European Commission

Creating value and engaging citizens in the energy transition – Rural Energy Communities

THE
RURAL ENERGY COMMUNITY
ADVISORY HUB

The role of citizens in energy systems

Addressing the high energy prices

European energy markets

European energy markets currently rely on large power plants to generate most of the energy we use in our everyday lives. Therefore, the energy system strongly depends on private companies owning and controlling the system for profit. In addition, the current energy system is also very reliable regarding external suppliers. Russia's recent military aggression against Ukraine has massively disrupted the world's energy system and has highlighted energy security concerns, bringing to the fore the EU's over-dependence on gas, oil and coal imports from Russia.

BOX 1 **Key EU policy framework to incentivise decentralised energy production**

REPowerEU

Plan backed by financial and legal measures to build a new affordable, secure and sustainable energy system for Europe. The three pillars of the plan are saving energy, producing clean energy and diversifying the European energy supply.

The Renewable Energy Directive

Establishes common principles and rules to remove barriers, stimulate investments and reduce costs for installing renewable energy technologies. It also empowers citizens, consumers and businesses to participate in the clean energy transformation.

The Electricity Market Directive

Creates common rules for the generation, transmission, distribution, energy storage and supply of electricity, with consumer protection provisions. Recently amended to provide consumers with more tools for active participation in the energy market, introduce measures to improve retail market competition and set out principles to ensure that aggregators can fulfil their role as intermediaries between customers and the wholesale market.

Nevertheless, there is potential to decentralise energy production by increasing the number of small-scale energy projects. As described in **REPowerEU**, a decentralised system can significantly reduce our dependency on Russian fossil fuels and accelerate into a future of renewable, zero-carbon, flexible, smart and localised energy. A new system is being built in Europe to incorporate renewable energy with citizen ownership, where your community can be an integral part of the energy transition. It offers communities the opportunity to generate revenue, overcome rising energy bills and retain money in the local economy. **Half of EU citizens could be producing their own renewable electricity by 2050, which would meet 45% of their energy demand[1].**

Your community can play an important role in switching to renewable energy supplies and reducing harmful environmental emissions. Through either joining or starting an energy community, you will directly be contributing to combating the climate crisis, reducing our dependency on foreign energy imports and alleviating energy poverty.

This booklet will provide you with key information on rural energy communities and the benefits they can bring to your local community.

It is estimated that just **16% of citizens in Europe know what an energy community is** and that **only 4% are actively engaged in one**. Not being aware of energy communities has been found to be the main reason for low engagement, followed by a lack ofskills and knowledge.

What can you do? Visit our website to learn more, visit the repository website, read about these best practices, approach your local authority, or join our network or similar networks.

