



European Network for  
Rural Development

# Smart Villages and Renewable Energy Communities

Introduction .....	2	Accessing European and national policies for community driven renewable energy in rural areas .....	4
The new policy landscape for renewable energy communities in rural areas .....	3	Smart Villages involved in community energy .....	6
Using EU Rural Development Policy to support smart local strategies for sustainable rural energy communities .....	4	Building local capacity for Smart Village initiatives for community energy .....	7
		Opportunities for accelerating energy transition in rural areas .....	8





## INTRODUCTION

This thematic Briefing is part of the series developed by the ENRD to assist Managing Authorities and rural stakeholders in designing supportive frameworks for Smart Villages initiatives in certain key domains<sup>(1)</sup>. This document focuses on renewable energy communities. Access to energy is a basic right – people depend on energy for heating, lighting, transport and economic activity. As wind, sun and water are common goods, fair access to the benefits of generating energy from renewable sources should be ensured for all citizens, especially in rural areas where many of these resources are plentiful and can generate local economic and social benefits much needed there.

It is still not widely acknowledged that rural communities across Europe have been coming together to develop renewable energy projects and distribution grids since the beginning of the electrification of Europe. But now the movement is growing fast across Europe: citizens, farmers and other small businesses are doing their own renewable energy projects, storage systems, district heating and cooling networks, and are taking the lead in insulating homes and buildings. Community energy production in Europe still has a huge growth potential. More than three and a half thousand renewable energy cooperatives are now estimated to be active in Europe. A recent study<sup>(2)</sup> found that half of EU citizens – including local communities, farmers, schools and hospitals – could be producing their own renewable electricity by 2050, meeting 45% of the total electricity demand by then.

Up until now, communities that wanted to engage in renewable energy production have found little dedicated support in EU or national legislation and policy to assist them. With the new Clean Energy Package, and the recast Renewable Energy Directive (RED II) in particular, the EU's

energy legal framework now acknowledges and supports renewable energy communities as an essential component of the energy transition. Citizens and communities across Europe now have a number of guarantees to ensure they are able to invest in renewables and directly benefit from the energy transition. As national enabling frameworks for renewable energy communities (RECs) begin to be put into place, there are a number of opportunities citizens and politicians of rural communities should be aware of.

Smart Villages strategies aim to support rural communities to test new solutions to some of the fundamental challenges they face – as well as exploring the new opportunities created by technological and other forms of innovation. Renewable energy is, therefore, without a doubt, a key theme and focus for future Smart Villages strategies.

This Briefing is targeted firstly at Managing Authorities and other institutional actors involved in preparing the future CAP Strategic Plans and Cohesion Policy programmes. The aim here is to highlight the factors and conditions they should take into account when designing their future policies to ensure that Smart Villages strategies enable rural communities to design and implement successful local community energy projects. Special attention should be paid to programmes covering islands, mountains and sparsely populated areas where there is wind, sun water, geothermia and other valuable resources for renewable energy production.

As Smart Villages strategies are, by definition, driven by rural communities themselves, this Briefing also identifies some of the key steps that local actors can take, as well as provides links to key sources of information and inspiring examples that can help them design and implement an effective 'smart' strategy for developing renewable energy.

(1) See Smart Villages Toolkit: [https://enrd.ec.europa.eu/smart-and-competitive-rural-areas/smart-villages/smart-villages-portal/smart-villages-toolkit\\_en](https://enrd.ec.europa.eu/smart-and-competitive-rural-areas/smart-villages/smart-villages-portal/smart-villages-toolkit_en)

(2) Study CE Delft (2016), the Potential of energy citizens in the European Union, [https://www.ce.nl/publicatie/the\\_potential\\_of\\_energy\\_citizens\\_in\\_the\\_european\\_union/1845](https://www.ce.nl/publicatie/the_potential_of_energy_citizens_in_the_european_union/1845)

## THE NEW POLICY LANDSCAPE FOR RENEWABLE ENERGY COMMUNITIES IN RURAL AREAS

The newly recast Renewable Energy Directive (REDII) offers citizens and communities across Europe a number of guarantees that provides a safer environment to invest in renewables. The legislation has to be transposed in all Member States by 30 June 2021, together with a supportive framework that promotes and facilitates the emergence of RECs, ensures participation is open to all consumers, and provides the tools to facilitate access to finance and information. This legislation creates opportunities for rural communities to make a major contribution to the European Green Deal.

