

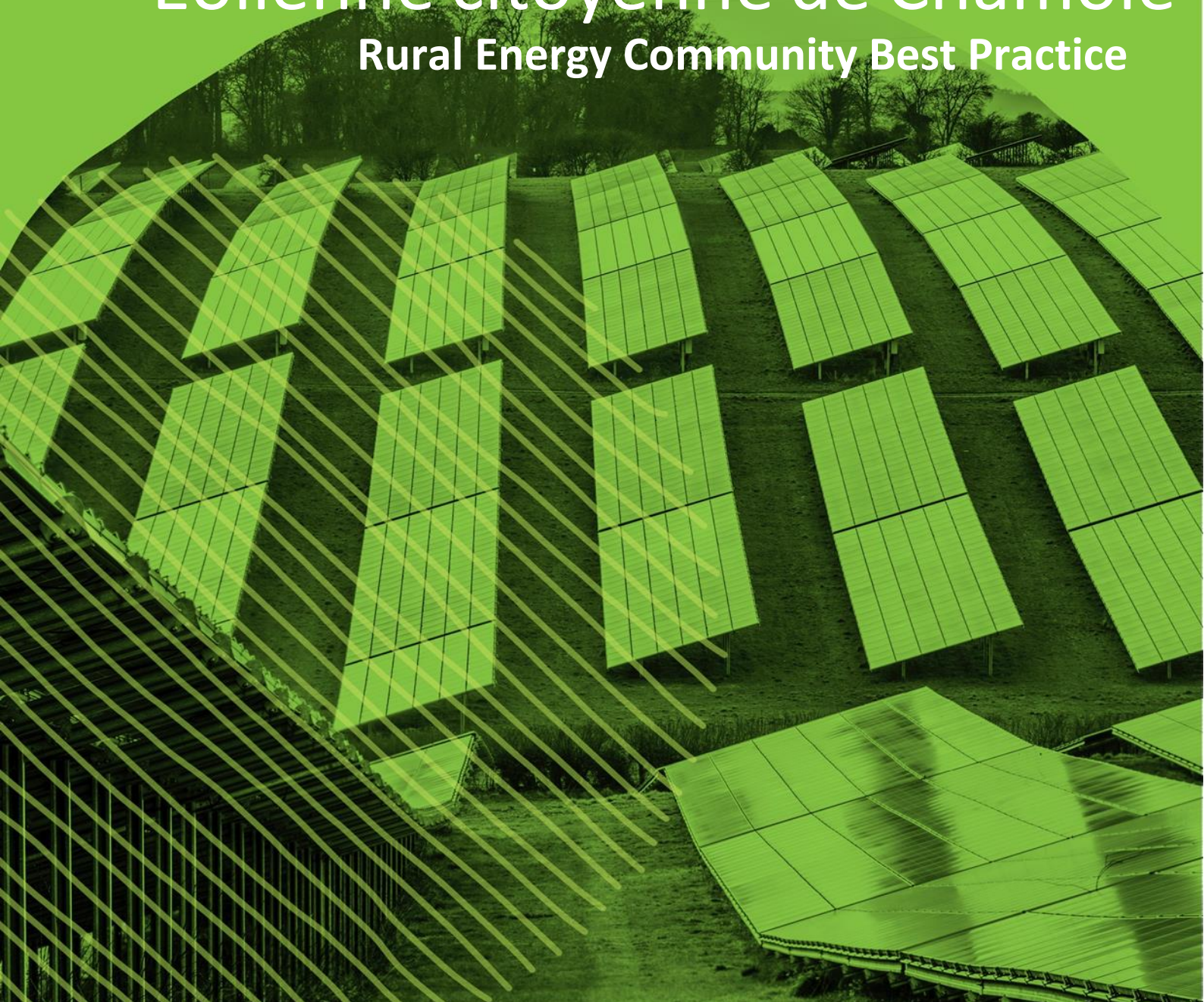


THE
**RURAL ENERGY
COMMUNITY**
ADVISORY HUB



Éolienne citoyenne de Chamole

Rural Energy Community Best Practice



CONTENTS

EXECUTIVE SUMMARY	1
1. INTRODUCTION	1
1.1 AUTHOR OF CASE STUDY AND ORGANISATION	1
1.2 RURAL CHARACTERISTIC OF THE COMMUNITY	1
1.3 NAME OF THE RURAL ENERGY COMMUNITY AND GEOGRAPHICAL SCOPE	1
1.4 AVAILABILITY OF INFORMATION	1
1.5 OBJECTIVES AND MOTIVATION FOR, AND PROCESS OF, ESTABLISHMENT	1
1.6 ACTIVITIES AND TECHNOLOGIES	2
1.7 OVERVIEW OF ACTORS AND STAKEHOLDERS INVOLVED	2
1.8 ORGANISATIONAL STRUCTURE AND DECISION-MAKING MODEL	3
1.9 FINANCIAL AND INVESTMENT CONSIDERATIONS FOR ESTABLISHING AND MAINTAINING A RURAL ENERGY COMMUNITY	3
1.10 CHARACTERISATION UNDER EU DIRECTIVES	4
2. IMPACT ANALYSIS	4
2.1 ENVIRONMENTAL BENEFITS	4
2.2 ECONOMIC BENEFITS	4
2.3 SOCIAL BENEFITS	5
3. ANALYSIS OF DRIVERS AND SUCCESS FACTORS	5
3.1 CONTEXTUAL FACTORS ENABLING SUCCESS	5
3.2 FINANCIAL AND ORGANISATIONAL FACTORS	6
3.3 ROLE OF LOCAL GOVERNANCE AND LOCAL/REGIONAL LEADERS IN IMPLEMENTATION	6
3.4 INCLUSIVENESS/PARTICIPATION/SOCIAL ACCEPTANCE	6
3.5 INNOVATIVENESS	6
4. TRANSFERABILITY AND RECOMMENDATIONS	7
4.1 TRANSFERABILITY	7
4.2 RECOMMENDATIONS	7

Lead author: Samuel Gregory-Manning, Ecorys

Executive summary

The Rural Energy Community Éolienne citoyenne de Chamole is a Rural Energy Community that originated in 2007 and had evolved into a citizen project by 2015. Its first year of operations was in 2019. The energy community consists of a single wind turbine in an installation of six turbines in total. This is joint-owned by the local commune, a purpose-built citizen cooperative, a citizen territorial tool (that supports collectives and finances the development of public and citizen projects on renewable energy production), a regional company and a national fund. The energy cooperative brings together more than 600 citizens of all ages through over 40 investment clubs that contributed to purchasing the turbine with the other implicated actors. Notable characteristics of the community include the initial enthusiasm of the local mayor in launching the project, the multiplier effect of the investment clubs and the emphasis on education regarding renewable energy.

