Enabling energy communities

A toolkit for just transition regions

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Regional and Urban Policy

Enabling energy communities – A toolkit for just transition regions

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Aim and scope

This toolkit is to be used as a guide for local and regional policy makers and other relevant practitioners, especially in JTF territories (whether carbon-intensive or coal+ extracting), to understand how and if energy communities can amplify local social cohesion and potential value generation through establishing local renewable energy supply. It is meant to place the opportunities offered by energy communities within larger considerations around social/energy justice and aims to convey an understanding of when it makes sense to promote certain kinds of energy communities on the background of ongoing just transitions, and ideas about when it makes less sense to do so. Throughout the document, good practices of energy community models which are deemed to have high replicability potential in JTF regions are highlighted. Energy communities in JTF territories (with the notable exception of regions in Greece) remain very scarce, and for this reason this toolkit refers also to existing energy communities throughout Europe beyond JTF territories.

Who is this toolkit for?

A toolkit for local and regional governments in JTF regions on understanding energy communities

Energy communities are a broad concept but can be basically defined as collective initiatives of stakeholders such as citizens, local authorities, businesses who jointly finance, own, govern, and carry out energy-related activities (such as production, consumption, storage but also energy sharing and aggregation).

JTF territories have already worked on and submitted their Territorial Just Transition Plans (TJTPs) as a condition to access finance under the European Commission's Just Transition Mechanism (JTM). The mechanism provides around EUR 1.4 billion in funding to different kinds of renewable energy sources.[1] The promotion of renewable energies is considered as a key driver for these regions, and it has been shown that there is significant potential for job creation[2], as well as meeting regional and local climate targets. At the same time, there is a **risk that with an influx of large renewable energy infrastructure, these projects will create limited benefit to regional stakeholders** beyond immediate job creation for (initial) construction, management, and financial revenue via regular business taxes. In other words, the bulk of income may flow out of the region instead of into the hands of local communities. There is a growing understanding across Europe that **a more locally oriented deployment of renewable energies** is a more favourable approach to truly achieve a just transition.

A review of submitted TJTPs shows that regional and local governments are eager to implement energy communities to facilitate the socially-inclusive uptake of renewables[3]. This is, generally, positive as it shows that a good number of sub-national authorities decide to introduce specifically renewable energy communities (RECs) even in those Member States where there still exists no relevant enabling framework for them. The inclusion of this concept into these plans is, however, often not sufficiently substantiated. This can be partially explained by a lack of adequate enabling frameworks (e.g. supportive legislation, clear regulations or incentive schemes) for energy communities and their related activities.

Several guides on how energy communities work already exist, demonstrating how they can be deployed at the local level, especially by municipalities, and we recommend that interested readers take note of the following:

1. Energy Community Guidebook by the Community Power Coalition, Friends of the Earth, Energy Cities and REScoop.eu
2. How Cities can back Renewable Energy Communities by Energy Cities
3. Guidebook for Developing Energy Communities in Rural Areas by the EU Rural Energy Communities Advisory Hub (RECAH)
4. Handbook for Socially Inclusive Wind Energy by ICLEI Europe
5. Briefing on Leveraging Public Funds to Support Energy Communities by REScoop.eu, Bankwatch and CAN Europe
6. Impact of the EU's Changing Electricity Market Design on the Development of Smart and Sustainable Cities and Energy Communities by the EU Smart Cities Market Place

The steps described in these guidebooks are a great resource for those aiming to practically set up an energy community. They provide checklists and guidance on how to set up such initiatives and the different activities energy communities can engage in.

- ✔ **This toolkit is meant as a complementing resource allowing readers to understand the unique nuances of introducing, framing, and enabling energy communities within the context of "just transitions".**
- ✔ It is meant to primarily serve as food for thought for decision makers in local and regional authorities as part of JTF regions.
- ✔ Throughout the document, dedicated tools to support the development of energy communities, are provided at relevant sections.

After reading this document, readers are encouraged to go back to the guidebooks above, in the order they are listed, to properly get started with implementing an energy community if it is the most just and relevant option available in a particular context.

Most common legal entities for energy communities

COMMUNITY TRUST AND FUNDATION: no-profit entity built to support initiatives that create local value. It reinvests profits in community projects.

LIMITED PARTNERSHIP: an agreement between at least two partners which can contribute with investments or other forms of support in the setup of an energy community. The profits are divided according to the share of initial investment.

HOUSING ASSOCIATION: association with the objectives to create value for the tenants of multiapartment buildings that are devoted to social housing.

PUBLIC COMPANY: The local authority takes responsibility of maintenance and management of a specific service for its citizens. The control is subject to public regulation.

ENERGY COOPERATIVE: an association of individuals, called members who own and control the cooperative to meet a common economic, social and/or cultural goal. Cooperatives follow the democratic principle of one person-one vote regardless of the investment.

What EU rules govern the development of energy communities?