First, the REDII provides a dedicated definition of 'Renewable Energy Community', namely a legal entity through which citizens, with or without their local authority, and local SMEs can set up projects to produce renewable energy, and engage in other energy-related activities. RECs are defined as a way to 'organise' different participants, based on open and democratic participation and governance, so that the activity can provide services or other benefits to the members and the local community. The primary purpose of energy communities is to create economic and social innovation – to engage in an economic activity with non-commercial aims rather than for profit making purposes.

### Definition of a 'Renewable Energy Community' (Article 2 paragraph 16 of the recast Renewable Energy Directive)

#### a legal entity:

- a. which, in accordance with the applicable national law, is based on open and voluntary participation, is autonomous, and is effectively controlled by shareholders or members that are located in the proximity of the renewable energy projects that are owned and developed by that legal entity;
- b. the shareholders or members of which are natural persons, SMEs or local authorities, including municipalities;
- c. the primary purpose of which is to provide environmental, economic or social community benefits for its shareholders or members or for the local areas where it operates, rather than financial profits.

Second, the REDII contains a set of enforceable rights to ensure that participants in communities are protected when trying to invest in renewables. This includes the right to produce, sell, share, store and (self)consume renewable

energy, the right not to be subject to unfair or discriminatory charges or procedures, and the right to access all energy markets – directly or through a third party. Member States must also set up 'enabling frameworks' to support the development of RECs. **These frameworks must include, inter alia, tools that can help facilitate access to finance and technical expertise, capacity building for local authorities, and measures to remove unjustified barriers to developing community projects.**

To ensure a level playing field, RECs must be taken into account in Member States' renewables support schemes so that they can compete for support with other market actors. This will ensure that communities are able to be remunerated for renewables production, so that they can have financial resources to address local needs. RECs, along with other project developers, will be able to apply for projects using a **one-stop-shop**, to simplify the process of applying for relevant licenses and permits to get projects up and running.

**Compliance with certain elements of the new Renewable Energy Directive is a mandatory 'enabling condition' to get support through the Cohesion policy** (for example, compliance with 2020 targets and with this baseline up to 2030; increase in share of Renewable Energy Sources (RES) in heating & cooling by 1 % per year up to 2030). One of the five Policy Objectives (PO) of the new Cohesion Policy is PO2 a **Greener, carbon-free Europe**, implementing the Paris Agreement and investing especially in energy transition, renewables and the fight against climate change. Where a cohesion policy programme includes support to renewable energy, the enabling condition must be fulfilled. This will be checked by the European Commission.



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## USING EU RURAL DEVELOPMENT POLICY TO SUPPORT SMART LOCAL STRATEGIES FOR SUSTAINABLE RURAL ENERGY COMMUNITIES

One of the three general objectives of the future CAP Strategic Plans (SP) is 'to strengthen the socio-economic fabric of rural areas'. This is further described in the Specific Objective 8 for creating 'Vibrant Rural Areas' by 'promoting employment, growth, social inclusion and local development in rural areas, including bio-economy and sustainable forestry'.

Community energy can be viewed as a cross-cutting 'multiplier' that can allow or improve outcomes and create economic and social benefits that stay local. In many cases, it will be a value-adding component to other economic, social, education, tourism or environmental projects. So, if in a rural area a community energy initiative increases economic resilience and results in social innovation, or increases the number of people that can access or benefit from a renewable energy/energy efficiency-related activity, it may be worthy of RDP support.

Rural communities, including in small island or mountain areas in Europe, have a strong potential for renewable energy production, and therefore, to generate opportunities for local communities to create new jobs and income, but also to achieve EU targets. Studies in Germany<sup>(3)</sup>, and more recently in France<sup>(4)</sup>, have shown that the return to the local economy is 3 to 7 times higher when renewable energy projects are community owned.

Community ownership fosters acceptability of the energy transition to a carbon free economy and society. In the recast Renewable Energy Directive the European Commission, Parliament and Council acknowledge this and Member States are obliged to provide an enabling framework to promote and facilitate the development of RECs.

Consequently, community energy should be considered in the SWOT analysis and the prioritisation of needs for the future

CAP Strategic Plans and in particular for the Specific Objective for Vibrant Rural Areas.