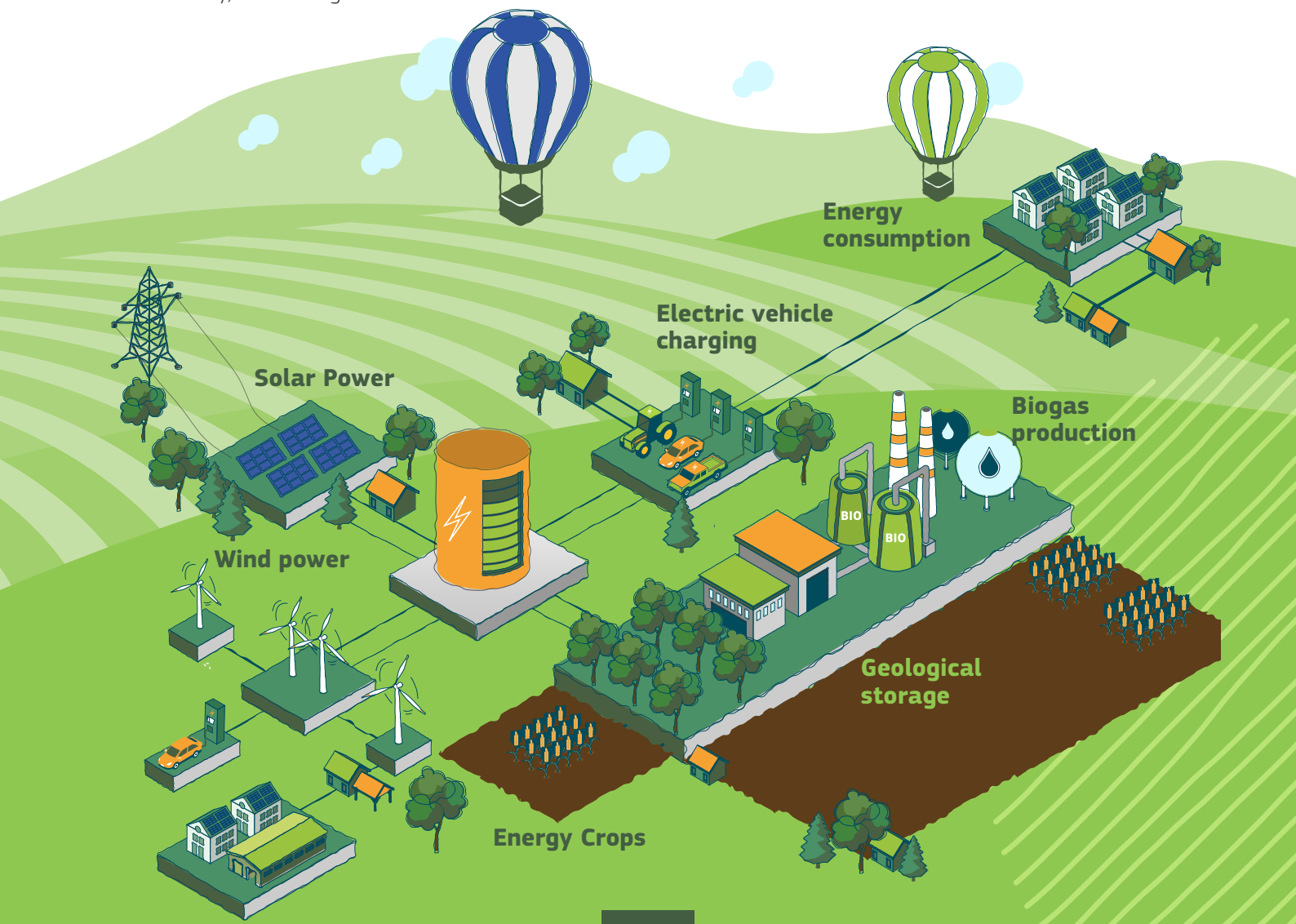
[1] The following study, performed in 2016 by Dutch consultancy firm CE Delft, evaluates the potential of decentralised power generation: https://bit.ly/2GLYnov

Rural Energy Communities

What is an energy community?

Energy communities are a form of collective action initiative (CAI) that can provide your community with the ability to own and operate energy systems. By becoming active in the energy market, citizens are no longer merely ***"consumers"***; they also become ***"prosumers"*** through self-generation and self-consumption.

Energy communities come in various forms and sizes, from small to large local communities, and can perform a variety of energy-related activities. They are open and voluntary, combining non-commercial aims with environmental and social community objectives. Your energy community can involve the collaboration of citizens and other entities (e.g. municipalities, network operators, energy providers, companies and NGOs), with the collective aim of contributing towards energy system transformation while generating a range of benefits for all parties involved. EU law recognises two types of energy communities: a **citizen energy community** in the Electricity Market Directive 2019/944 and a **renewable energy community** in the Renewable Energy Directive 2018/2001.



DIFFERENCE	CITIZEN ENERGY COMMUNITIES	RENEWABLE ENERGY COMMUNITIES
Geographical scope	**No geographical restrictions.** The community can be based on either location or interest.	**Geographical restriction** for actors in effective control. The community will be primarily location-based.
Activities	Operate in the electricity sector and are technology-neutral (fossil fuel source or renewable).	Broad range of activities related to all forms of renewable energy.
Participants	**Any actor can participate**, including public energy companies and associations.	**Restricted membership** – natural persons, local authorities, SMEs whose participation is not their primary economic activity.
Autonomy	**Decision-making power is limited** to actors other than large energy undertakings. Communities can be effectively controlled by an individual member.	**The community cannot be effectively controlled by an individual member** or traditional market actors.
Effective control	**Medium-sized and large enterprises are excluded** from exercising effective control in fact (e.g. through supply agreements or contracts) or by law (e.g. ownership and voting rights).	**Exclude large enterprises** and those not "located in the proximity" of the community-owned renewable energy project from being able to exercise effective control.