1. INTRODUCTION

1.1 AUTHOR OF CASE STUDY AND ORGANISATION

The author of this case study is Samuel Gregory-Manning (Ecorys)

1.2 RURAL CHARACTERISTIC OF THE COMMUNITY

The Éolienne citoyenne de Chamole is located in the French commune of Chamole, in the Jura Department in the Bourgogne-Franche-Comté region in Eastern France. The commune has around 170 inhabitants and meets the DEGURBA classification of a rural area. As such, the Éolienne citoyenne de Chamole can be considered a Rural Energy Community and is therefore within the remit of the Rural Energy Community Advisory Hub. It is thus eligible for technical support.

1.3 NAME OF THE RURAL ENERGY COMMUNITY AND GEOGRAPHICAL SCOPE

The scope of the Éolienne citoyenne de Chamole rural energy community reaches beyond just the commune of Chamole, bringing citizens together from the surrounding areas and from across the region. There are even people in Martinique involved, although the heart of the project remains in the Chamole commune.

1.4 AVAILABILITY OF INFORMATION

The community has excellent availability of information via the cooperative that was set up to run it. One of the community's central goals is raising awareness and educating the community regarding the wind turbines and Renewable Energy Communities in general. To this end, the community has a [dedicated website](#), which is exceptionally detailed and elaborates the history and motivations behind the community, its organisational structure, its finances, its technical and environmental aspects, and much more besides. This includes a series of high-quality videos on [the community](#) and [the people involved](#); a [podcast with the former mayor of Chamole](#); and [an online graphic](#) that shows up-to-date information on the production of the citizen-owned turbine. The website of [Jurascic](#), the purpose-built cooperative and majority owner of the citizen turbine, also has a clear and well-elaborated website.

