

Empowering Collective Energy Citizenship for a Sustainable and Democratic European Energy Transition

Karin Thalberg, Edina Vadovics, Luisa Losada Puente and Alicia Barbas

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EnergyPROSPECTS partners

University of Galway (GAL)

University Road, H91 TK33, Galway, Ireland

Université libre de Bruxelles (ULB)

Avenue Franklin Roosevelt 50-1050, Bruxelles, Belgium

GreenDependent Institute (GDI)

2100 Gödöllő, Éva u. 4., Hungary

Universiteit Maastricht (UM)

Minderbroedersberg 4-6, 6200 MD, Maastricht, Netherlands

Applied Research and Communications Fund (ARC Fund)

Alexander Zhendov Street 5, 1113, Sofia, Bulgaria

Notre Europe - Institut Jacques Delors (JDI)

18, rue de Londres 75009, Paris, France

University of Latvia (UL)

Raiņa bulvāris 19, LV-1586, Riga, Latvia

Technische Universität Berlin (TUB)

Straße des 17. Juni 135, 10623, Berlin, Germany

Universidade da Coruña (UDC)

Rúa da Maestranza 9, 15001 A Coruña, Spain



















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Introduction

The European energy transition is speeding up. During the 2019-2024 European mandate, extensive regulatory progress has been made in the form of the European Green Deal¹ and through the energy and climate legislative package 'Fit for 55'². As we enter the implementation phase of these policies, understanding and supporting citizen involvement in the energy transition is becoming more and more important. To this end, EnergyPROSPECTS has explored the potential of energy citizenship to contribute to the fulfilment of the EU's climate and energy objectives.

Energy citizenship provides a useful lens to capture the diversity of citizen engagement in the energy transition. The concept denotes different forms of civic involvement and engagement in the fields of energy production, distribution, and consumption, as well as in the governance of the energy transition. It can be practised at different levels of action, through different constellations of actors.

Within the project we have mapped 596 initiatives³ that support or enable citizens to practise energy citizenship in different ways, we call these energy citizenship initiatives. 40 of these initiatives have been studied in-depth⁴. These initiatives include everything from retrofitting of buildings, energy sufficiency and efficiency practices in the home or within organisations, to citizen consultations and deliberative processes, renewable energy production, green energy suppliers, clean mobility initiatives and sustainable housing projects. In this policy brief, we particularly focus on collective forms of action.

The objectives of this policy brief are three-fold. First, we introduce the term **sustainability-driven energy citizenship**⁵ and **highlight the potential of energy citizenship to contribute to a more just, equitable, democratic, and sustainable energy transition**. This is illustrated by good practice cases across the continent. Second, we **provide insights on how citizens can be empowered to take part in collective initiatives in the energy transition.** Third, it outlines policy recommendations on how policymakers can enable empowered and sustainable forms of energy citizenship.⁶

⁵ For a full description of the methodology and analysis, see: Vadovics, E. *et al.* (2024). <u>Meta analysis of energy citizenship detailed case studies</u>. EnergyPROSPECTS Deliverable 3.5, Part 1, European Commission Grant Agreement No. 101022492.



¹ European Commission. (2019). The European Green Deal. COM/2019/640 final.

² European Commission. (n.d.) Fit for 55: Delivering on the proposals.

³ See the <u>EnergyPROSPECTS database</u>.

⁴ The data collection was done through interviews and desk-based research. See the summary reports of the 40 cases: Vadovics, E. *et al.* (2024). <u>Collection of energy citizenship case summary reports</u>. EnergyPROSPECTS Deliverable 3.5, Part 2, European Commission Grant Agreement No. 101022492.



How do energy citizenship initiatives contribute to the European energy transition?

There are several challenges associated with the transition towards a sustainable energy system, encompassing both social and environmental aspects of sustainability. Tenvironmental challenges are so far the best captured by EU energy and climate objectives, especially the need to move away from fossil fuels and non-renewable energy resources and to curb carbon emissions to ensure that we stay below 1.5°C of global warming. Issues related to other planetary boundaries, such as biodiversity loss and sustainable use of freshwater, are also increasingly recognised, but there is a need for stronger and more holistic policy responses for an environmentally sustainable transition.

