

Energy communities:

A brief explainer for managing authorities in central and eastern Europe



Canva

The current energy crisis once again shows that we need all available tools to achieve Europe's climate goals, phase out fossil fuels and turn the energy transition into a reality. Years of dependence on (mostly imported) fossil fuels have locked Europe into using polluting energy sources, hindering our efforts to reduce greenhouse gas emissions. We now see that this dependence has also made us vulnerable to supply shocks and price volatility. Energy communities can act as a key solution to reach the climate goals and a decarbonised Europe by 2030.

Energy communities work towards the development of a decentralised, renewable, clean and efficient energy system with citizens at its core. As such, these communities have great potential in supporting the phase-out of fossil fuels, whilst simultaneously enhancing resilience against energy price spikes and import dependence, contributing to local efforts for renewable energy and energy savings as well as supporting local economic development.

The goal of this briefing is to explain the concept of energy communities and their societal benefits. Further, we intend to give insight into how their development can be supported at the national and local levels. This briefing also provides an overview of the EU legal definitions for energy communities, barriers to their development, recommendations on how to support them and examples of energy communities in central and eastern Europe.

What is an energy community?

An energy community is first and foremost an organisational concept based around three main principles:

- It is **owned and controlled by private consumers, municipalities and/or small and medium-sized enterprises (SMEs)**. It is usually controlled through a democratic governance mechanism.
- It is **open and guarantees voluntary participation**. All participants should be welcome and enjoy similar governance rights.
- It is **primarily dedicated to social and environmental benefits**, rather than financial profits.

To put it briefly, an energy community is a group of citizens cooperating on an energy transition project. The most commonly used model is citizens collectively owning renewable energy systems, such as wind turbines and solar photovoltaics. These communities always take a collective approach with democratic governance, irrespective of what legal form, business model, or technologies are used. As described below, energy communities engage in many activities, ranging from renewable energy production and energy efficiency to building renovation and electric vehicle sharing. This approach is tried and tested, with many community energy initiatives active in Europe over the past decades.

EU legal definitions



As of 2019, two types of energy communities are legally defined at the EU level, signalling a strong shift in the role of citizens from passive consumers to active participants in the energy transition. The definitions of ‘renewable energy communities’ in the revised [Renewable Energy Directive](#) and ‘citizen energy communities’ in the [Internal Electricity Market Directive](#) provide a supportive legal framework for community energy ownership. They give a set of criteria that must be met for a collective to be considered an energy community, including ownership, governance principles, and non-commercial purpose.¹

The real potential of energy communities depends on how the directives are transposed and implemented at the national level. Member States had until June 2021 to do so, yet most are far behind in building a legal framework and providing the necessary governmental support for the development of energy communities in their country. In many central and eastern European countries there are still substantial deficiencies in the transposition of the citizen and renewable energy communities definitions, as can be seen in the [transposition tracker](#) maintained by REScoop.eu (the European Federation of Citizen Energy Cooperatives).

Despite the weak transposition by national governments, the managing authorities should not step away from supporting energy communities, as the concept is widely recognised and will be enforced by the official EU legal framework. Moreover, promoting energy communities can be an efficient way to reduce the impact of the energy crisis on households by supporting local ownership of renewable energy production.

¹ For a detailed overview of energy community definitions and their transposition see: <https://www.rescoop.eu/toolbox/how-can-eu-member-states-support-energy-communities>

What activities do energy communities engage in?

Energy communities: overview of activities²	
Energy production	Ownership/production of energy through wind, hydro, solar, biomass, and geothermal systems
Electricity supply	Electricity supply to households/SMEs
Distribution grids	Ownership/management of distribution system operators and smart microgrids
Energy storage	Communal and private battery schemes, vehicle-to-grid schemes
Heat supply	Ownership/operation of district heating systems, production and supply of green gas
Energy efficiency Services	Energy savings advice & building renovation support
Electro-mobility	Sharing systems for electric vehicles (cars and bicycles)
Energy poverty	Solidarity schemes, community benefit funds, and targeted support to households
IT services	Flexibility services, energy sharing, blockchain-based initiatives
Financing	Project investment and development of new services

In detail: energy communities providing building renovation services

With energy efficiency and sustainable renovation of buildings becoming increasingly important for households, energy communities have started to expand their services in that direction. Through their ‘citizen-led renovation’ programmes, they are offering technical advice and support to member, and non-member, households. Support is often offered as a ‘one-stop-shop’ approach, supporting households throughout the entirety of the renovation, from the planning, design and coordination to the evaluation and monitoring of the implemented measures. Frequently undertaken improvements include window replacement, facade and roof insulation, ventilation improvements, and heat pump and solar photovoltaic installation.

