity (2003) and goes on until today. Alongside that activity, GreenVolt is also continuing to invest in renewable energy initiatives. This period is distinguished by an increased mutually beneficial orientation. In addition to distributing dividends, GreenVolt has even begun to provide its members with energy at production cost as an added advantage of membership. Thus, supplying them through an electricity tariff which, in most cases, is cheaper than the market one.

The introduction of power distribution significantly enlarged the number of members, bringing in many new ones, and strengthened its visibility in the country (Bauwens, Huybrechts & Dufays, 2019). Simultaneously, by redirecting a considerable proportion of assets, it undermined other focuses of the cooperative, such as the energy saving one. These factors indicate that GreenVolt's strategic decisions have enhanced the focus on the

individuals inside the coop. It provides a fairly high dividend to its members by making investments in lucrative renewable energy projects, as well as delivering direct services, by delivering power and heat at production cost:

> *Today, the option of green electricity at a lower price, combined with monetary incentives, are among the prevailing reasons for new members to join us* (Interview, GreenVolt employee).

GreenVolt did not remain local and community-focused but instead it has seen an organisational expansion, integrated with a predominant business approach. The growth of GreenVolt and the diffusion of best practices in Flanders and further afield has been facilitated by its orientation towards mutual interest.

3. Challenges imposed by growth

Although a general mental shift is taking place in Belgium, there are still numerous challenges that cooperatives have to confront in the near future. In particular, two are the ones that GreenVolt has had to and continues to face in its growth process. The first concern is the aversion of the local population towards the installation of plants on the territory, otherwise known as "Not In My Backyard" (NIMBY) protests. The second challenge, which is actually shared by any renewable energy operator, relates to the regulation and the institutional environment. In Flanders, the problem is due to the "first come, first served" system, that prevails in the procedure for leasing wind turbines. Cooperatives are disadvantaged by this situation as such policy, scarcity of suitable places, and increasing number of wind developers, have created a highly competitive situation and encouraged a "race for wind" on available sites (Bauwens et al., 2016). It follows that RE coops do not have the time and resources to act as quickly as large-scale energy producers.

Despite these issues and a certain mistrust between renewable energy cooperatives and institutions, in Belgium there is one of the highest levels of mutual interest between the two entities. In fact, the participatory bottom-up approach of the coops allows for the development of a virtuous and accepting citizenry, reducing the problem of NIMBY protests. The advantages for institutions of collaborating with these entities are evident, as well as those for cooperatives that can extend their network by coming into easier contact with media, associations and enterprises.

4. Members' analysis

GreenVolt is characterised by a nearly total number of members located in Belgium, which are spread throughout the country almost homogeneously. Interestingly, some members are only investors or not consumers. This is due to the fact that the regulation in Brussels, for example, is different from that in Flanders, and therefore those who live in this region are not allowed to use such energy. Another reason, is that the member may have moved abroad, but still wants to support the principles and projects of the organisation.

The individual's motivations for joining a cooperative such as GreenVolt are predominantly ideological. Indeed, becoming a member of a renewable energy cooperative is perceived as taking a personal initiative in favour of the planet, by investing in and producing green energy.

A general analysis of members, however, reveals differences in the level of belonging and self-identification felt by people towards the RE coop. The shift is considered to be happened when GreenVolt became an electricity supplier.

> *Those who joined at the beginning identify more with the coop. In the past we were smaller and the group was closer, it was easier to feel actively part of it* (Interview, GreenVolt employee).

One of the determining factors is the motivational effect of entering the cooperative: the supply of green energy, the organisation's governance and because of other members' recommendation. There is also a similarity in socio-psychological characteristics of subscribing people: environmentally friendly attitude and justice-seeking. This translates into the fact that those who have a high level of ecological commitment tend to identify more with the RE coop. Additionally, frequent attendance at general meetings is positively related to social identification. The outcome probably reflects a bidirectional correlation: a strong identification with GreenVolt leads to active engagement in the decision-making and, inversely, regular participation in the assemblies can enhance the sense of belonging to the cooperative.