The energy price crisis has brought to light and worsened the underlying inequalities inherent in the prevailing energy system. Consequently, there has been a heightened emphasis on the social challenges associated with the transition towards a sustainable energy system, especially the need for increased justice and notably the alleviation of energy poverty¹⁰. Other challenges include democratic involvement in and transparency of the energy system, as well as increased participation of all citizens and actors, including disadvantaged groups in the energy system.¹¹ Policymakers are becoming increasingly aware that these challenges need to be considered to ensure a successful implementation of the European Green Deal¹².

Energy citizenship is a promising lens for policymakers to address both social and environmental dimensions of the energy transition. This is where energy citizenship initiatives come into the picture. Initiatives that enable and support citizens to practise energy citizenship do so in a variety of ways, with different objectives, and diverging types and numbers of actors involved¹³. Among the 40 initiatives studied in-depth, using a strong sustainability perspective¹⁴, we have analysed how they integrate environmental and social sustainability challenges mentioned above into their activities and objectives¹⁵.

⁷ Loorbach, D. et al. (2017). <u>Sustainability Transitions Research: Transforming Science and Practice for Societal Change.</u>
<u>Annual Review of Environment and Resources.</u>

⁸ See: European Commission. (n.d.). Fit for 55: Delivering on the proposals.

⁹ Richardson, K. et al. (2023) 'Earth beyond six of nine planetary boundaries', Science Advances, 9(37).

¹⁰ European Commission. (2023). Commission Recommendation on Energy Poverty. (EU) 2023/2407. 20 October.

¹¹ Loorbach et al. (2017).

¹² European Commission. (2021). <u>Proposal for a Council recommendation on ensuring a fair transition towards climate neutrality</u>. COM(2021) 801 final.

¹³ The cases studied in the project do not claim to be representative but highlights the diversity of energy citizenship practised. 14 Strong sustainability was defined by drawing inspiration from Raworth's <u>Doughnut of social and planetary boundaries</u>. ¹⁵ For a full description of the methodology and analysis, see: Vadovics, E. et al. (2024). <u>Meta analysis of energy citizenship detailed case studies</u>. EnergyPROSPECTS Deliverable 3.5, Part 1, European Commission Grant Agreement No. 101022492.



Environmental sustainability

- Overall environmental sustainability: including energy production from fossil free and renewable sources, energy consumption practices, and recognition of other planetary boundaries.
- Recognition of the carbon limit and the climate crisis.

Social sustainability

- Energy democracy: implementing and/or working towards democratic governance of the energy system overall and/or within the case itself, including considerations and practices of democratic participation, inclusive, deliberative, and transparent decision-making processes.
- Citizen power and control: including the extent to which citizens exert effective control in decision-making processes.
- Equity and justice: affordability and accessibility for the larger public of the initiative, including consideration of energy poverty and marginalised groups.

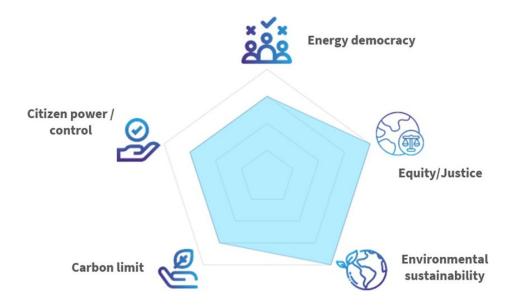


Figure 1. The spider chart illustrates the extent to which the initiatives integrate various sustainability aspects into their activities and objectives. Fuller charts refer to higher levels of sustainability. Charts that have higher scores on citizen power/control, energy democracy and equity/justice score higher on the social aspects, whereas charts that score higher on carbon limit and environmental sustainability score higher on the environmental aspects.



Based on the extent to which the energy citizenship initiatives integrate the above aspects into their activities and objectives they have been classified into four groups: sustainability-driven energy citizenship, socially-driven energy citizenship, environmentally-driven energy citizenship and energy citizenship with a modest sustainability focus. It is important to note that these classifications are in no way a rating of the initiatives included in this policy brief. Rather, they are an indication of the diversity among energy citizenship cases and the different ways actors approach solving issues occurring in the energy system in their localities.

Sustainability-driven	Strong focus on both environmental and social sustainability
Socially-driven	Stronger focus on social sustainability
Environmentally-driven	Stronger focus on environmental sustainability
Modest sustainability focus	Comparatively modest focus on environmental and/or social sustainability

In this policy brief, the focus is on collective forms of action, such as: programmes, projects, partnerships, cooperatives, associations, and networks that contribute to the energy transition. Key stakeholders in these initiatives are municipalities, for-profit companies, non-profit companies, citizen groups and non-governmental organisations. The next section will introduce good practice cases from each category and highlight in what ways they incorporate environmental and social sustainability into their activities.