Energy communities are (legal) entities that organise collective ownership around a variety of activities in the energy sector. They are based on open and voluntary participation and are under effective control of citizens, local authorities or (usually smaller) businesses. Their purpose is to provide environmental, economic, or social benefits to their members or the local community rather than generate financial profits. The EU introduced the concept into several parts of its legislative framework, but most important are the Renewable Energy Directive (RED III) and the Internal Electricity Market Directive (IEMD), which set a regulatory framework for renewable energy communities (RECs) and citizen energy communities (CECs) respectively. Energy communities may engage in generation, distribution, supply, consumption, aggregation, energy storage, energy efficiency services / charging services for electric vehicles, or provide other energy services to their members or shareholders.

Figure 1 provides the differences between the definitions of these two legal concepts which had to already be transposed into national legalisation. Figure 2 provides the minimum requirements for an enabling framework for RECs specifically. The enabling framework for CECs is similar and also need to be transposed by member states into national legislation[4]. It is worth noting that transposition of both the definitions and enabling frameworks is advancing at very different speeds. The latest transposition status can be found on the REScoop.eu Transposition Tracker.

Figure 1 – Differences between the definitions of the two legal concepts

RENEWABLE ENERGY DIRECTIVE (RED III)

the European Directive on the promotion of the use of energy from renewable sources (2023/2413). It recast and repeals previous legislation.

INTERNAL ELECTRICITY MARKET DIRECTIVE (IEMD)

the European Directive on common rules for the internal market for electricity (**2019/944**). It repeals Directive **2009/72/EC**.

RENEWABLE Energy Communities Art 2 (16)

CITIZENS Energy Communities Art 2 (11)

COMMONALITIES

PURPOSE

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

OWNERSHIP

Ensure the participation and effective control by shareholders or members for which the energy sector does not constitute a primary area of economic activity

GOVERNANCE

Participation must be open and voluntary

DIFFERENCES

SCOPE	
Renewable energy in electricity and heating	Only Electricity
MEMBERSHIP	
natural persons, local authorities, including municipalities, and SMEs whose participation do not constitute their primary economic activity	Any interested entity
CONTROL	
shareholders or members that are located in the proximity of the renewable energy projects that are owned and developed by that legal entity	natural persons, local authorities, including municipalities, small and microenterprises with no reference to the geographical distance

Figure 2 – The different elements Member States have to work on to create an enabling framework.

Enabling framework Reference: RED III, Article 22(4)
Description:

Member States shall provide an enabling framework to promote and facilitate the development of renewable energy communities. That framework shall ensure, inter alia, that:

1. unjustified regulatory and administrative barriers to renewable energy communities are removed;
2. renewable energy communities that supply energy or provide aggregation or other commercial energy services are subject to the provisions relevant for such activities;
3. the relevant distribution system operator cooperates with renewable energy communities to facilitate energy transfers within renewable energy communities;
4. renewable energy communities are subject to fair, proportionate and transparent procedures, including registration and licensing procedures, and cost-reflective network charges, as well as relevant charges, levies and taxes, ensuring that they contribute, in an adequate, fair and balanced way, to the overall cost sharing of the system in line with a transparent cost-benefit analysis of distributed energy sources developed by the national competent authorities;
5. renewable energy communities are not subject to discriminatory treatment with regard to their activities, rights and obligations as final customers, producers, suppliers, distribution system operators, or as other market participants;
6. the participation in the renewable energy communities is accessible to all consumers, including those in low-income or vulnerable households;
7. tools to facilitate access to finance and information are available;
8. regulatory and capacity-building support is provided to public authorities in enabling and setting up renewable energy communities, and in helping authorities to participate directly;
9. rules to secure the equal and non-discriminatory treatment of consumers that participate in the renewable energy community are in place.

Using energy communities to help maintain community identity

It is often cited that, for regions that rely on carbon-intensive industries, coal+ extraction and/or energy production, the decline of these industries is paired with a decline of social cohesion and a loss of a sense of belonging.[5] Such areas with energy production facilities and industrial heritage are essentially already "energy communities" in a very broad sense of the concept as they have built an energy-oriented identity and social bond tied to the industrial production of energy.

Energy communities offer an opportunity to maintain this shared identity by re-aligning it to idea of citizens, local authorities and businesses within the community collectively producing, consuming, and sharing their own energy. The open and voluntary governance of most energy communities[6] lends itself well to establishing jointly owned renewable energy projects which rely on and foster a common identity and cohesion. The power of grassroots initiatives and their ability to effectively mobilise and include volunteers, should not be understated as currently one out five persons is engaged in some kind of volunteering activity in the EU. The European Economic & Social Committee reiterates that "volunteering creates societal ties, solidarity, as well as social and cultural capital".[7] Extended to energy communities, voluntary engagement of citizens is often presented as a key element of energy democracy, ergo the ability for citizens to participate in the governance of their energy supply which strengthens local ties and sense of ownership.

Evidence from The Netherlands suggests that there exists a strong connection between people's involvement in their community and their willingness to engage in a community energy scheme.[8] Energy communities can therefore offer JTF regions an opportunity to build on their shared heritage, orient around a more sustainable energy generation source, and create local value generation through energy production.