1.5 OBJECTIVES AND MOTIVATION FOR, AND PROCESS OF, ESTABLISHMENT

The origin of the Éolienne citoyenne de Chamole community came from the initiative of the German wind turbine company Intervent in 2007, when they approached the commune to propose the construction of a wind turbine park of six installations. The mayor of Chamole at the time, Jean-Louis Dufour, agreed, upon the condition that the citizens

of the commune should be involved, with at least one turbine belonging to them. The main motivation behind this decision was an awareness of the need for energy transition in France, rather than financial considerations. An association called Vents du Grimont was created in 2011 (the comté de Grimont Community of Communes, encompassing the commune of Chamole), with the goal of informing the inhabitants of the commune about the community and of bringing them on board.

The development of the wind turbine park was conducted by Intervent, who identified possible sites and performed studies on the wind potential, the local environment, the heritage and wildlife, and the acoustics. They were responsible for choosing the type and number of turbines and for requesting their authorisation, which was given in 2015. The turbines were eventually established at the end of 2017.

In 2016, the community created two complementary instruments to buy the citizen turbine from Intervent: the citizen cooperative Jurascic – Énergies Renouvelables Citoyennes, and the citizen tool La Société d'Économie Mixte Énergies Renouvelables Citoyenne (SEM EnR Citoyenne). Jurascic brought together over 40 “investment clubs” (citizen groups with joint ownership), involving more than 600 citizens from across the region. The funds required to buy the wind turbine and to complement a loan from the Banque Publique d'Investissement amounted to €650,000. For this, €600,000 was brought by the citizens (of which €550,000 came via Jurascic). The remaining €50,000 was brought by SEM EnR Citoyenne and the commune of Chamole. The citizen wind turbine was installed at the end of 2018, with 2019 being the first year of its operation.

Jurascic has [other projects](#) in Jura beyond the wind turbine community, including another photovoltaic plate on the ground, with around a further five projects planned in the coming years. Fundraising efforts for the purchase of the citizen turbine were so successful that sufficient funds were raised to purchase two turbines, although it was too late to do so. The extra funds were used to purchase a photovoltaic plate on the roof of a car park in the territory.

1.6 ACTIVITIES AND TECHNOLOGIES

The Éolienne citoyenne de Chamole is one wind turbine in a park of six turbines in total, of the Enercon brand. These turbines have a nominal power of 3MW/3000kW each. This translates to, at full power, a production of 3000kWh for each turbine. Counting the six turbines, this gives a total production of the park at 18MW, which in one hour of full production produces the annual energy of six households. To function at full power, the speed of the wind must reach 12.5m/s, around 45km/h. The turbine does function below this speed, with a minimum wind speed of 8km/h required for it to turn.

The annual production expected of a turbine of this type is 6-7 million kWh/6000-7000 MWh. This represents the quantity of electricity consumed yearly by more than 2000 households, of 6000 inhabitants. Therefore, the entirety of the park covers the needs of 12,000 households of 35,000 inhabitants. The Community of Communes of Jura encompasses 8000 households, for 22,000 inhabitants. The first year of exploitation of the citizen-owned turbine was in 2019, which exceeded 7000MWh.

1.7 OVERVIEW OF ACTORS AND STAKEHOLDERS INVOLVED

The Chamole wind park has six wind turbines, five of are owned by company called Sabine, which belongs to [Enercon](#), the German wind turbine company that built the park. The sixth turbine belongs to another company called Sabine 2, which was subsequently bought from Enercon to become the Chamole citizen-owned wind turbine by five actors:

- The [Chamole Commune](#)
- [SEM EnR Citoyenne](#) (a public and citizen territorial tool created in 2016 for the Chamole wind turbine; it supports the collectives and finances the development of public and citizen projects on renewable energy production)
- [Jurascic](#), Énergies Renouvelables Citoyennes (a local energy citizen cooperative created in 2016 for the Chamole wind turbine; it brought together more than 600 citizens around more than 40 “investment clubs” and raised €600,000 for the community)
- [ERiCSol](#) (Énergies Renouvelables Citoyennes et Solidaires) (a franc-comtoise company, with a cooperative function; it was created in 2010 and supports and finances citizen Renewable Energy Communities)