The analysis shows that the beginning of electricity supply marked the transition from a public to a mutually beneficial orientation. Indeed, this had two different impacts: on the one hand, it increased the spatial distance between the members of the RE coop; on the other hand, it led to steady geographical and organisational development. Furthermore, it results in an greater dependence on market dynamics. The sum of the above phenomena has led to a weakening of social identification within the GreenVolt.

Case 2: Energiamo

1. The cooperative

Energiamo is the first democratically run green energy provider in Italy (Caveggion, 2017). It was created in 2014 by around forty activists involved in renewable sources communities in northern Italy. However, its roots go back to 2008, with the birth of a small cooperative in the Piedmont region, whose task was generating electricity and financing a range of photovoltaic production facilities.

Nowadays, the coop currently counts 7,696 members (December 31st 2020) and, regarding the amount of electricity sold, it accounts for 20.6 GWh in 2020 (+47.4% over 2019; Annual Report, 2020). Although those figures seem small compared to the size of the entire supply system, Energiamo is the largest RE initiative in Italy based on a community scheme.

The main field in which the coop operates is the production and provision of energy to its associates. The sources used in the energy production are wind and solar power, with the prevalence of installations in northern Italy.

2. Growth process: community of interest or place

When the cooperative was born, the majority of the founders were very literate men, personally involved in issues related to environment and society. Following the merger between Energiamo and the former coop, there was a significant increase in the number of associates, but they were physically very localised in the regions of Liguria, Lombardy and Piedmont. Despite Energiamo presenting itself as a nationwide community with no ties to a specific geographical area, today most of the members come from northern Italy.

Learning from similar experiences in Europe, the cooperative decided to scale up the business, from power production alone to sales. Therefore, with the merger there is a definite change, due both to the growth of the RE coop and its decentralisation. Before, in fact, there was a greater link with the Lombardy-Piedmont's reality, hence with the territory, which then gradually became diluted with the transition to a broader approach.

According to Italian law, cooperatives are mutual entities. It follows that, in the first instance, the aim is to benefit the members themselves. However, this does not preclude an openness towards the society in general, thus the idea of pursuing a common good. This is particularly reflected in awareness-raising and training actions at European level.

3. Challenges imposed by growth

Diverse challenges have been encountered by Energiamo in its growth process over the years. As an electricity supplier, there is a need to comply with many legal obligations. The task of coordinating all the different areas of the RE coop has been difficult, particularly when the number of members was increasing rapidly. This is linked to the attempt of creating and maintaining a high level of engagement within the organization. As a matter of fact, a lower degree of involvement and self-identification was found among members who are more distant from the historical core.

> *To solve this issue, we have founded "territorial nodes" where there is a denser presence of active members. In this way, we introduced an intermediary with Energiamo to make members feel more involved, by assigning them roles connected to the territory* (Interview, Energiamo employee).

The expansion of a cooperative entails making difficult choices. On the one hand, there is the need of revising the "business model", while on the other hand, it is necessary to maintain as close a relationship as possible with its members, trying to avoid conflicts of principle with the coop structure. Of course, the more they opt for major changes in strategy the more "barriers" they confront. To manage these kinds of tensions, there is a need to take into account the specialised nature of certain issues and the level of commitment to the projects. As Energiamo has almost 7000 members spread all over the country, the technique adopted to define common decisions is to use general questionnaires and meetings with the most active people. An additional difficulty arises whenever there is the necessity to make rapid administrative choices. To cope with this problem, it is essential to show that the management cares about what members think. If successful in this endeavour, the stakeholders' involvement may not be so impeding.

The board of directors should be aware of the values of the cooperative and demonstrate that the choices it makes are in accordance with them. There is a necessary requirement to adhere to these principles in the reasoning that is done and in the decisions that are made. For example, the need to bring technical expertise into the coop, as the organization grows, must be balanced by the retention of historical figures as a guarantee of a certain identity, history and values. As the current Energiamo was born merging with a pre-existing cooperative, the process that was put in place took the solicitations from below and integrated them at the management level.