If community energy is identified as an important need in the SWOT analysis, then according to the European Commission, **the CAP Strategic Plans offer a broad menu of interventions** such as i) Cooperation – including LEADER, ii) knowledge and information, iii) Young farmers & rural business, iv) Investments that can be designed by Member States to channel rural communities to support RECs through Smart Villages<sup>(5)</sup>. While these cannot on their own solve the underlying problems of rural community energy, they can play two important roles:

- Firstly, through a Smart Villages approach, LEADER and other forms of cooperation, support can bring together local and national stakeholders to develop a community vision and a business case for community energy;
- Secondly, they can be used to test new or alternative solutions and to invest in small-scale, but vital, last mile connections which can create the conditions for leveraging further public and private funding.

However, to be effective, these initial investments need to be aligned and linked with other more substantial ways of supporting renewable energy and energy efficiency projects provided by the European Commission and national legislation. Two questions need to be answered when considering how the CAP can be used to support Smart Villages strategies for sustainable renewable energy communities in rural areas:

- Firstly, how can CAP interventions best be combined and articulated to meet the needs for community renewable energy in rural areas identified through the SWOT?
- Secondly, where and how can these CAP interventions best add value to other EU and national policies?

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## ACCESSING EUROPEAN AND NATIONAL POLICIES FOR COMMUNITY DRIVEN RENEWABLE ENERGY IN RURAL AREAS

There is a very large range of EU policies which can potentially be used to support 'smart' local approaches to renewable energy in rural areas. It is impossible to describe all the schemes in this short leaflet, but the Covenant

of Mayos' website provides a good overview of the funding available. This identifies and describes more than 20 sources of support – including all the European Structural and Investment Funds, other European Funding Schemes, sources of project

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(3) Institut dezentrale Energietechnologien. Regionale Wertschöpfung in der Windindustrie am Beispiel Nordhessen.  
<http://www.erneuerbareenergien.de/local-added-value-from-a-community-wind-farm/150/437/96249/>

(4) <https://energie-partagee.org/wp-content/uploads/2019/12/Note-technique-Etude-Retombees-eco-Energie-Partagee.pdf>

(5) See Smart Villages Toolkit with orientations for policy makers:  
[https://enrd.ec.europa.eu/smart-and-competitive-rural-areas/smart-villages/smart-villages-portal/smart-villages-toolkit\\_en](https://enrd.ec.europa.eu/smart-and-competitive-rural-areas/smart-villages/smart-villages-portal/smart-villages-toolkit_en)



development assistance, financial institutions and instruments, and alternative financing schemes<sup>(6)</sup>. Many of these sources of support are also relevant for rural villages and areas.

Among the European Structural and Investment Funds, the European Regional Development Fund (ERDF) is available to support investments in local approaches to renewables in rural areas. This can especially be the case in the framework of Community Led Local Development<sup>(7)</sup> where such an implementation tool of the ERDF has been selected by the Managing Authority.

A notable and fairly recent EU programme is **ELENA**, a joint initiative by the European Investment Bank (EIB)<sup>(8)</sup> and the European Commission funded by the Horizon 2020 programme. ELENA provides grants for technical assistance focused on the implementation of energy efficiency and distributed renewable energy<sup>(9)</sup> programmes of over € 30 million. Member States can consider bundling several energy community related projects together to reach the threshold.

For community energy projects on islands there are also the several support opportunities offered by the Clean Energy for EU Islands initiative with a dedicated Secretariat<sup>(10)</sup>, as well as the NESOI (New Energy Solutions Optimised for Islands).<sup>(11)</sup> These offer training **training, technical support, cooperation opportunities and robust funding** to convert Island Sustainable Energy Action Plans into Renewable Energy Sources (RES) plants, building and energy infrastructure retrofitting, energy bills reduction, local job creation and more.

Driven by the European policy landscape, many Member States are developing their own enabling support frameworks. Two relevant examples come from Scotland and Ireland.

Ireland has also recently created a system for providing financial support for the early phases of development of community-led projects, defined a separate ‘community’ category in Ireland’s auction scheme (up to 10%), made mandatory investment by

## COMMUNITY AND RENEWABLE ENERGY SCHEME (CARES), SCOTLAND

The Scottish Government’s Community and Renewable Energy Scheme (CARES) offers a range of financial support to local energy projects. The main funding streams for new applicants are:

### CARES Enablement Grant

Up to £25 000 are there to help you get your project started and can be used to fund feasibility for energy systems or renewable energy projects, investigation of shared ownership opportunities, or work to maximise the impact from community benefit association with renewable energy projects (these can be applied for at any time).

<https://www.localenergy.scot/funding/enablement-grant/>

### CARES Development Loan

Up to £ 150 000 can be provided for renewable energy projects with a reasonable chance of success. The loans can include a write-off facility that allows the loan to be converted into a grant if the project does not achieve commercial viability.