Inter-municipal energy community for the community – Jiu Valley, Romania

The Jiu Valley in Romania is one of the EU JTF regions hit the hardest by the decline of the local coal industry with unemployment remaining at very high levels. Making use of JTF funding, six municipalities are currently cooperatively exploring the possibility of creating a renewable energy community based on solar photovoltaics (PV) on the site of a former surface mine. The produced electricity would be used for municipal applications, such as for street lighting and for social housing to lower the electricity bills of vulnerable inhabitants. Such measures would then be coupled with energy efficiency measures and building renovations to maximise benefits to the community. Local skilled technicians would also be employed to build and maintain the project.

Jiu Valley decision-makers are working to establish this energy community while simultaneously waiting for the proper transposition of EU rules at national level. The identification of the involved municipalities as long-term energy producing areas, is a key reason why they opt for establishing this initiative.

- ✔ When communicating about energy communities, consider framing the message around the local identity of your region as a common energy heritage landscape.
- ✔ "Former miners running energy communities" is an appealing narrative, but one best promoted with caution (for reasons explained further below). It is highly recommended that municipal authorities, as representatives of the local identity and heritage, take the lead in setting up and promoting energy communities. Concretely, this would mean either providing their own staff and resources, or engaging a third-party service provider which can take care of the management and technical work related to the implementation of the energy community. Citizens are then primarily enabled to become active as members of the energy community, co-owners of the renewable energy assets and, ultimately, beneficiaries of lower energy costs.
- ✔ Citizens should not always be expected to be the primary managers of energy communities. Going from high-paying industry jobs to being expected to voluntarily run an energy community is not a sustainable way of tapping into the shared energy producing heritage.

Regional identity stimulating peer-to-peer electricity – Austria

The Austrian energy cooperative OurPower offers a peer-to-peer marketplace for citizens producing and selling their own energy. They provide a service in which individual prosumers can sell their own electricity to other individual consumers throughout the entire country. In determining how to best attract citizens to this service, OurPower, through the DECIDE project, found that messaging that appealed to a citizen's own regional identity ("Your Region. Your Electricity.") was by far the most effective in attracting interest from potential prosumers.

- ✔ This case clearly shows that an argument can be made for linking community-oriented energy services and people's sense of identity with the region.
- ✔ Local and regional authorities can use this messaging to inform citizens and SMEs about the opportunities of joining and setting up an energy community.
- ✔ To better assess which stakeholders should be involved with an energy community in any given context, consult the DECIDE Stakeholder Mapping Tool.

Establishing energy communities in JTF regions

Energy communities can be set up in several different ways. In the end, what matters most, at least according to EU rules on RECs is that ownership and control remains in the hands of citizens, local authorities, or SMEs located in the proximity of the renewable energy asset and that the governance as well as the price of the electricity is not primarily dictated by a single for-profit entity which has the energy market as its main focus. Depending on the country and region, there are vast differences in terms of the general familiarity and openness towards community-owned energy projects. While countries like Germany, Belgium and Greece have a longer track-record of successful cooperative/community approaches, such examples are generally more critically looked at in many Central and Eastern European regions, where communal ownership does not have a very solid track-record.

Energy communities are often considered as largely grassroots activities and therefore rely primarily on the voluntary engagement of local citizens. Generally speaking, this should be seen as a positive trait, since volunteering work increases the sense of place-based attachment and ownership, even though the baseline for relying on volunteers to run energy communities differs significantly across Europe and an overall trend towards increasingly professionalised initiatives can often be observed. Meanwhile, in many post-Communist countries, a widely negative attitude towards volunteering can be seen given memories of times with "compulsory volunteer work" for state-controlled organisations. Many citizens in such countries refuse to participate in collective initiatives for this reason alone and are of the opinion that the responsibility for addressing social issues rests with the state, and not with citizens.[9] Looking at recent activities in some Central and Eastern European JTF regions, it can be observed that new energy community projects are not necessarily initiated by local citizens, but instead tend to be led by public authorities who act in the interest of lowering energy costs for municipal services and, if technically possible, also benefiting those citizens struggling with energy poverty.

- ✔ Energy communities can be a great way to contribute to a reduction of energy costs of households struggling with energy poverty. To better identify energy poor households and suggest short-term energy savings measures, consider the POWERPOOR Toolkit.

✔ We recommend that municipalities act as main drivers of energy communities in just transition territories and also form energy communities themselves involving the different municipal services as members and/or identify local associations which might lend themselves well to starting an energy community project. Citizens can then be enabled to get involved either financially, in the governance of the initiative or via other supportive means. Another example of a current energy community project driven by a JTF region municipality is highlighted in the sections further below:

Most common activities for energy communities

GENERATE - electricity or renewable energy. This is the most common activity of energy communities, making use of their own assets either individually or collectively.

SUPPLY - sale of energy to members of the community, but also other costumers that are not members.

CONSUME & SHARE - when the energy produced by the community is consumed by its members.

DISTRIBUTE - operating the grid in order to lower the voltage and deliver the energy to the final consumer or to a storage facility. This can be for members, costumers as well as other entities depending on the portion of grid managed.

STORE - saving the energy produced. This can be useful to ensure a more stable energy system. Mainly batteries are deployed to do that and, with the appropriate technology, electric vehicles can be deployed to this end.