Rural energy communities are energy communities established in rural areas and therefore engaging with stakeholders and actors who live and are active in these realities, e.g. citizens, farmers, agriculture businesses, etc. Due to their rural specificities, these communities face challenges and barriers, and are often confronted with physical constraints and interconnectivity limits. These can be varied in nature, relating to socioeconomic, technical, or information concerns or issues related to actors or institutions[2].

[2] Cited in JRC Science for Policy Report Energy Communities: an overview of energy and social innovation (https://publications.jrc.ec.europa.eu/repository/handle/JRC109807)

Why you should get involved

Running out of time

We are currently facing a climate crisis, and communities across the world have started to feel the effects of extreme heat, wildfires, drought, crop failures and floods. The impacts are significantly more harmful for those in the Global South. Scientific reports are constantly reminding us that these impacts are only expected to worsen unless collective action is taken quickly to mitigate and adapt to climate change. **A new energy system that places citizens at the heart of the energy transition is possible, but your support is essential.**

Your role in the energy transition

With the **European Union striving to become carbon neutral by 2050**, investments in renewable energy systems are expected to keep increasing. However, the energy systems in place fall short of the requirements to switch from fossil fuels to renewable energy sources (e.g. solar, wind, hydropower, biogas). Rural energy communities are a practical way forward to enable access to energy from sustainable sources and contribute to a faster energy transition.

Through either joining or starting an energy community, you will be actively participating in the energy transition to mitigate the impacts of climate change, reduce air pollution and increase the uptake of renewable energy technologies.

Higher energy security for you and your community

Through either joining or starting a rural energy community, you will obtain local control of energy systems, with the financial transparency to build and sustain successful projects. **Your community can also expect to receive financial benefits through reduced energy prices, which can be lower than current retail prices, particularly if the community owns energy production sites.** In addition, as you become active shareholders, you will receive returns on investments as your energy community develops, along with an increase in job opportunities and the ability to reinvest of profits into your local economy to enrich community development.

Activities of a rural energy community

Rural energy communities can undertake a range of activities, such as **energy production , supply, distribution, storage, heating and mobility services**. The most common form is local energy generation and consumption. However, new innovations are emerging, such as mobility services for energy communities to implement electric vehicle charging stations. Rural energy communities are also important for enhancing community cooperation with local authorities and for the enactment of key policies related to the common agricultural policy, rural development and farm modernisation.

The benefits of an energy community

A better environment to live in

Rural energy communities offer a variety of environmental benefits such as **carbon reduction, increased renewable energy generation, increased resource efficiency, enhanced biodiversity, and the creation of new routes for engaging people into the energy transition** through increased energy awareness and literacy. It is predicted that energy communities could account for over 17% of all wind power production and 21% of solar power production by 2030[3].

Rural energy areas can make an important contribution, as they have large spaces of land available and are therefore ideal for installing renewables. The EU is also steering away from natural gas and recently announced its REPowerEU plan, which aims to increase the production of sustainable natural gas (SNG). Rural energy communities can implement these innovative and non-waste solutions to produce bio-methane from agricultural feedstocks such as waste streams, crop residues and forest residues.

Success story! Energy Gardens, The Netherlands

'Energy Gardens' (Energietuinen) is a successful rural energy community initiative that has combined energy generation with environmental conservation at the heart, where specific ecological design sessions led to special attention to local species, such as birds, reptiles, insects and flowers. Currently, there are three pilot locations, which currently supply yearly electricity production for 11,000 households.

The activities of Energy Gardens are focused on ground-mounted PV panels, with a combined capacity of 40MW, that will supply electricity to the grid. The environmental benefits include contribution to reducing GHGs emissions and enhancing local ecological and biodiversity value. Its economic benefits include financial participation by citizens and companies through shares and the creation of local funds for the local communities. Its social benefits include offering a recreational and educational value to the community.