¹⁷ A list of all 40 initiatives analysed are found in Annex 2. For the full case reports, see: Vadovics, E. *et al.* (2024). <u>Collection of energy citizenship case summary reports</u>. EnergyPROSPECTS Deliverable 3.5, Part 2, European Commission Grant Agreement No. 101022492.



¹⁶ See: Thalberg, K., Vadovics, E. and Szollossy, A. (2023). <u>Synthesis brief 4: Taking stock of energy citizenship in Europe - 596 examples of how citizens engage in the energy transition.</u> European Commission Grant Agreement No. 101022492.

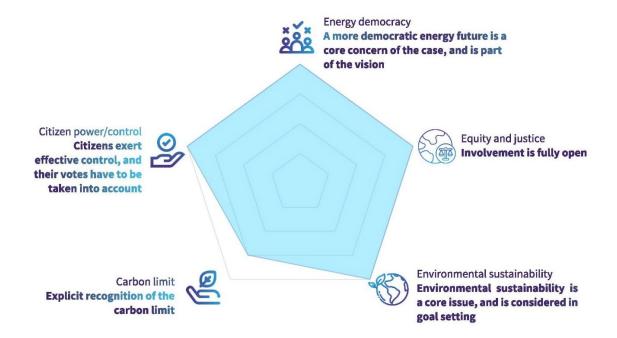


Good practice initiatives

Sustainability driven energy citizenship

Cargonomia (Hungary)

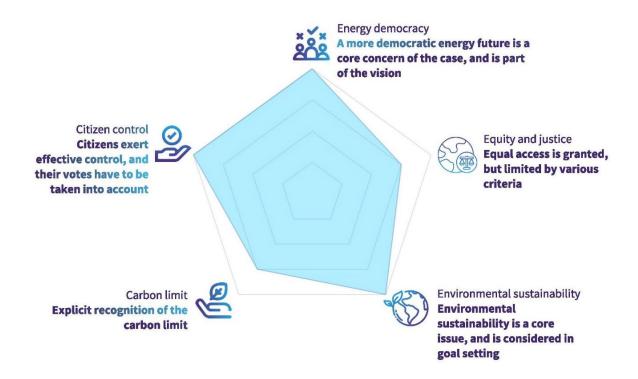
Cargomania is the formalisation of a pre-existing collaboration between three socially and environmentally conscious small enterprises operating in or near Budapest. Partners in the project include the Cyclomania (a do-it-yourself bicycle social cooperative), Zsamboki Biokert (an organic vegetable farm and sustainable agriculture community education centre), and Kantaa (a self-organised bike messenger and delivery company). The mission of Cargonomia is to contribute to sustainable transformation toward a socially and environmentally just future by questioning the dominant economic paradigm through practical, educational and research activities. Cargomania and its partners' activities aim to showcase how environmentally friendly and equity-based partnerships can create sustainable and meaningful community empowerment opportunities.





Energie Partagée (France

Energie Partagée unites the citizen energy movement in France. The initiative unites and advocates; provides project assistance; and finances citizen-led renewable energy projects. To carry out these activities, Energie Partagée consists of three different legal structures: a cooperative, an investment tool, and an association. The three parts of the initiative are linked through the core values defined in their founding charter. By adhering to these values¹⁸, local initiatives across France can benefit from the Energie Partagée citizen-energy label. Additionally, regional support networks provide local initiatives with training programs, a knowledge bank, sharing of best practices and assistance to access financing. Another core characteristic of the initiative is regular reflective dialogue, organised in different formats, aimed at defining what constitutes a sustainable and shared energy transition.



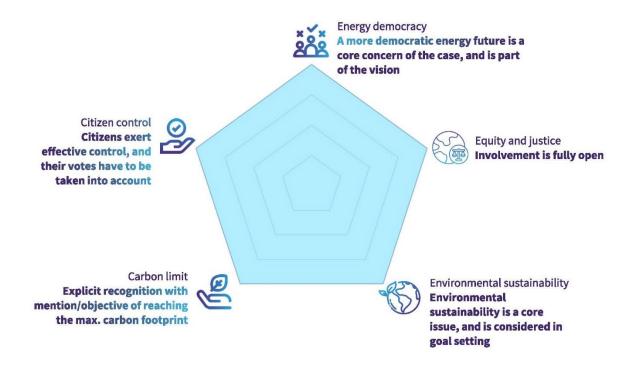
¹⁸ Strong, diversified presence of public and private local actors in the project, democratic decision-making, making use of local competences and mobilising local communities, seeking to reduce environmental impacts and energy consumption, and ethical citizen-based financing.