AGGREGATE - summing up the energy produced by the community, its loads and flexibility for sale, purchase or balancing in the energy market.

PROVIDE ENERGY SERVICES - these can span over energy efficiency and energy savings to electric mobility. Some examples are: general advice on how to improve energy efficiency, guidance in purchase of appliances, information on incentives and funding available, energy audits, rental of power meter, energy monitoring, energy storage or smart grid integration.

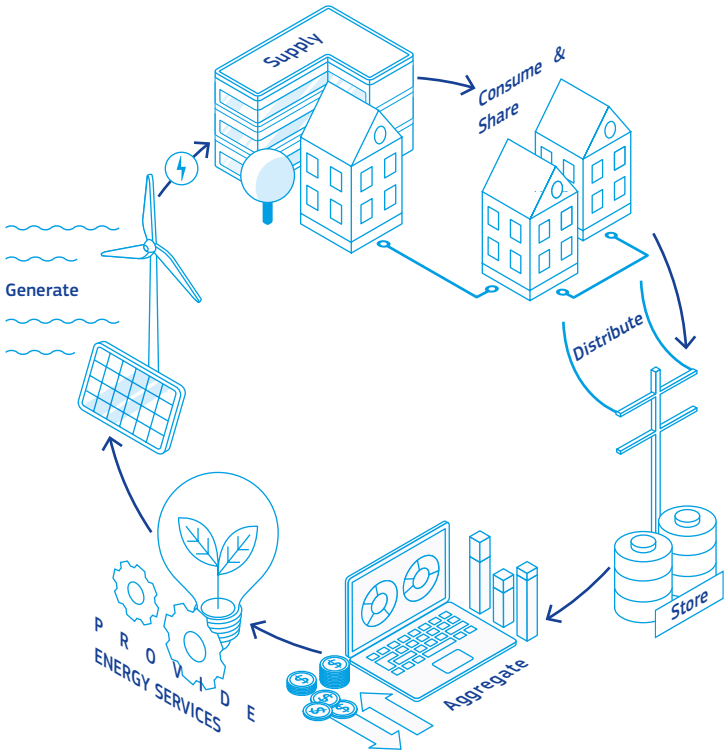

Figure 3: A simplified prosumer business model. The landscape of different business models available to energy communities and prosumers (consumers who also produce energy) is very complex. This infographic introduces the basic principles. For an in-depth presentation of different business models (such as peer-to-peer marketplaces, energy sharing, tenant electricity, aggregation, local energy supply / PPA, please look here.

Building on an energy-producing legacy – Kozani, Greece

With the help of the JTF, the Greek region of Western Macedonia wants to become an alternative energy hub. Its capital, the City of Kozani, at the heart of Greece's lignite production, is working to establish an energy community that will produce energy from renewable resources. A 6 MW solar PV park is expected to cover the electricity needs of all municipal and public buildings. In this way, Kozani aims to maintain its energy-related character which originates from its lignite-based past, but now adapted to the future-thinking strategic orientation of green energy. What's more, Greece has leveraged its long history of active agricultural cooperatives, using existing cooperative structures to start producing renewable energy.

Greece currently has around 1250 active energy communities which either produce electricity for collective self-consumption or grid feed-in. A few projects are specifically intended to lower the electricity bill of energy community members via virtual net-metering.[10] Recent energy price increases have contributed to a drastic increase in energy communities applying for grid connections with the Greek regulator and most net-metering projects have not yet developed due to a lack of electrical grid space.

✔ In this example participation from local citizens as financial stakeholders in the energy community is not foreseen. Instead, the benefits for citizens are indirect. Since the electricity generated by the PV plants is being used to lower the costs of municipal buildings such as schools and the waste management company, the benefits are for the municipal budget as well as the electricity costs of the involved municipal services. Rather than benefiting via direct cash flows, citizens will profit from a reduction on the amount of fees they have to pay for these municipal services.

✔ Communication strategies that are appealing to citizens, business, and community organizations are crucial to explaining why it is attractive to participate in an energy community together with their neighbours, local businesses and/or municipality. To help with understanding the visions people have about their local energy transition, consider using the "Energy Vision Game" developed by DECIDE.

Private sector driven energy communities

The energy transition in just transition regions is already underway with renewable energy projects being developed across JTF regions[11]. The presence and continued participation of these private-sector actors is needed to make the rapid shift to upscale renewable energy production and decarbonisation. These larger projects also generate local economic value via job creation as well as revenues from business tax. Evidence suggests that the term "energy communities" is by no means only used by grassroots initiatives. The fact that the concept is also being used by utility-scale projects is frequent cause for confusion but should not be seen as inherently negative.

Local and regional authorities should consider working with and promoting both kinds of communities ensuring that larger, utility-scale projects remain available and beneficial to local citizens and communities while also creating enabling frameworks which allow for the development of more citizen-led energy communities which are fully compliant with EU regulations of RECs and CECs.

- ✔ It is crucial to introduce the principles behind community energy into the practices of large utility-driven projects while also creating enabling frameworks which allow for the development of more citizen-led energy communities. It is not a matter of having one or the other.
- ✔ However, these activities should be clearly distinguished when it comes to the allocation of financial subsidies to energy communities. Governmental support schemes for energy communities need to ensure that only local non-profit energy communities receive support. This is to avoid a "hijacking" of energy community subsidies by for-profit energy market stakeholders who have other means of acquiring the necessary capital.