Considering that Energiamo is an expanding RE coop, encompassing the whole country, it implies a considerable increase in the number of points at which energy is fed into the grid. Coordinating these spots and the power discontinuity, requires a necessary contribution of external digital resources, which risks to misalign with the idea of a bottom-up transition and undermining the democratic value of the organisation. Energiamo's answer to this dilemma lies in between:

> *We combine both bottom-up and top-down transitions, because one does not work without the other. We believe that the participation of large companies in energy community projects is a winning approach* (Interview, Energiamo employee).

Indeed, Energiamo relies on Enel as its national distributor, and the partnership has been proved successful.

Creating relationships with businesses that reinterpret the model proposed by the cooperative is an interesting option to involve more citizens in the energy transition. On Energiamo's side, however, there is a need to ensure both the sustainability of the whole initiative and that those entities share the same basic approach. Thus, avoiding the internal frictions that could arise, that could potentially lead to a reduction in the number of members, particularly those involved for strong ideological reasons.

4. Members' analysis

The main benefits of joining Energiamo do not involve energy prices, as they are in line with the Italian tariffs. Instead, they derive from other sources. There can be identified four different typologies of members, defined according to their motivations for entering the energy coop: environmental activists; people who believe in ethical consumerism; those who care about social innovation; and some who are keen on technological development in renewables and energy efficiency. Over time, an increasing number of individuals joined not just for ideological reason, but also for the idea of profiting from it. Nevertheless, there is still a predominance of members who take part because they share the same point of view in terms of environmental and ethical issues. Such members are particularly involved and proactively seek to develop facilities and initiatives in close relation with local communities.

However, there remain some activities where the participation is less direct, as in decision-making processes. In such contexts, on the one hand, the organisation has been defined mostly a priori by the founders, and on the other hand, there is the desire to guarantee more significant economic returns. This results in some members not feeling involved in the managerial aspect of the cooperative.

To date, Energiamo is growing rapidly, especially following the introduction of the "110% Superbonus" for energy efficiency in buildings in Italy (Coronavirus - Decreto "Rilancio", 2020). The key factor that makes the coop able to maintain a high level of participation and self-identification by its members is a very strong common value. This makes easier to get more involvement, without the need to secure significant profits compared to the capital invested. Indeed, there is the idea of being part of a project that would have a positive implication at local and national level, which might also be defined as a "common good" impact.

Case 3: Plus Écolo

1. The cooperative

Plus Écolo is a RE coop created in 2010 by several bodies, including Enercoop. At that time, there were very few cooperative active in France, and one of the reasons was the difficulty to raise funds in the sector. This is why, when Plus Écolo was formed, it was conceived with two distinct organs: an association and a financial platform, aimed to support energy projects.

As of December 31st, 2020, Plus Écolo Investissement had 6,517 members, while the association counted 370 who, unlike the other body, are exclusively natural people (Annual Report, 2020). Moreover, to date, the cooperative runs about 300 different initiatives all over France.

Each of the projects they promote or finance has to be created and managed independently. In fact, the cooperative only provides monitoring and training solutions. The initiatives supported are located throughout France and cover the whole range of green energies. They deal exclusively with production, while Enercoop is the one taking care of the energy, for Plus Écolo and all its affiliates.

As previously mentioned, the Plus Écolo movement is composed of two main legal entities: an SCA (Société en Commandite par Action) and an association. First, Plus Écolo Investissement, that gathers investment and funds renewable energy projects. It enables a free and disinterested management of the instrument, by separating the "holding of capital" from governance decisions. Thus, this status allows, on the one hand, to have limited partners, who provide the financing, and, on the other hand, general associates, who administer the investment vehicle and report on their operations to the limited partners at the General Meeting. Second, Plus Écolo Association, a non-profit association subsidized by ADEME

(National Agency for Environment and Energy) that federates citizen energy actors and facilitates exchange and training within the movement. It is organized through regional networks whose structure may differ depending on the historical trajectories of the area.