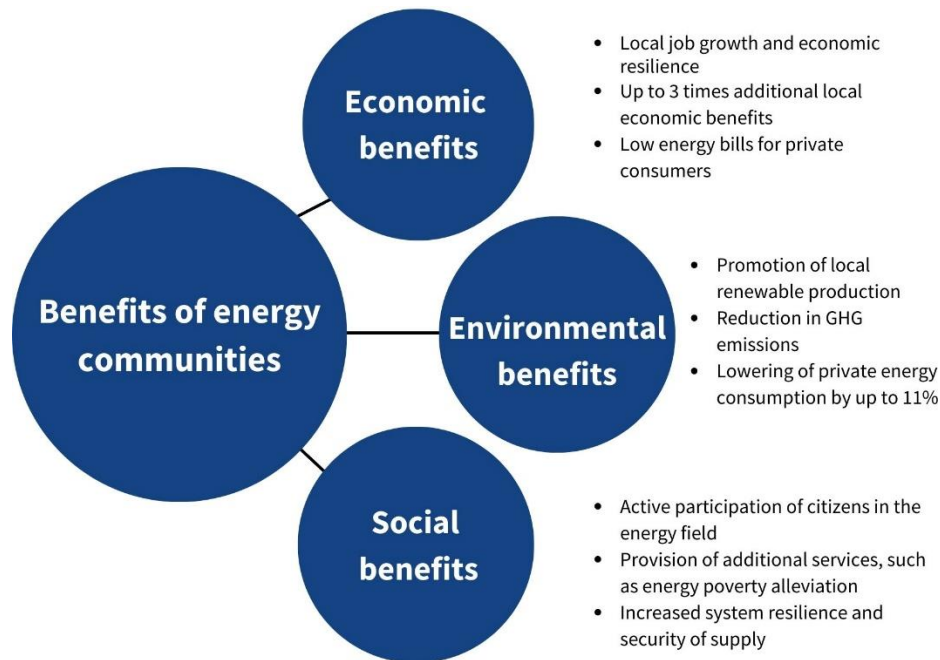
The main advantage of citizen-led renovation programmes is that they are adapted to local conditions and needs, thus providing trusted, independent advice due to the non-commercial focus and involvement of local residents in the governance of the initiatives. Moreover, citizen-led renovation programmes help to create and build on existing local networks and partnerships. Bringing together relevant actors – from contractors and

² For a detailed overview see: https://www.rescoop.eu/uploads/rescoop/downloads/D4.1.1_Best_Practice_Guide.pdf

local craftsmen to municipal authorities and energy agencies – stimulates the development of a sustainable renovation strategy for the entire community.

What are the benefits of energy communities?

Energy communities provide a wide range of benefits for their members, local communities, and the society at large.



Economic Benefits

Energy communities create an additional economic stimulus that is indelibly attached to the local territory. These organisations promote job and economic growth, in both urban and rural areas. [A 2019 survey](#) supported by the French Environment and Energy Management Agency showed that economic outputs of community renewable energy systems projects are three times higher than similar privately held projects.

Environmental benefits

Energy communities are driven by the will of local actors to promote local resilience and to protect their environment. In 15 European Member States, energy communities have collaborated with municipalities to develop decarbonised energy systems with a bottom-up approach. [A 2018 study from the H2020 REScoop PLUS project](#) showed that members of energy cooperatives will reduce their electricity consumption by up to 11 per cent compared to standard households. Energy communities promote a systemic approach to the energy transition, and support building renovation and infrastructure resilience.