Energy communities as a region-wide solution - Poland

Energy community approaches are also being applied on a region-wide scale and, when centrally coordinated, can involve the participation of many different stakeholders. The Polish energy cluster "Zklaster" in the Lower Silesian Voivodeship pursues a vision of transforming the mining region into a region powered by renewables. The cluster manages 78 MW in PV plants, has plans for 6 MW of wind and maintains its own smart grid and power station. The aim is to facilitate an efficient use of local energy sources through a balancing of demand and supply and to achieve 100% consumption of the energy generated within the cluster for the own needs of the cluster members. This is coupled with educational work aimed at citizens living in the areas as well as supporting regional citizens to become prosumers. The cluster can be considered an energy community with members which include 83 renewable energy producers, 1 distribution company with its own energy network, 2 companies from the modern technology sector, 2 universities and local government units, a heat energy company with its own network, 1 non-governmental organisation as well as 1 scientific institute.

Energy clusters are not RECs or CECs, as per EU definitions, as they are not a legal entity (they are based on a civil law contract) and large enterprises are able to become a member.

- ✔ Promoting energy communities which do not strictly comply with EU law does not necessarily stop stakeholders to promote renewable energy installations which are owned by regional companies and, therefore, create a tangible economic value.
- ✔ As seen with the Zklaster example, energy communities can operate based on the assumption that voluntary engagement and ownership by local citizens is not necessarily required in order to create tangible benefit. The cluster also attracts people moving into the region for jobs in the renewables sector and promotes cross-border cooperation with the neighbouring coal region in Germany.

Virtual share offer PV - Greece

HERON is one of the largest independent electricity retailers and a rapidly developing natural gas supplier in Greece, with a customer portfolio consisting of more than 300.000 subscribers. HERON has developed a community solar business model in which end customers buy a virtual share of PV capacity and benefit from the respective energy production revenues for 20 years. The participation in the programme gives access to the revenues of HERON's and TERNA ENERGY's PV assets through a flat fee (minimum €100 which can be re-adjusted). There is no need for PV ownership or installation, and no long-term contracts are needed. This model combines the benefits of virtual-net metering, a simple opt-in/opt-out structure and is scalable. Customers can increase their participation to completely offset all bill-related costs and become "zero-billers".

- ✔ Local and regional governments in JTF regions should consider approaching their regional utilities to explore the uptake of similar approaches. An example such as this one is not a renewable energy community under EU law, but it successfully incorporates energy community approaches into utility business practices. While the identification and ownership of citizens is less clearly established, the reduction on energy costs is tangible and easy to access.
- ✔ This model makes use of national virtual net-metering regulation. It needs to be checked whether the national energy market framework in other countries allows for this.

Thermal energy communities

As JTF regions look to shift to a renewable district heating systems (DHS) from fossil-fuel, local and regional authorities might ask whether the creation of thermal energy communities can also be considered in order to facilitate more direct citizens participation in the heat transition.

Examples of collectively owned DHS or thermal energy communities (TECs) exist mostly in Germany, Belgium and, most prominently in Denmark, where the majority of DHS are owned by cooperatives and municipalities[12]. Denmark also has a very long track-record with consumer-owned companies. In areas where developing sustainable DHS is not economically attractive for existing utilities (mostly due to the comparatively small scale of very local projects), TECs could be an option. These are district heating networks which are collectively owned by multiple stakeholders similarly to a renewable energy community. In most cases, an energy cooperative is set up which manages the governance, the grid and collects the capital. The required money typically comes from households who become a member and provide co-financing to support the construction and in order to be connected.

- ✔ Traditional heat and cold network planning is lengthy, tedious, complex, resource and time intensive. Luckily, the THERMOS tool allows users to identify place-based, context specific optimal network solutions for any given area within minutes.

Danish District Heating Model - Denmark

The model for DHS in Denmark is often presented as a best practice on how district heating can provide a sustainable and low-cost heat supply to households. Cooperative DHS currently supply 34% of the heat sold, while municipally owned DHS supply 60% and private systems account for 7% of the heat supply. Most of the Danish district heating companies are operated as cooperatives on a non-profit basis ensuring that the heat price for consumers reflects only the actual accumulated generation and operating cost. Operations are not dictated by profit-maximising investors. DHS in Denmark rely on economies of scale in order to be cost-efficient and the Danish Heat Supply Act obliges connections for new and existing residential projects in district heating areas, ensuring a sufficient customer base. This mandatory connection significantly reduced investment risk by historically allowing municipalities to enforce a district heat subscription fee on citizens in the municipality. The knowledge that a high number of households will consistently be connected to the grid dramatically decreases the risk for non-profit cooperatives to run district heating systems.