Source: COME RES project

[3] Cited in JRC Science for Policy Report Energy Communities: an overview of energy and social innovation https://publications.jrc.ec.europa.eu/repository/handle/JRC109807

Reducing energy prices and job creation

Energy security, rising prices and foreign dependencies

The current situation of rising energy prices and uncertainty in terms of energy security due to dependency on imports (for consistency) of energy supplies requires immediate / short-term solutions. With the war in Ukraine impacting conventional supplies of energy and inflation reaching an average of 8.9% in Europe, **energy communities provides an alternative pathway to increase energy security**, while reducing foreign dependencies for natural resources through local participatory governance of energy systems.

Alleviating fuel poverty

Energy communities are a strong mechanism to alleviate energy and fuel poverty and have often been introduced by local authorities to tackle this problem. Citizens who take part in the energy community could see their energy bills decreasing, particularly considering the current energy and wholesale market. The **local generation of energy can increase its affordability**, ensuring the transition towards renewable and green sources. It can also help reduce volatility in energy markets.

Providing economic returns

Revenue streams can be created in different ways. Your community could attract new investments creating wider benefits. The excess energy could be sold to your local authority or private businesses, back to the national or regional grids or even to wider energy markets. As a result, your community can provide allocation of dividends to members at a yield higher compared to saving money in the bank. In addition, profits can be reinvested back into your local community keeping the added economic value within the communities and creating local economies. Local businesses could become more profitable due to the lower and reliable price of local energy. For example, the energy community EWS Schönau in Germany, owns the local distribution grid, and the grid maintenance works are outsourced to local companies. This brings two benefits, the tax payer's money for grid maintenance is kept inside of the community and job opportunities are generated locally.

Case study: Villanovaforru renewable energy community – An energy community to fight energy poverty. The Municipality of Villanovaforru has started the development process of a local renewable energy community, with the aim of involving as many families and SMEs as possible. The main objective is to provide economic benefits to its citizens, reducing energy bills without requiring any investment and thus contributing to the fight against energy poverty.

Source: Comunità Rinnovabili, Legambiete (2021), development of renewable sources in Italian municipalities and new experiences of self-production.

Employment and volunteering opportunities

Many rural communities are showing a population decline due to urban migration, along with a decrease in the number of young people. One of the main causes of this is the economic climate, as rural areas offer limited job opportunities. **Rural energy communities offer a potential solution to retain the local workforce through employment and volunteering opportunities**. Additional benefits for your local community can arise from the development of renewable energy generation plants.This can be an attractive prospect for young workers to stay in the community, to retain and upskill talent in local communities.

Success story! Énergies Citoyennes en Pays de Vilaine (EPV), France

EPV (Energies Citoyennes en Pays de Vilaine) was created in 2003, following the initiative of some twenty citizens living in the Redon territory, a rural area of about 80,000 inhabitants. These people were environmentally aware and determined to do something about the reduction of fossil energy production end energy saving opportunities. Initially motivated to set up individual wind turbines, the group soon realised that it might be more interesting to think about a more important project for the benefit of the territory.

The cooperative approach chosen by the core group led to the inauguration of the "Bégawatts" wind farm in 2015. It served as a model for two more wind farms that started production soon after, as well as two more wind projects currently under development. Having experienced the advantages of a solid core group to carry such projects, EPV have since continued promoting this approach for the other projects. Each new project being carried, from the very beginning until the operation phase and even later, by local citizens, sometimes joined by municipalities ready to invest and support. EPV's experience shows that this approach is very successful in regard of several aspects: community projects with cooperative governance run by local volunteering citizens improve the acceptance, provide benefit for the local territory, create local jobs, keep the financial benefits local and raise awareness about renewable energy production as well as energy saving opportunities. EPV dedicate an annual budget for activities offered to the inhabitants of the communes concerned by the wind farms, carried out by EPV's staff: classroom activities and workshops on thermal insulation.

EPV's recipe for success: "A strong motivation to do something about energy production, personal relationships among the group members, time to spend on the work ahead, a sense of commitment and a strong motivation to learn and gain competencies in technical, financial and legal issues concerning renewable energy."