- [Énergie Partagée Investissement](#) (created in 2010, it supports and finances renewable energy projects all over France run by territorial actors)

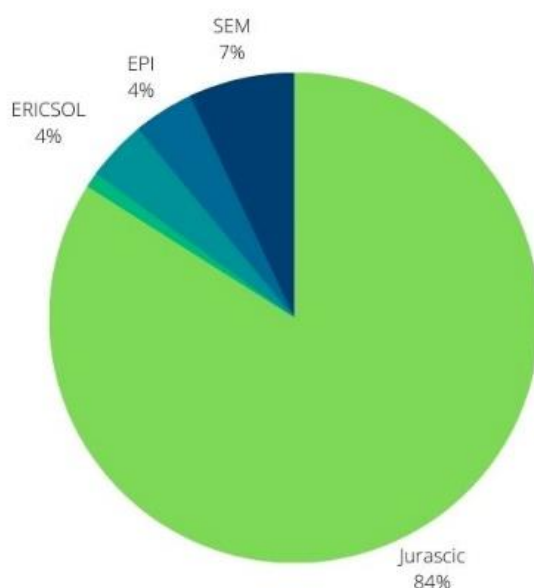


Figure 1: Financing for Chamole citizen wind turbine
Source: Adapted from the Chamole citizen turbine website

1.8 ORGANISATIONAL STRUCTURE AND DECISION-MAKING MODEL

The majority of the funds (84%) for the citizen turbine came from Jurascic, a cooperative created in the form of a Cooperative Society of Collective Interest (Société Coopérative d'Intérêt Collectif) (SCIC) in the form of a limited company (Société Anonyme) with variable capital.

Jurascic belongs to its members and is approved as a Social Economy Solidarity Company (Entreprise Solidaire d'Économie Sociale). The rules of a SCIC are established on the principle of "one person, one voice", with a weighting of votes that guarantees the control of the society by the citizens, its employees and the ethical guarantors. A minimum of 60% of potential profits must remain in the cooperative to go towards the development of other projects. The membership consists of citizens in the region (family members, friends, neighbours, etc.).

1.9 FINANCIAL AND INVESTMENT CONSIDERATIONS FOR ESTABLISHING AND MAINTAINING A RURAL ENERGY COMMUNITY

The investment clubs of Jurascic are groups of citizens that come together to invest in the community. They consist of a minimum of five people up to a maximum of 20 people, but can change in number over time. The members include neighbours, families, friends, etc. They are open to all, without any requirement of specialist knowledge, and even children can be involved.

The investment clubs have a juridical base of a conventional joint ownership. When created, the club opens a bank account in its name and is represented by a director and a treasurer. Each member puts in €100 to join, and this sum is used for the club to join the cooperative, at which point the club then becomes a shareholder of the cooperative.

When it came to acquiring the wind turbine, Jurascic informed the club directors of the sum needed, and the directors in turn went to the citizens. In the end, more than double the funds needed were raised, although it was too late to buy a second turbine. Jurascic called for funds via Titres Participatifs to the clubs, which has an annual rate of pay and is to be legally held for a minimum of seven years. Jurascic acts as the catalyser for collecting the savings from the citizens, with the club directors and treasurers acting as intermediaries between the cooperative and the citizens. Jurascic was then able to invest in the company Sabine 2 that essentially is the citizen-owned wind turbine, alongside the other shareholders. Some funds came from Energie Partagée, which supports projects across France, and ERiCSol, which supports projects across the region.

The funds required to buy the wind turbine and to complement a loan from the Banque Publique d'Investissement were €650,000. For this, €600,000 was brought by the citizens, of which €550,000 came via Jurascic. The remaining €50,000 was brought by SEM EnR Citoyenne and the commune of Chamole. Jurascic is planning further fundraising to support future projects.

1.10 CHARACTERISATION UNDER EU DIRECTIVES

The energy community produces exclusively renewable energy, particularly wind energy. There are sufficient levels of geographical proximity; it is autonomous and self-controlling, demonstrates open and voluntary participation, and members are natural persons, small and medium-sized enterprises and the municipality, as per Article 22 paragraph 2 of the Renewable Energy Directive 2018/2001/EU. According to Article 2 (16) of the Directive 2018/2001/EU, the energy community is therefore a Renewable Energy Community.