- ✔ Large scale DHS are expensive. Local and regional governments looking into establishing new DHS with a cooperative structure need to be aware that such undertakings have to rely on very favourable funding conditions and a minimisation of the investment risk. Otherwise securing a viable business model and gathering the necessary finance from citizens (who want to be connected) will be a challenge.
- ✔ The lack of mandatory supply regulations for DHS in most European countries makes the creation of a TEC challenging as there is no guarantee that the necessary critical mass in terms of members / connected households will be reached. Experiences from German TECs show that this then requires significant door-to-door visits during the preparatory stage in order to convince households to become a member. Such approaches can work in smaller communities but require the availability and management of volunteers.

✔ Energy communities in JTF regions should be primarily promoted with a view to reducing household's energy costs. Evidence from Denmark shows that, while many DHS are collectively owned and operate on a non-profit basis, the weighted average cost for heating per households is still relatively high in European comparison. This implies that a TEC might indeed increase citizen participation based on a non-profit orientation, but it is by no means always a guarantee of lower heat prices for the end consumer which, in turn, raises doubts about the overall replicability of the Danish model within the framework of just transition regions unless the underlying conditions for the DHS business case in general improve.

Funding energy communities

It is important to acknowledge that the various activities of energy communities can only be promoted if there is a compelling business case to do so. An overview of the many existing energy communities show that many of them rely on some kind of government support during the start-up, planning and construction phase in order to maintain an effective business model. An increasing number of Member States are integrating some form of support for energy communities into the funding programmes, including as the Modernisation Fund, the National Recovery and Resilience Funds, and Cohesion Policy Funds (incl. the Just Transition Fund). While these funds are acknowledged and applied for by energy community actors, the application process can often be described as highly complex and increasing the necessary time investment to realize an energy community project. Funds designed to support energy community development need to be easily accessible. Especially, to enable (often non-technical) volunteers and citizen-led initiatives to drive the local energy transition means resources need to be easy to digest and leverage.

✔ Bankwatch has compiled a good overview of existing EU funding programmes which, via the national level, include support for energy communities.

Community Energy Fund – United Kingdom

Supporting the local post-COVID recovery efforts of business and the wider economy, Devon County Council in the UK set up a dedicated fund to support the development of citizen-led energy communities and energy support services (e.g. on building retrofitting). The 200,000 Pound fund received applications from projects which improved the capacity of existing community initiatives, provide training to help the community energy sector move forward and to increase public awareness of the benefits of community energy.

✔ Local and regional governments in JTF regions should consider setting up similar easy-to-access funds, primarily aimed at volunteer organisations. These are a great way to stimulate bottom-up action by citizens via the means of energy communities. Some examples which have been supported were an online toolkit for use by Devon's citizens to identify potential sites for renewable energy, feasibility and engagement work for a community wind turbine, citizen-led retrofitting / energy-savings advisory services, but also to set up a local energy sharing scheme in order to assess the potential for energy costs reduction.

Special citizen energy fund - Germany

The Federal State of Schleswig-Holstein, Germany, has a special low-threshold fund for "citizen energy projects" in the areas of renewable heat, sustainable mobility, renewable electricity, energy efficiency in the buildings and digitalisation of the energy sector. The fund provides start-up finance of up to 100% of actual costs with a maximum of 200,000€ per project. Should the project become successful (profitable), the full amount has to be repaid without interest.

✔ This in an attractive example for regional authorities in JTF regions to follow. Feedback from beneficiaries has been very positive especially regarding the low complexity of the application process. To date, the fund has received 50 applications, 30 have been funded and 8 projects have already paid back their initial investment. Most funded projects are dealing with wind and PV installations.

✔ The fund is supporting "citizen energy projects" or Bürgerenergieprojekte in German. The fund keeps to this broad definition in order to allow for a broad range of project types. Most funded projects are actually not energy cooperatives, but operate as limited liability companies (GmbH), a legal entity which is common among many larger energy communities in Germany, particularly wind projects. Limited liability companies can be energy communities as well with the important difference that voting rights are allocated based on capital invested rather than the one-member-one vote principle which is common in cooperatives.

✔ Local and regional governments should consider carefully whether to promote energy cooperatives or other legal entities given above mentioned implications on voting rights. While in some contexts the one-member-one vote principle might be considered just, others would argue that only an allocation of voting rights based on capital invested is just.

Most current energy communities which do not receive some form of EU / state funding, require investments by members in order to operate. Most citizen-led energy communities can be found in countries with higher levels of disposable income.[13] People struggling with a low income and energy poverty often receive social benefits which excludes them from holding investment assets in the first place. Even if they could invest some money (some cooperatives state low investment hurdles as little as 50-100 Euros per share), the return on this investment is often proportionally low. A study has also shown that while there exist a few energy cooperatives which focus on creating benefits for energy poor households, the great majority of them simply does not have the time to take up their social role which is increasingly expected of them by general political discourse.[14] What's more, any capital invested into a cooperative is often locked for multiple years and can often only be withdrawn by the investor in case of need after some time has passed. Often leaving the cooperative, which requires re-selling the shares, is only possible within the first few months after joining, or after many years (typically five). This dissuades certain groups such as low-income households, but also young people from investing. While understandable from business perspective (after all an energy community/cooperative must operate somehow), these factors raise some doubts in terms of the potential of primarily citizen-led energy communities to contribute to a just transition for all.