<https://www.localenergy.scot/funding/cares-development-loan/>

### CARES Innovation Grant

Up to £150 000 to either fund local energy system innovation activity, or improve the viability of projects by grant funding elements of the project. It can also be used to support the replication of CARES innovation projects that have worked well.

<https://www.localenergy.scot/funding/innovation-grant/>

More info: <https://www.localenergy.scot/funding/>

communities in all projects seeking State support and provided technical support (e.g. financial, legal, technical advice – public & private). Member States must ensure that RECs are not excluded from future support schemes by providing information, technical and financial support, reducing administrative requirements and including community-based bidding criteria.

CAP support for smart sustainable energy communities can complement and add value to such national schemes.

(6) See: <https://www.eumayors.eu/support/funding.html>

(7) Guidance is available at: [https://ec.europa.eu/regional\\_policy/en/information/publications/guidelines/2014/guidance-on-community-led-local-development-for-local-actors](https://ec.europa.eu/regional_policy/en/information/publications/guidelines/2014/guidance-on-community-led-local-development-for-local-actors)

(8) <https://www.eib.org/en/products/advising/elena/index.htm>

(9) <https://www.eib.org/en/projects/sectors/energy/index.htm>

(10) <https://euislands.eu>

(11) <https://www.nesoi.eu>

## SMART VILLAGES INVOLVED IN COMMUNITY ENERGY

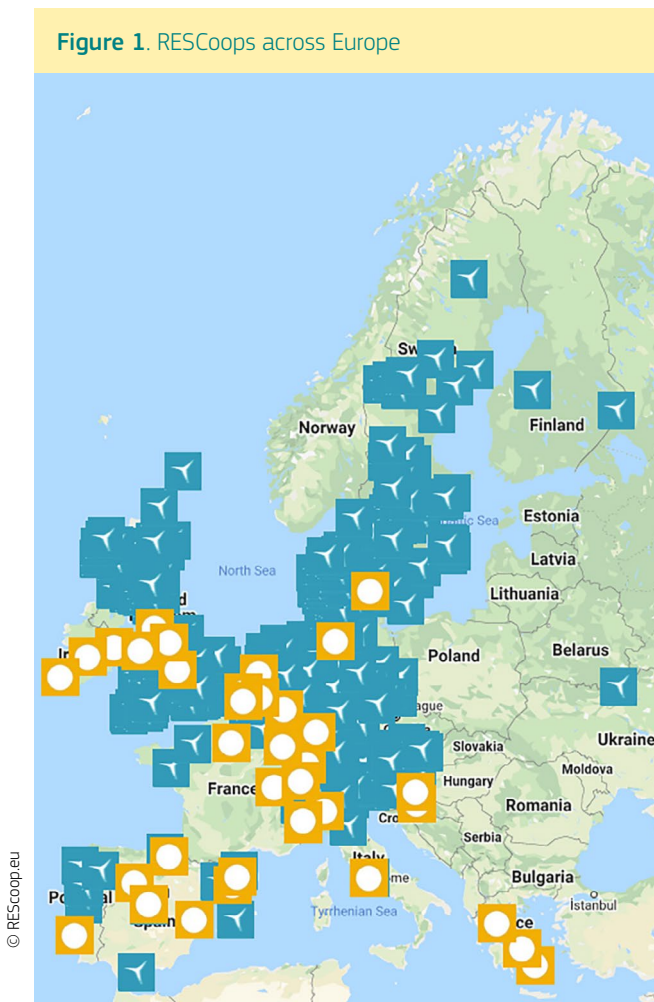
As mentioned, there are now over 3 500 Renewable Energy Cooperatives, mainly concentrated in the North West of Europe. A high proportion of these involve rural communities. They take many different forms depending on the national and local context.<sup>(12)</sup> Here we present several examples.<sup>(13)</sup> The first shows the sequence of steps that a small village can take to become self sufficient in renewable energy, the second and third show how rural communities, over a larger area, can network to achieve significant economies of scale in the production of their own renewable energy, while the third and fourth are examples of the use of rural development funding as catalysts for further investments.

### Bioenergy in Oberrospe, Germany

In central Germany, in the village of Oberrospe, a few villagers had the idea in 2006 to get rid of oil and gas by using local wood chips to deliver heat to a heat network. A feasibility study showed the project was feasible when at least 120 houses got connected to the collective heat network. They set up an energy community and with € 700 000 of their own capital, they managed to invest € 3.8 million in the project, hence contributing to climate protection (reduction of 900 t CO<sub>2</sub> per year), reducing energy dependency, keeping the money locally and reducing long term costs. Later, they also invested in Solar photovoltaic installations.