Social benefits

Energy communities are primarily community driven. Solidarity with the community is often a big part of the reason for creating energy communities. Many energy cooperatives have developed poverty alleviation programmes, using profits from renewables to support the most vulnerable members of their communities. The mechanisms developed by these communities to tackle energy poverty were analysed by the H2020 Community Energy for Energy Solidarity (CEES) project in 2021. Those programmes develop energy know-how and skills among energy-poor households, while promoting efficiency across the energy system.

What is the role of funding and financing of energy communities?

A big barrier slowing the development of both new and existing energy communities is the lack of accessible, targeted and consistent funding and financing. Government programmes and instruments providing grant support, allowing for a functioning business model, are essential in the early stages of setting up and developing energy communities.

Additionally, grant funding and financing options (e.g. social loans) at the project level are necessary to get citizens on board. Though a variety of traditional funding (e.g. net-metering or grant support for building renovations) and financing sources (crowdfunding, bank or government loans) are available for investment in renewable energy systems and energy efficiency measures, EU funds can provide an important contribution.

Member States should make use of the variety of EU funding streams to put such measures in place. Given that many countries did not include measures for energy communities in their national recovery and resilience plans, national authorities have a chance to support such transformative projects thanks to cohesion policy. Operational programmes are now being designed; however, only a few countries intend to support energy communities in central and eastern Europe, and when they do so, they do not reap the full benefit of the cooperative model.

Main barriers to the establishment of energy communities and how to address them

Barriers	Recommendations
<p data-bbox="207 1402 743 1465">Disproportionate or irrelevant administrative procedures</p> <p data-bbox="170 1486 782 1780">Energy communities usually offer traditional market services to finance their ‘community value’ activities. However, as energy communities are a relatively new concept, Member States are still experimenting with support and administrative mechanisms. Some of these mechanisms, coupled with existing market imbalances, create an inequitable situation preventing a level playing field for energy communities vis-à-vis other actors in the energy sector.</p>	<p data-bbox="836 1402 1453 1465">Adapt the licensing and administrative procedure to the strength of energy communities</p> <p data-bbox="824 1486 1464 1843">In essence, energy communities are small scale local projects looking to maximise community value. Therefore, administrative procedures should be adapted to fit the size, scope, and organisational capacity of energy communities. As such, they should be rewarded for focusing on activities other than traditional financial return, for example, including social and environmental justice indicators in licensing, administrative, and procurement procedures. When making an investment decision, managing authorities should look beyond financial indicators and traditional ways of assessing</p>

	investment risk and value the societal benefits resulting from the communities' projects.
<p>Risk of corporate capture and the lack of a clear definition</p> <p>With the transposition of the Clean Energy Package ongoing, it has become clear that Member States often misunderstand the concept of energy communities. Moreover, in cases where EU-level definitions are correctly transposed, commercial actors are trying to misconstrue the goal of this organisational form. This impedes the overall adoption of energy communities by European citizens and erodes trust in their functioning. Participants in such ‘fake’ community mechanisms without adequate safeguards for openness, transparency, the non-profit basis and democratic governance run the risk of being disillusioned, as their expectations of being part of a ‘community’ are not being met.</p>	<p>Create one-stop shops for energy communities</p> <p>In order to simplify administrative and validation processes of the initiative, Member States should implement one-stop shops (OSS) for energy communities at the national, regional or municipal level, based on the service type. An OSS approach would enhance the monitoring of energy community development, whilst facilitating interactions with public authorities and the implementation of specific administrative procedures.</p>
<p>Limited access to bank financing and financing tools</p> <p>Energy communities often struggle to secure bank financing. This is primarily due to two reasons – firstly, a lack of knowledge and understanding from the banking institutions; secondly, the collective decision-making mechanisms lead to a longer approval process within the community and, correspondingly, a more widespread sense of responsibility.</p>	<p>Create specific financing tools for energy communities</p> <p>Energy communities need targeted financing tools. Several examples of successful funding schemes exist that support the development of energy communities whilst simultaneously preserving their democratic governance and ownership. The ‘revolving fund’ model, as is used in the Netherlands, allows for the financing to bridge the gap between the pre-feasibility phases of the project and financial close. The managing authority can then exit the project as the capital provided by citizens takes over. Another successful model is the ‘loan-to-grant programme’ deployed by the Scottish government. In this scheme, the managing authority gives a loan that can become a grant in case the project is not successful – within reasonable limits.</p>
<p>Lack of financial tools for initiating energy communities</p> <p>Communities have a different fundraising process from traditional initiatives. Generally, community-based initiatives raise the bulk of their financing after the financial close of their project. This is especially true for renewable energy production projects. Banking institutions mostly do not offer this type of investment for small businesses, as they are seen as ‘riskier’. There is an added complexity for energy communities, as they maintain a citizen-ownership model. This reveals a need for a new type of financing scheme, one specifically dedicated to energy communities.</p>	<p>Support network organisation to encourage bundling and capacity building</p> <p>Energy communities prefer to collaborate, rather than compete. Therefore, community organisations often work together at the regional or national level. These organisations have two crucial roles, namely, to support the aggregation of projects in order to mitigate risks, and to provide capacity building to starting energy communities. The first role allows managing authorities to scale community energy projects whilst incentivising the development of specific area services (i.e. renovation of energy-poor households). The second role is crucial to recognise and support the development of new initiatives.</p>