2. Growth process: community of interest or place

Plus Écolo is a cooperative that started as a community of interest. The motivation that united the founding members and led them to create the movement was to fight against climate change. Another of the main pillars, which demonstrates that the binding element is clearly ideological, is the fact that they are not only dedicated to the environmental issue, but also to the promotion of the cooperative model at a general level. The underlying idea is to contrast traditional capitalism by reshaping the rules of doing business and involving every participating member in the decisional process.

In the early times, the people who took part in the movement were activists, who shared a common vision of how an energy project should be structured. They started by working exclusively with cities or countries, but they soon realised that in order to make the model more accessible, there was a need to directly include private parties, such as citizens, who can also play an active role in the initiatives. The combination of these two approaches proved to be extremely effective, leading to the creation of the "citizen projects", which quickly demonstrated their full positive potential.

To facilitate the emergence and the structuring of such initiatives, its partners are now present throughout France. In many regions, networking organisations have appeared to offer dedicated support to local project leaders. With the growth of the movement, there is a shift towards a community-of-place approach. In "citizen projects", the model is purely territorial, with the sole aim of developing *in situ* energy creation and consumption plans. The local inhabitants are personally involved and play an active role throughout the whole operation,

thus increasing the level of participation in Plus Écolo initiatives. The consequence is that individuals identify themselves more with the movement, as they take part in decisions concerning their own region.

Thus, there is a change in the approach of the cooperative, progressively shifting towards a member-centred attitude. This can also be found in the charter, where it is stated that the main focus is on the associates themselves and the creation of their well-being.

3. Challenges imposed by growth

Plus Écolo is registering an increase in the number of members because people are getting more and more sensitive towards environmental issues. However, the French RE coop encounters difficulties finding effective ways to communicate to the citizens what it does. It may be because France has an electricity supply mix that is 54% decarbonised, which a very high share is nuclear power (International Energy Agency, 2020). For this reason, it is very complicated for actors in the area to mobilise people towards energy transition. In particular, there is the wrong common belief that nuclear energy is a renewable source, whereas the uranium used in the process is non-renewable. Indeed, in France even though many entities in the field are known for their anti-nuclear position, they do not communicate much about it, in order to involve more individuals, like those who support renewables and are not against nuclear.

There is also a need to change how possible new members can be reached. Until now, the target audience has tended to be older, white men who previously had careers as engineers. A change of approach is essential to engage young people and women who are highly motivated by the cause and want to take an active part in energy transformation.

The other big challenge they face as the cooperative grows, regards with whom to cooperate to build large renewable energy production. Plus Écolo initiated at the national

level a working group, with private developers to define what kind of partnership could be established with “citizen projects” and regulate common “co-development” principles. These would specify under which conditions “citizen projects” can ally with private (for-profit) players to launch green energy initiatives. Plus Écolo’s strategy tries to experiment with those businesses in the hope to change progressively their practices, towards a more inclusive approach of citizens in the governance of sustainable plans. At the same time, RE actors are conscious that there is a tendency in the market to concentration, as small renewable energy associations are purchased by big companies. This makes it even more difficult to find businesses with value similar to Plus Écolo ones. As mentioned above, the cooperative is creating ethical criteria to select partners and the define the right way to work with people who do not initially share their ideals. However, it does not seem to have a specific strategy regarding relations with small companies yet (Annual Report, 2020).

4. Members’ analysis

In Plus Écolo, many members join the movement for ideological reasons concerning energy sustainability and the environment. There are as well those who join to promote the cooperative model, which is perceived as more democratic than the traditional one. There are also those who want to take part in projects that both unite people and have a positive economic and social impact.

The second type of participation is related to the notion of “citizen project”. According to the RE coop’s charter, these initiatives are characterised by an inclusive and cooperative governance. Local organization and authorities play an important role, by grouping and coordinating the participants. Plus Écolo, besides funding the initiative, offers a limited profit distribution with these projects. This reason triggers citizens to get involved in the RE coop, in order to foster the development of their community, by implementing new renewable

energy facilities. So, this translates into a desire to attract money for their territory, and secondly, for the citizens themselves, as an active part of the electricity production:

> *We have seen a greater involvement in the movement since we introduced "citizen projects". Members perceive these initiatives as closer to their daily lives and can experience directly the benefits* (Interview, Plus Écolo employee).