2. IMPACT ANALYSIS

2.1 ENVIRONMENTAL BENEFITS

Authorisation for the wind turbine park in Chamole was secured in 2015 following independent and in-depth preliminary studies, in line with the principles of 'avoid, reduce, compensate' that underpin strict French legislation. These included studies on the natural environment and wildlife (such as protected species of woodpeckers and bats), studies on the local heritage and landscape (alongside acoustic investigations), and studies on the potential for wind production.

Post-construction studies were also conducted as part of binding measures based on the preliminary studies. These included an assessment of impacts on birds and bats, with resulting measures taken to protect these animals. Furthermore, acoustic studies of the park assessed impacts on nearby habitants. These found that the nearest house was almost more than double the legal minimum distance away from the turbines and that the noise produced by a turbine is between the level of noise produced through a closed window facing a road and the level of noise in a living room. Studies were also conducted on the wind turbine park in the wider landscape to observe its integration into the local area and develop a greater understanding of its appropriation – an important consideration, as often wind turbines are poorly perceived in France.

2.2 ECONOMIC BENEFITS

The citizen-owned wind turbine cost €5 million. This sum covered the expenses of the necessary studies, roads, connections, etc. Around 20% of the work was conducted by local companies. This included work conducted on the roads and various networks, as well as the clearing of woodland for access roads.

The co-owners brought funds of €650,000, with the remainder being funded by a bank loan. The consumption of a household is around 3,000 kWh/year (excluding electric heating), while the expected production of a wind turbine corresponds to the annual consumption of 2,000 households. Therefore, the investment cost of a wind turbine to supply electricity to a household for 25 years is €2,500, or €100 per year.

In terms of income from the wind farm, the owners and operators of the land, both public and private, receive rent and compensation to the amount of about €50,000 per year. The commune of Chamole, as the public owner, can therefore expect an income of €550,000 over a 15-year period, a sizeable sum for a commune of its size.

Local authorities collect a total annual amount of taxes of more than €170,000, which over 15 years will be almost €2.5 million. This sum is shared between the region (5.8%), the department (29.8%), the Community of Communes (62.2%) and the commune (2.1%), according to national distribution rules. For example, the Jura Department, which is responsible for social affairs, will receive more than €750,000 over 15 years. The Community of Communes has undertaken to pay the commune 20% of the IFR (fixed allowance for network companies) each year.

Regarding the income of the citizen turbine itself, the citizen cooperatives who have invested receive around €30,000 per year. Meanwhile, the owners (the citizen cooperative Jurascic, ERiCSol, Energie Partagée, SEM EnR Citoyenne, and the commune of Chamole) of Sabine 2 will receive dividends proportionate to the shares they hold and the amounts linked to the profits recorded.

Consultancy firms for the monitoring of birds, bats and noise levels represented a cost of around €300,000 in the first three years of operation, which remained in the local economy. Companies are also involved in the maintenance and control of the wind farm.

A minimum of 60% of any profits remain in the cooperative, to go towards the development of other projects. While the inhabitants do not receive a direct reduction in the energy tariff, they do receive aid paid to them to reduce their energy bills, as well as to foster energy SCICs.

2.3 SOCIAL BENEFITS

There is an emphasis on inclusivity in terms of membership. The investment clubs of the cooperative are open to all and do not require members to be experts or activists. Children are also welcome to join. The cooperative operates as an “Entreprise Solidaire d’Économie Sociale” (Solidarity-Based Social Economy Company), in which the cooperative’s internal functioning and activities are based on a principle of solidarity and social utility, with democratic and participatory management methods.

There is also a great focus on promoting the wind turbine park and the citizen turbine community as an educational tool to promote the benefits of wind turbines and renewable energy. This includes extensive communication efforts and an educational path in the park itself. The cooperative organises educational visits for schoolchildren, elected representatives, etc., as well as educational panels along the path, as such parks are open to the public in France. These panels explain the motivation and history behind the community, how it functions, the technical characteristics and production of the turbines, what the energy is used for, etc. This comes from an awareness that there is a negative perception of wind turbines in France, often accompanied by inaccurate arguments. The educational aspect aims to re-establish the truth on this through the aim to inform citizens about the scientifically proven impacts of wind turbines.