One energy cooperative in The Netherlands addresses this capital and justice challenge via collaboration with the municipality:

Dutch energy cooperative "GOED" – The Netherlands

This cooperative benefits from two dedicated national support programmes. Firstly, it receives a fixed remuneration on their produced electricity which has been designed especially for energy cooperatives. The only condition for them to receive this fixed remuneration is to have 100 members in the cooperative. More interestingly though, the Dutch government has set up a scheme which allows municipalities to maintain so called "energy funds" as loans to social enterprises within the context of that municipality. Because of this, the GOED cooperative does not require any citizen/member upfront investment. In order not to rely on volunteer work, the cooperative pays a project developer to carry the financial risk and pays them using the money received from the municipal energy fund. Any proceeds generated during the operational phase of the solar plant also go to the persons in the same post code area who struggle to pay their electricity bill. It is still possible for citizens to invest into a particular project and receive a 4% annual return on their investment, but this citizen financial participation is no pre-requisite for the cooperative's activities.

✔ Local and regional governments in JTF regions should consider the implementation of similar funding structures for energy communities. These support funds should be channelled via local and regional authorities who have an interest in promoting social enterprise locally.

The funding for energy communities can also be externalised and sourced by private-sector entities. This example from Portugal shows how energy communities can be provided "as a service".

Providing affordable electricity to residents of small town Chaves - Portugal

In this small town in the North of Portugal a total of 76,2kWp of solar PV will be installed for the benefit of the adhering members who will be able to buy the electricity produced by the plant at a price around 25% lower than the price of the national grid during sunny hours for a period of 20 years. Very crucially, participants will not be required to make any investment or change their contracts with their current energy supplier. The finances have been raised via a crowdfunding platform allowing those with enough capital to receive an average 4.5 % annual return on their investment. This return for investors is generated by selling excess energy while the savings in the electricity costs for the members is achieved via the collective self-consumption of electricity. This "energy savings as a service model" is driven by the company CleanWatts which also provides the energy management software for this energy community.

✔ Local and regional governments in JTF regions should consider, where available, make use of such service providers to establish and manage energy communities. Such models can be especially useful if authorities lack the necessary in-house knowledge and this knowledge (and time) is also not available from citizens themselves.

Energy communities and jobs

Job loss and brain drain are key challenges for coal+ and carbon-intensive regions. It is often claimed that the renewable energy sector holds much employment potential for former coal+ workers, especially since some workers already possess some of the skills needed for the renewables sector.

Energy communities are portrayed as holding a significant potential in terms of local job creation.[15] Assuming favourable regulatory conditions, the set-up of energy communities, or collective energy self-consumption schemes can indeed result in an increased demand for companies which install and maintain renewable infrastructure, provide energy management software, take care of project development etc. However, despite some evidence that energy communities indeed engage local companies, there is very limited empirical analytical evidence which links energy communities to job creation. A German study from 2014 very briefly empirically demonstrates a causal relationship between energy communities and actual jobs created.[16] A study from Devon County in the UK also demonstrates that community energy projects do indeed add to local job creation. But for most other European countries, even those with a long-track record of energy communities and more favourable regulatory frameworks, no such studies exist.

This, of course, does not mean that energy communities cannot contribute to local jobs (every renewable energy project does in some way), but it does call for a more balanced portrayal of the potential of energy communities in this regard, especially when compared to commercial renewable energy projects. Energy communities are part of the picture, but it, at this stage in time, unrealistic to assume that energy communities alone hold the key to sustainable local job creation.

This is also because energy communities require a different kind of labour to operate. While there are examples of energy communities which have grown sufficiently in size, so that they can employ a few staff members to take care of the day-to-day work, this is the exception rather than the rule. Many energy communities will rely on the work of volunteers in order to start-up and operate and, in case of larger projects, take care of issues related to project bidding and permitting. Installation and energy flow management companies will then often be engaged to take care of the feasibility assessment as well as the technical implementation of the projects. This means that the potential employment effect of energy communities will often be indirect.

Thermal energy community creating jobs in North Karelia, Finland

The Eno Energy Cooperative was established in 1999 by 12 local forest owners and embraced by the municipality which wanted to work on its sustainability agenda. Now, the co-operative is owned by about 54 local forest owners. Heating energy is generated by via wood chips for three district heating plants. Members provide about 20-30% of required wood and the rest is acquired from different suppliers nearby, e.g. from the feelings of forests owned by the City of Joensuu.

The local integrated approach and coordination between the members, the local wood sourcing and other services is essential. Municipality building and private customers have saved without taxes about EUR 2 million during the last 15 years compared to light fuel oil. Besides affordable price of heat, local benefits include net carbon dioxide emissions being reduced because imported oil is replaced by renewable forest chips (5 million kg annually) and local DHS networks are created. The cooperative produces 15,500 MWh energy annually and the different actions required to maintain this interconnected system employs between 7-10 persons/year.

✔ This demonstrates that good coordination between different stakeholders on a local level via an energy community, provides result in some sustainable job creation.