Discussion

This study aimed to analyse the consequences of growth on the cooperative economic model, particularly in the renewable energy sector. The purpose was to explore how the need for financial sustainability due to the expansion can be balanced with keeping people engaged within the organisation. This correlation originates a paradox, which namely is "something (such as a situation) that is made up of two opposite things and that seems impossible but is actually true or possible" (Merriam-Webster Dictionary). Indeed, the smaller a cooperative is, the more it focuses on the common good and is driven by ideological motives, resulting in greater involvement and self-identification of the members in its activities. However, the inevitable process of growth leads to a need to be financially sustainable. This entails the risk of weakening the connection with its components and reverting to a traditional business model. Hence, the contradiction arises in the apparent impossibility of combining the two contrasting aspects. Paradoxes, by their very nature are perceived as negative, since they highlight conflictual inputs within the context, resulting in a seemingly unresolved stalemate. However, this is only a superficial point of view, since, as suggested by Putnam, Fairhurst and Banghart, embracing antagonistic ideas can actually be a drive for creativity and leadership inside an organisation (Putnam, Fairhurst and Banghart, 2016). Thus, heading to new perspectives, in this case in the cooperative structure, which had never been explored before.

Our results suggested that two main elements appear to explain the correlation: spatial factors and reciprocal benefit.

Firstly, **spatial factors** were found to have a major impact. The beneficial influences of coop, in terms of self-identification and the inclusion of fellow members in one's personal social network, fades away as the geographical extension increases. This is because as the organisation develops, the structure becomes more complex, resulting in a greater heterogeneity and diversity of members. As a consequence of the rising number of memberships, the motivations that make people join the coop also broaden, due to the different realities of the individuals, leading to further distancing. The outcome of this analysis indicates that the divergence between those who join a renewable energy cooperative in the initial periods, and those who enter when the growth process is underway, is affected by the various territorial models of the clusters. Regarding the first group, there is more cohesion among the members, with almost all of them still actively involved in the organisation. In contrast, when examining those members who joined once the geographical expansion had already begun, the result is that there is a clear decrease of the social relations with other individuals of the coop.

Considering that territorial influence is directly linked to growth, the organizational change from public to mutual benefit approach that GreenVolt and Plus Écolo experienced has been paralleled by a steady increase in membership and in spatial scope of its operations. Thus, indicating that geographical elements do not fully account the disparity among members of the first and second group. Evidence of this can also be found in the case of Energiamo, where in terms of the orientation of the cooperative there is a reverse process, from mutual to public, but nevertheless the result is the same as for the other two analysed.

The second factor are the intrinsic features of **reciprocal benefit**. As a matter of fact, when it comes to energy provision, the benefits for coop participants become market-based

relations. This type of interaction may restrict the establishment of interpersonal connections, since they are usually characterised by ephemeral dynamics and anonymity among the parties. Therefore, by linking the coop membership to the electricity supply services, the organizations might have changed the incentive framework of both actual and potential participants. Furthermore, there was a common transformation in the sort of individuals interested in joining, who are becoming less involved than the founders and more of a client to the coop. This shift altered its membership structure and diluted the self-identification, as the idealistic motivations that acted as glue tend to take on a minor role. Indeed, if for the first members the main objective is to undertake concrete environmental initiatives themselves, for the second comers the mere fact of relying on an energy cooperative for the supply of electricity is considered more than enough, without the need for further engagement. In line with this interpretation, responses from the interviews show that latecomers do not just tend to have a lower level of self-identification with the RE coop and weaker bonds with its members, but they are rather driven by the monetary benefits than the former group.

Conclusion and Recommendations

Renewable energy cooperatives can have an essential part in moving towards a green economy by directly mobilising their members. However, different organisational structures can be linked to diverse individual involvement.