Ensure that rural areas are not left behind

Rural development opportunities

Rural development is no longer solely associated with agricultural production, and the governance of energy resources has the potential to provide a variety of social benefits. Currently, investments in urban areas have been greater than in rural areas, which can create inequity in the social systems that are put in place. Rural energy communities can help support rural development through building social benefits and capital.

Involving citizens creates social benefits

Through a rural energy community, your group will have the decision-making powers and control over the generation of social benefits. Involving local citizens in the decision-making processes enables choices to be made on how the system is governed. As a group, you will be able to decide on what types of technology to install, where the energy is distributed and how profits are reinvested into the local community. These benefits can include, but are not limited to, improving social relations and community wellbeing, providing education, social inclusion of under-represented groups, advancing energy literacy, fostering changes in sustainability practices and behaviour, and creating volunteering opportunities. It has been shown that energy communities can help improve energy literacy[4]. For example, community engagement can take place through schools, which can organise field trips to engage young people to learn more about rural energy communities, renewable technologies and sustainable energy use.

Generation of social capital

Rural energy communities can help increase social capital, which strengthens the relationships among people who live and work in your local community. Trust is generated through the promotion of common values and practices, which enables a society to function more effectively. This is important for improving social cohesion through wider engagement, participation and reciprocity through community energy projects. Citizens gain a sense of belonging and purpose through local decision-making in energy systems. Innovative rural energy communities have also been formed to empower women in the energy transition, which has historically been a male-dominated industry.

Success story! Windfang eG FrauenEnergeGemeinschaft, Germany

Board member statement: *"We (women) just wanted to have something of our own and show that we can do wind energy and cooperatives ourselves. Our experience from the political groups at the end of the 1980s was that men always took on the most interesting positions; we didn't feel like that anymore."*

Source: COMETS project

[4] Cited in NEWCOMERS (2020) Energy Literacy for Energy Communities Handbook (NewcomersHandbook_spread_fin.pdf) (newcomersh2020.eu)

For more information visit

Energy Communities Repository, European Commission provides technical assistance, legal analysis, best practices and tools to boost energy communities across Europe. It is currently operating with synergies with the Rural Energy Community Advisory Hub (RECAH) to enhance and facilitate the emergence of energy communities.

COMETS – Collective Action Models for Energy Transition and Social Innovation investigate CAIs in energy (such as energy cooperatives, purchasing groups, energy villages, etc.) to empower citizens and to foster their shift to being active participants and providers of energy. Learn more here: (comets-project.eu)

NEWCOMERS – New Clean Energy Communities in a Changing European Energy System focused on analysing new forms of clean energy communities *("newcomers")*, characterised by novel forms of value creation, novel associations of actors and/or novel technologies and business models, including distributed renewable energy generation, distributed storage and electricity trading. Learn more here: (newcomersh2020.eu).

SocialRES – Fostering Socially Innovative and Inclusive Strategies for Empowering Citizens in the Renewable Energy Market of the Future fosters energy democracy through social innovation and active collaboration between cooperatives, aggregators of renewable energy and crowdfunding platforms. SocialRES sets the basis for a better understanding of the socioeconomic, socio-cultural, socio-political and gender factors that influence the behaviour of consumers in the energy system. Learn more here: (socialres.eu).

COME RES – Advancing renewable energy communities focusses on advancing renewable energy communities in nine European countries: Belgium, Germany, Italy, Latvia, the Netherlands, Norway, Poland, Portugal and Spain – learning from regions with advanced community energy development and supporting target regions with the potential to further develop energy communities. Learn more here: COME-RES | Home.

REScoop.EU, Friends of Earth Europe, Energy Cities – Community energy booklet provides more information on community energy and is your go-to guide packed with instructions, tips and resources to build an energy community. Learn more here: Community Energy – A practical guide to reclaiming power.

Community energy booklets. Additional **community energy booklets** provide more information on community energy and are your go-to guide packed with instructions, tips and resources to build an energy community. Find more resources here:

- Newcomers Handbook
- Friend of Earth Europe: Unleashing the power of community renewable energy
- Europa.eu: Smart villages and renewable energy communities

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