See: <http://www.bioenergiesdorf-oberrospe.de>

Figure 1. RESCoops across Europe



© Bioenergiesdorf-Oberrospe

### Eolien Pays de Vilaine

In France, in the region of Pays de Vilaine, the association Eolien Pays de Vilaine (EPV) has been growing over the last 16 years with its goal of an energy and societal transition<sup>(14)</sup>. This group of citizens aims to bring to the inhabitants of the territory ownership over the production of renewable energy (RE) and help them reduce their energy consumption. In the countryside around Redon, three citizen wind farms are currently operating, financed and managed by local citizens and public authorities (€ 42 million of investment in 13 large citizen led wind-turbines with 26 MW of operational power). These projects are respectful of the environment and its inhabitants, with a transparent and socially responsible governance. They are not speculative and provide local benefits.

(12) <https://www.rescoop.eu/starters>

Best practices REScoop report 1: <https://uploads.strikinglycdn.com/files/73affa9b-e7d5-48a9-bcc8-d38b508eaa49/REScoop%20Best%20Practices%20Report%201.pdf>

Best practices REScoop report 2: <https://uploads.strikinglycdn.com/files/73affa9b-e7d5-48a9-bcc8-d38b508eaa49/REScoop%20Best%20Practices%20Report%202.pdf>

(13) However, as the legislation is not yet transposed in several Member States it is not clear if they are RECs in the sense of the legislation.

(14) See presentation at the 10<sup>th</sup> Thematic Group meeting on Smart Villages: [https://enrd.ec.europa.eu/news-events/events/10th-thematic-group-meeting-smart-villages\\_en](https://enrd.ec.europa.eu/news-events/events/10th-thematic-group-meeting-smart-villages_en)

From the beginning, the association included the principle of linking energy savings to renewable energy production. The association also aims to pass along its experience, to help create other projects in other territories. The association shows that community energy is possible and it tries to shake up local, regional, national and European policies.

See: <https://www.enr-citoyennes.fr>

### Cwm Arian Renewable Energy CARE<sup>(15)</sup>

In Wales the LAG Arwain Sir Benfro helped establish a community renewable energy network of experts, community groups and businesses. This led to the development of the Cwm Arian Renewable Energy (CARE) scheme, which secured LEADER funding to support and develop 13 community renewable energy projects, including a 500kw wind energy project that will generate an income of £200 000/year for an estimated 20 to 25 years. These projects demonstrate that local communities can make a strong contribution to delivering and influencing national and EU objectives. In the process of developing these projects, CARE also supported wider awareness raising and capacity building for improving the knowledge of communities on emissions reduction.

### Bioenergy Villages in Germany<sup>(16)</sup>

The Bioenergy Villages project seeks to promote local renewable energy production in the villages of Göttingen, Germany. With five Bioenergy Villages now operational, the project connects local farmers to village cooperatives that

manage energy production and distribution. The project has attracted high levels of local citizen participation and provides important social, economic and environmental benefits. LEADER played a key role in preparing the ground by bringing people together, designing the concept and supporting a feasibility study and the development of the business model. LEADER investment, which was capped at € 200 000 per project, also helped to attract additional investment, ranging from €2 million to €10 million per project. This additional investment came from sources such as cooperative shares, cooperative loans and federal government subsidies.



© Bioenergy Villages in Göttingen

## BUILDING LOCAL CAPACITY FOR SMART VILLAGE INITIATIVES FOR COMMUNITY ENERGY

The recent surge in energy communities across Europe<sup>(17)</sup> is generating a considerable amount of technical knowledge about the various stages and steps that have to be followed for creating a viable scheme<sup>(18)</sup>. The European federation of citizen energy cooperatives (RESCoop) is involved in several EU funded projects, like the **Clean Energy for EU islands secretariat**<sup>(19)</sup> and the Interreg NW Europe ECCO-project, where community engagement strategies and support are developed and put into practice.