3. ANALYSIS OF DRIVERS AND SUCCESS FACTORS

3.1 CONTEXTUAL FACTORS ENABLING SUCCESS

Cultural (e.g. local cooperative culture and strong community feelings)

The community succeeded in getting off the ground thanks to a long period of exchange and discussion among local citizens, who engaged friends and family and drew from the experiences of other communities in France and Belgium. The investment clubs played a role in this, allowing small groups of connected people (family, friends and neighbours) to form and then join forces with a larger community culture. Furthermore, the commune of Chamole had a wood heating and photovoltaic production network and was thus already engaged in the energy transition. The community aims to foster cultural acceptance through informing citizens about scientifically proven impacts of wind turbines.

Social (e.g. the local energy poverty problem)

There is a strong emphasis on the educational potential and nature of the community. The leadership of the commune and its people were very much aware of the importance of the energy transition and wanted to engage in it. The cooperative operates as an “Entreprise Solidaire d’Économie Sociale” (Solidarity-Based Social Economy Company), in which the cooperative’s internal functioning and activities are based on a principle of solidarity and social utility, with

democratic and participatory management methods. They are also actively engaged in educating people about renewable energy, and specifically on countering misinformation on wind turbines.

Environmental (e.g. local environmental problems tackled by the Rural Energy Community)

The environmental impact of the wind turbine park was an important consideration. The park is located close to a protected zone, with protected species, including bats and birds (such as a species of woodpecker). Extensive studies before and after the construction of the turbines were aimed at preventing any negative impacts, while the educational aspect of the community aims to demonstrate the way the turbine park coexists with the natural environment.

Political (e.g. local political actors pushing for the development of the Rural Energy Community)

Although Intervent initially broached the idea of a wind turbine park, it was the mayor of Chamole at the time, Jean-Louis Dufour, who drove the engagement of citizens and the progression of the community. He founded Jurascic and SEM EnR Citoyenne, and mobilised people from all over the territory and region. He had a considerable impact on the realisation of the community and it probably would not have taken off without his efforts in mobilising the necessary forces within the territory – the inhabitants and politicians at all levels, local, departmental, regional and national.

Infrastructure (e.g. pre-existing local grid infrastructure)

The community began with the extensive planning required for the construction of a new wind turbine park, which ultimately included one turbine belonging to citizens. As such, there was no previously existing infrastructure for the wind turbine park.

3.2 FINANCIAL AND ORGANISATIONAL FACTORS

The community is primarily owned by the Jurascic cooperative, which is owned by the citizen investment clubs, who have a juridical base of conventional joint ownership (thus fostering the direct ownership of the citizens involved). Club directors were the contact point for Jurascic to disseminate the call for fundraising: Jurascic is the catalyser, and the club directors and treasurers are the intermediaries between the cooperative and the citizens. Joint ownership of the turbine, spread across the various entities (ERiCSol, EPI, SEM EnR Citoyenne, Jurascic), allowed for the purchasing of the turbine and helped serve the interests of the citizens who invested.

3.3 ROLE OF LOCAL GOVERNANCE AND LOCAL/REGIONAL LEADERS IN IMPLEMENTATION

The drive of the mayor to implicate the local populace in this significant community was integral to the establishment and development of the community. This can be seen as an instance of innovative leadership from the local government, which helped kickstart a process of exchange that was subsequently met with great enthusiasm from the residents of the commune and beyond to engage in such an ambitious community.

3.4 INCLUSIVENESS/PARTICIPATION/SOCIAL ACCEPTANCE

The community found support via numerous efforts of exchange and engagement among local citizens to implicate them in the energy transition of their commune and of the wider region. The involvement of different actors at all levels reflects the wide engagement of the community at both the regional and the national level, while the pedagogical objective at the heart of the community also demonstrates its commitment to inclusiveness. The membership of the cooperative that largely operates the community is open to all, regardless of age or knowledge on the topic, while the cooperative also operates as an “Entreprise Solidaire d’Économie Sociale” (Solidarity-based Social Economy Company). This means its internal functions and activities are based on a principle of solidarity and social utility, with democratic and participatory management methods. Members of the community are also actively engaged in educating people about Renewable Energy Communities, and specifically on countering misinformation on wind turbines.