Overall, the findings revealed that public and mutual benefit organisations do have associates with distinct motivations and degrees of engagement. An approach aiming at mutual (/public) benefit results in an open (/closed) networking framework and a weaker (/strong) self-identification of the members with the cooperative.

Concerning organizational issues, the data show a trade-off between maintaining a significant member involvement and the scale-up process. The provision of mutually

supportive services is a powerful motivator to bring in more individuals and gather funding, thereby increasing positive social outcomes and securing the financial sustainability. However, the downside is that mutuality undermines the participatory drive in the cooperatives, as the cases analysed demonstrate.

The results suggest that there is a need to compensate for the dilution of social ties related to mutual benefit approach by reconnecting to the cooperative base of business operations. It can be implemented by promoting bonding activities that simultaneously allow the members to reconnect to the organisation's ideologies, while creating social ties with each other.

Otherwise, managers of RE coops can foster different types of development than increasing membership and accumulating assets within a sole organisation. For instance, a good practice can be mirroring a positive business model and exchanging valuable experiences. Inter-organisational networking represents a further effective method of tackling the issues due to small size and limited resources. By doing so, RE organisations could share knowledge, expertise and assets, achieving economies of scale. Hence, this approach emerges as a successful strategy to retain benefits of locally based projects, while leveraging growth and networks for broader sustainability goals.

Another possible solution, that has recently appeared, are the "energy communities". Such models combine mutual values with a high focus on the public ones. Allowing the population to jointly possess and control RE initiatives, citizens can produce, invest and, in some cases, consume their energy. As a result, the sense of belonging is restored, because RE coop members will re-enter each other's social network. By integrating environmental, economic and community objectives, cooperatives could become crucial players for the shift towards renewable power sources scheme and could improve the social acceptance of such technologies locally.

Similarly to each study, the research revealed certain limitations in the results. The mutual benefit-market interaction pointed out previously in the essay, concerns exclusively those organisations analysed here: RE coops. In fact, it is not possible to generalize the findings obtained to the cooperative model itself as there are other sectors where the market dynamic may even be the *raison d'être* (i.e. consumer cooperatives). Therefore, the ideological motive is not considered as a binding factor among members, thus creating different internal relations. Secondly, the sample used in the investigation is not large enough to generalise the findings to all the energy cooperatives. Nevertheless, the homogeneity of outcomes suggests that there is room for further research in this direction. Finally, some overlapping can occur between the public and mutual benefit approach. For example, several people belonging to a coop receive electricity supply from it, even though they joined it before the growth phase. However, considerable dissimilarities between the two clusters indicate that the transformation dictated by growth, and the consequent shift from mutual to public benefit, is a determining factor to be taken into account in the cooperative's relationship with its members.

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Appendix

Appendix 1: Interviews' template

General Questions	- Can you resume me the story of the Coop? - What is the main activity field? - Which are the sources of energy that you use? - Which is the number of members and which are their characteristics? - Are all members from your country?
Business Model & Financing	- How does your business model work? Did it change over the time? - Energy coops assume by definition a different business model than traditional companies. However, as they expand, isn't there a risk of aligning with the traditional business model? - Which are the main sources of your project financing? - Considering that the energy network has several feed-in points and the discontinuous flow of energy due to atmospheric changes, there is a need to maintain the energetic stream and to constantly process data. How can the required cooperation of large technology companies be combined with the cooperative approach? Is there not a risk of a return to a traditional model?
Members' Perceptions	- Would you say that the purpose of your coop is more oriented towards the common good or the good of its members? Why? - Do you recognise yourself more in a community of place or purpose? Would you say there was a transition from one approach to the other, with the growth of the cooperative? - Would you say that the members identify themselves with the cooperative? Are there differences between how the founding members and those joining later self-identify themselves? Can you give me examples about how the growth of your organization affected this? - What does motivate your members to join the coop? And would you say the motivations changed with the growth process?
Challenges within the Country	- Which are the main challenges for an energy cooperative in your country? And which ones have you faced? - Have you, or do you plan to adjust/broaden/narrow your activities as result of changes in energy policies? - Which are the main drivers for development of renewable energy coop in your country/region?