Another relevant example from ECCO can be found in the **LICHT project**<sup>(20)</sup> in the Belgian region of Flemish Brabant. This project aims to help the municipalities and the province to achieve their climate and energy goals set when signing the Covenant of Mayors and writing their sustainable energy action plan (SEAP). By aligning all the existing programmes and projects, the Interreg ECCO project<sup>(21)</sup>, the European federation of citizen energy cooperatives, REScoop.eu<sup>(22)</sup>, its member Ecopower<sup>(23)</sup> and a knowledge centre for ecological behavioral change Ecolife<sup>(24)</sup>, have created a support itinerary

(15) [https://enrd.ec.europa.eu/sites/enrd/files/s9\\_leader\\_handout\\_lag-arwain-sir-benfro.pdf](https://enrd.ec.europa.eu/sites/enrd/files/s9_leader_handout_lag-arwain-sir-benfro.pdf)

(16) [https://enrd.ec.europa.eu/sites/enrd/files/s7\\_smart-villages\\_bioenergy-village\\_de.pdf](https://enrd.ec.europa.eu/sites/enrd/files/s7_smart-villages_bioenergy-village_de.pdf)

(17) See an interesting example: <https://renewable-energies.interreg-med.eu>

(18) As mentioned earlier, as the legislation is not yet transposed in several Member States it is not clear how many are RECs in the sense of the legislation.

(19) <https://eu-islands.eu/node/585>

(20) <https://www.lichtleuven.be>

(21) <https://www.nweurope.eu/projects/project-search/ecco-creating-new-local-energy-community-co-operatives/>

(22) <http://www.rescoop.eu>

(23) <http://www.ecopower.be>

(24) <https://www.ecolife.be>

for renewable energy cooperatives that could be adapted for other countries.

The support trajectory helps build local capacity for the energy transition following the principle of 'train the trainer' of citizens and their municipality. It consists of five **working sessions** covering the main steps for encouraging participation and building support for renewable energy, and technical and financial screening of feasible energy projects.

- **Step 1: Intake & action plan**
  - i) Needs analysis & ambition level;
  - ii) Clarification of expectations and coordination;
  - iii) (Retro) planning;
  - iv) Timing & agreements.
- **Step 2: How to create public support**
  - i) How to facilitate the functioning of new or existing citizen groups?
  - ii) How to reach and mobilise other citizens?
- **Step 3: Screening of energy projects**

Discussion of methodology / parameters to assess project proposals for technical / financial feasibility.

- **Step 4: Development of energy projects**
  - i) Suggestions for adjustment and optimisation of project proposals;
  - ii) Screening location, writing and personalising proposals, discussing proposals;
  - iii) Giving reference text for the tender.
- **Step 5: Valorisation / consolidation**

How to further embed citizen participation in the municipalities' activities around the local energy transition?

As a result of these sessions, eventually nine inter-municipal LICHT groups were formed and taught how to select, evaluate, execute and communicate about good renewable energy projects. The different LICHT groups can join **LICHT Vlaams-Brabant**, which is a large consortium led by Ecopower. The consortium is now aggregating a large portfolio (more than € 30 million) of potential investments in sustainable energy (energy efficiency and renewable energy) throughout the entire province, and will then propose this to the **ELENA facility** of the European Investment bank.

## OPPORTUNITIES FOR ACCELERATING ENERGY TRANSITION IN RURAL AREAS

In the context of the climate crisis and the European Green Deal, the need and the potential for people – individually and through their community, public entities and small enterprises – to actively engage in the energy transition is significant. By 2050, at least half of EU citizens could be producing their own renewable electricity. But if we really want the transition to succeed, we need to mobilise all policies, local authorities and other stakeholders, and aggregate the renewable energy and energy efficiency projects that they identified in their sustainable energy and local energy action plans.

At its 10<sup>th</sup> meeting, the ENRD Thematic Group on Smart Villages<sup>(25)</sup> made the following recommendations for

accelerating the energy transition in rural areas. The future CAP Strategic Plans can play an important role in this process.

- ▶ **Create awareness and build community and municipal buy-in for renewable energy projects.**  
<http://www.ripollesgesbisaura.org/enegest/>
- ▶ **Set up effective systems for providing technical assistance and capacity building.**  
<https://www.localenergy.scot>
- ▶ **Start small with seed funding that spreads risk and allows testing the business model of projects.**  
<https://www.eib.org/en/products/advising/elena/>
- ▶ **Set target indicators.**
- ▶ **Ensure a stable regulatory framework that supports the long-term viability RECs.**  
<https://www.rescoop.eu>



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(25) [https://enrd.ec.europa.eu/publications/smart-villages-and-renewable-energy-10th-thematic-group-meeting\\_en](https://enrd.ec.europa.eu/publications/smart-villages-and-renewable-energy-10th-thematic-group-meeting_en)