Examples of successful energy communities

The village of Kněžice (Czech Republic)



The village of Kněžice is located 80 kilometres from Prague and is the only ‘energy-independent’ village in the Czech Republic. Thanks to its bioenergy centre, consisting of a biogas plant and a biomass heating plant, it can fully cover its energy needs. The plants even produce significantly more electricity than the community needs, allowing them to sell electricity to neighbouring communities and the grid, providing revenue for the community. Instead of money going out of the community to import fuel, the revenue can be used to support local businesses and boost the economy of the village. The project is fully operated by the municipality of Kněžice and employs six people from the area. In addition to its economic and social benefits the bio-energy centre also leads to an annual savings of over 8,000 tonnes of greenhouse gas emissions.

Benefits

- Strengthened local economy through the sale of electricity produced by the bioenergy facility
- Reduced greenhouse gas emissions (annual savings in emissions are estimated at over 8,000 tonnes)
- New job opportunities in the village

KLIK energy community (Croatia)



In 2018, the municipality of Križevci started the first pilot project in Croatia on citizen crowdfunding for renewable energy. The goal was to raise funds to install solar photovoltaics on the rooftop of the municipality’s Development Centre and Technology Park’s administrative building. Soon, it became the biggest solar project in Croatia and led to the establishment of the first energy community in the country in 2020. The energy community ‘KLIK’ aims to contribute to the development of an energy-independent city and boost the transition to climate neutrality. It uses ambitious and innovative tools such as blockchain technology to connect the micro-network and peer-to-peer electricity trading. The initiative is led by the Green Energy Cooperative ZEZ with its partners: the municipality of Križevci, Regional Energy Agency North, Greenpeace Croatia, Solvis and ACT Group.

Benefits:

- Active community engagement in the project leading to social cohesion and local empowerment
- Generation of over EUR 50,000 in household investments for local renewable energy production
- Reduced greenhouse gas emissions (7.72 tonnes of CO₂ saved each year)

Electra Energy Cooperative (Greece)



Established in 2016, Electra Energy Cooperative is a certified social cooperative based in Athens. It operates in partnership with various stakeholders, such as citizens, local communities, municipalities and academic institutions as well as national and international organisations. One of the ambitious initiatives supported by the cooperative is the Hyperion energy community. Its objective is to develop a 500 kilowatts peak (kWp) community solar photovoltaics farm located in the region of Corinth, Western Greece. It will be based on the ‘community virtual-net-metering’ model, which means that every member of the community can buy a share of the installation depending on their consumption and benefit from the solar production, reducing their annual electricity bill. The solar farm will be able to power more than 130 homes and small businesses, producing and supplying 750,000 kilowatt hours (kWh) of clean solar power per year for 25 years, saving a total of 7,500 tonnes of greenhouse gas emissions.

Benefits:

- Promotion of energy efficiency and savings through awareness-raising campaigns
- Development of new local partnerships and networks
- Self-production, zero-to minimal spending on electricity
- Tackling energy poverty by donating a portion of the production to energy-poor households
- Reduced greenhouse gas emissions via production of renewable energy

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