5 core principles for promoting energy communities in JTF regions

Many energy communities are a broad concept and are developing in many different shapes and forms across Europe. Energy communities hold tremendous potential to ensure a just and citizen-oriented energy transition, however they are not a panacea. Energy communities need to be considered in context to ensure that they really contribute to a just transition. The socio-economic environment of JTF territories presents a rather unique opportunity to encourage the promotion of energy communities in environments with different starting conditions. Next to progress with regulatory enabling frameworks, differences in cultural experiences, income levels and volunteering readiness should all be considered to facilitate the broad spectrum of energy communities in a manner which makes them a fundamental and justified part of just transition strategies.

Local and regional authorities should promote and set-up energy communities as a means to tap into the JTF region's shared identity as long-term energy producers. This will allow energy communities to support the narrative that energy production provides concrete social and economic value to citizens. Communication efforts should be communicated based on the story of "Your region. Your energy".

Energy communities should not primarily be developed as a means for well-off individual citizens or households to make money. Instead, efforts to promote energy communities should focus on generating benefit for society or local communities (e.g., all citizens living in a given municipality) as a whole. Focus should lie on the facilitation of energy communities which reduce the energy costs of municipal services as well as households experiencing periods of energy poverty. Local and regional governments in JTF regions should consider energy communities within their greater efforts to alleviate energy poverty in their context.

Especially in JTF regions, energy communities should not be promoted as a concept which primarily relies on citizen's voluntary engagement. Due to, generally, lower levels of trust in the cooperative concept, energy communities will not take of at scale if volunteer work is highlighted. Instead, local and regional authorities should identify companies which can act as service providers for energy communities and who take care of the technical installation and management. This means that energy communities can be set up in a way in which the governance and ownership is in the hands of local stakeholders, while the day-to-day work is outsourced.

Local and regional governments should also promote a framework which mandates large scale RES projects to include a percentage of local ownership. This ownership can be arranged via the participation of an energy community into the legal structure of the undertaking. However, this runs the risk that only well-off citizens are going to be able to make the required investment. Another good solution is to mandate a certain percentage share of large-scale RES project to be given to the local municipality which is able to hand-down the financial revenues for the benefit of all citizens instead of just a select few.

If local and regional governments want to promote citizen-driven energy communities (those which rely primarily on voluntary work), the creation of dedicated seed-funds should be considered. These funding schemes need to be sufficiently easy and specifically targeted at only those initiatives which classify as RECs or CECs under EU law.

This document was prepared by researchers at ICLEI Europe having conducted desk research, interviews and surveys. Any information and views contained in the present document do not reflect the official opinion of the European Commission. Reuse is authorised provided the source is acknowledged.

This document is part of a series presenting information and lessons learned on policy approaches at national, regional or local level supporting a just transition to a climate-neutral economy. The Just Transition Platform (JTP) assists EU Member States and regions to unlock the support in this transition. Visit the JTP website.

Endnotes

1 In total Member States have allocated to RES under the JTF: EUR 816 million to solar, EUR 197 million to biomass, EUR 111 to wind, EUR 20 million to marine RES and EUR 297 to all other RES. More information can be found at European Commission 2023 and on the Open Data Platform by European Commission 2023

2 European Commission Joint Research Centre (2020): Clean energy technologies in coal regions

3 See e.g. the TJTPs of Hunedoara (RO), Lower Slisia (PL) , Sulcis (IT) and Usti Karlovy Vary (IT) and more

4 For an assessment on enabling frameworks for RECs, please look here, but also consult directly the REDII and the IEMD with regard to definitions, rights, obligations and enabling frameworks for RECs and CECs.

5 Lepesant (2021): Coal phasing-out and regional development issues

6 "Open and voluntary" are unique features of RECs and CECs as defined by EU law. There exist also cases of energy communities which do not have an open character (e.g. because it does not make business sense to allow new members to join).

7 European Economic and Social Committee (2021): New trends in the development of volunteering in the European Union

8 Goedkoop et al. (2021): The Role of Community in Understanding Involvement in Community Energy Initiatives

9 European Economic and Social Committee (2021): New trends in the development of volunteering in the European Union

10 In Greece "virtual net-metering provisions allows farmers and specific legal entities that undertake work of public value (e.g. schools, universities, hospitals and regional councils etc) to install solar photovoltaic systems for from the point(s) of electricity consumption". The amount of electricity generated by said solar panels can be claimed by those legal entities on their electricity bill Tasagas 2017: Greece applies virtual net metering

11 European Commission Joint Research Centre (2020): Energy transition can provide alternative for jobs at risk in coal regions

12 For a good overview of the Danish DHS, refer to Johansen and Werner 2022:): Something is sustainable in the state of Denmark: A review of the Danish district heating sector

13 European Economic and Social Committee (2021): Energy communities: an overview of energy and social innovation

14 Bolle & Giovanni (2020): Community Energy Handbook - A practical guide to reclaiming power

15 Hauser et al. (2015): Nuteneffekte von Bürgerenergie - Eine wissenschaftliche Qualifizierung und Quantifizierung der Nutzeneffekte der Bürgerenergie und ihrer möglichen Bedeutung für die Energiewende

16 CAG Consultants (2021) : Devon Community Energy: A Socio Economic Impact Assessment - Final Report

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