3.5 INNOVATIVENESS

It is not common for citizen communities to buy a wind turbine from a developer that is a private company. In this instance, the initial spark came from the community and its leader, who all agreed to the building of wind turbines if they could also be implicated in their own community. This can be attributed to the technological complexities of setting

up a wind turbine park and significant financial barriers, which (unlike the installation of photovoltaic plates) would generally be out of the realm of financial and technical feasibility for a citizen-driven Renewable Energy Community.

4. TRANSFERABILITY AND RECOMMENDATIONS

4.1 TRANSFERABILITY

Transferability of internal drivers and factors (e.g. stakeholders involved, organisational model, financial aspects, etc.)

Strong leadership and a sense of initiative from the local government, combined with an engaged local populace, were key to the success of this community. Such a feature of the initiative has strong potential for transfer throughout Europe, especially where there is a strong sense of community in rural areas. Furthermore, the cooperative model helped bolster the community's progress by ensuring the citizens had an equal say in and took ownership of the community, combined with the complementary involvement of regional and national entities. The community was built around the cooperative as a SCIC specific to French law, if similar legal possibilities exist in other Member States for emulation.

Transferability of external drivers and factors (e.g. local government policies, contextual aspects, etc.)

The existence of similar communities, their accessibility, and the ability to exchange early on with them appears to have been influential in helping the community (and serving as a benchmark), especially as the citizens, while aware of the energy transition, are not experts. However, the transfer of the energy community drivers into other contexts will depend on the availability and willingness of similar communities to engage and support. The experience level of Member States with such communities will also be a limiting factor; in this case, there have been precedents of citizen engagement in renewable energy production in France. In other Member States where this is not the case, European exchanges could help fill the gap at the national level. The initial spark provided by the company Intervent was of course vital as otherwise the community would not have started. However, it is the enthusiasm and motivation of the mayor and citizens that encouraged the community's establishment.

4.2 RECOMMENDATIONS

Recommendations for Rural Energy Community initiators and developers

- Rural Energy Communities should engage as much as possible with citizens of all ages and backgrounds, as their enthusiastic participation can act as a multiplier effect, further engaging friends, family and networks. This model aids in citizen engagement and ensuring they are implicated in the ownership of the community. Investment groups are one example of how to do this.
- Strong communication and education can further the cause, not only of your community, but also of the wider energy transition.
- In-depth and comprehensive studies on the implications and benefits of an energy community can help allay fears of environmental damage and counter misinformation, using well-presented and readily accessible educational campaigns and tools.
- Drawing upon the support and knowledge of wider regional and national entities brings about useful information and sources of funding.
- Unique opportunities can present moments for innovative cooperation between citizens and actors in renewable energy production.

Recommendations for policymakers

- Local:
 - Rural communities present opportunities for close-knit exchanges and engagement, capitalising on local networks and enthusiasm. Local leaders will be best-placed to mobilise their communities, using their local expertise to develop effective rallying strategies.
- Regional:

- Communication and education can be an excellent way to promote communities and encourage their replication, while also generating a sense of regional pride and ownership and countering misinformation on renewable energy.
- Supporting and enabling regional organisations can help provide regional financial and technical assistance.
- National:
 - Exchange at the national level is invaluable to allow innovative approaches to be shared among Rural Energy Communities.
 - National cooperation can provide opportunities for experienced and successful energy communities to support and train others.
 - National-level organisations can promote and nurture Renewable Energy Communities by connecting them to a network and providing financial tools and training. They are particularly valuable for rural contexts, which might not be well placed to tap into these advantages at a regional level.
- EU:
 - Not applicable.

Sources

Interview and follow-up questions with Melchior de Roquemaurel, engagement and communication at Jurascic.

Community website – Chamole L'ÉOLIENNE CITOYENNE: <https://eolienne-chamole.fr/>.

Cooperative website – Jurascic – Énergies Renouvelables Citoyennes: <https://jurascic.com/>.

La Société d'Économie Mixte Énergies Renouvelables Citoyenne (SEM EnR Citoyenne) website: <http://www.sem-enr.fr/>.

ERiCSol, Énergies Renouvelables Citoyennes et Solidaires website: <https://www.ercisol.fr/>.

Énergie Partagée website: <https://energie-partagee.org/decouvrir/energie-citoyenne/>.