Solocal Energy (Germany)

<u>Solocal Energy</u> is a non-profit association that aims to address global climate change from the bottom up and involve people from all parts of society. In the initiative's vision, solar energy is central to the energy transition in cities. The organisation involves and directly empowers citizens and communities at the local scale through three pillars: balcony power plants, Do-it-yourself groups for photovoltaic installations, and neighbourhood climate circles. These activities are supplemented by various workshops and lecture formats.

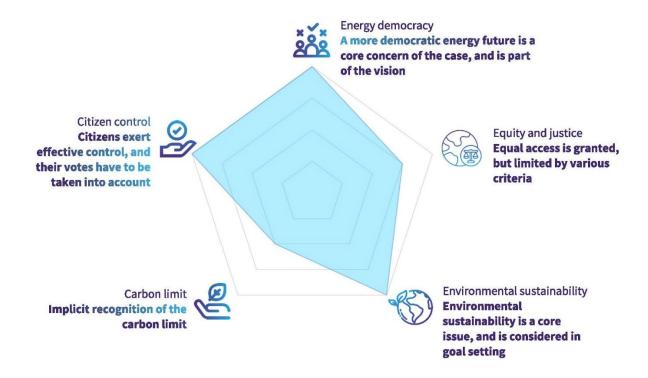




Socially-driven energy citizenship

Berlin Energy Citizen (Germany)

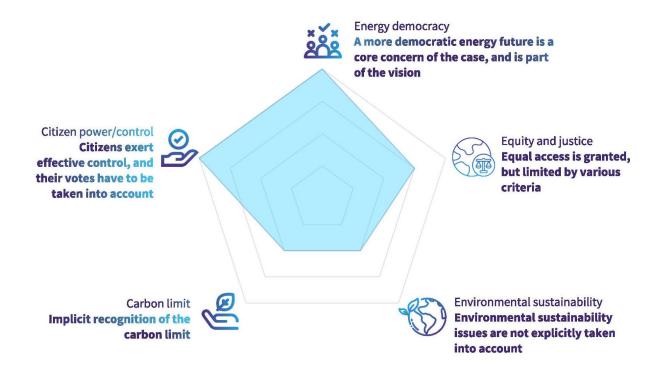
Berlin Energy Citizen (BürgerEnergie Berlin eG) is a cooperative that brings citizens together to work for a sustainable, climate-friendly, citizen-owned energy system in Berlin. The initiative is focused on citizen empowerment in the energy system at the city scale. It aims at developing involvement in citizen energy in Berlin and at empowering citizens in the energy transition, by fostering citizen commitment in the management of the publicly owned electricity network in Berlin and through renewable energy generation, notably balcony solar power plants and tenant electricity projects in cooperation with housing associations.





Energy Communities Tipperary Cooperative (Ireland)

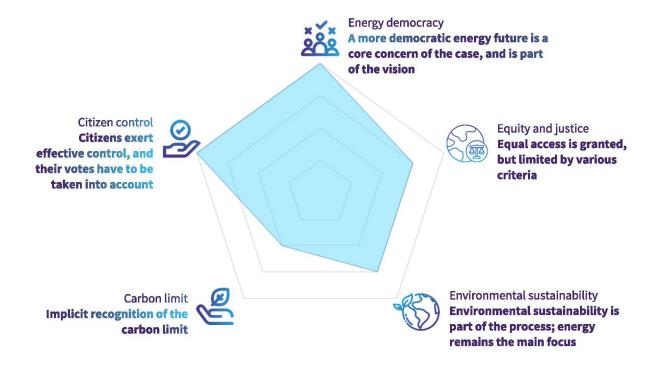
The Energy Communities Tipperary Cooperative (ECTC) is a cooperative made up of 15 community groups in the Tipperary region. The aim is to empower citizens and communities to become more resilient by reducing the amount of money that leaves the local economies every year in the form of energy and fuel bills. To do this, ECTC facilitates renovation works to improve the energy efficiency of older houses. ECTC uses economies of scale to leverage funds under different governmental retrofit programs for several households together, instead for each household separately.





Loenen Energy (Netherlands)

Loenen Energy started with a group of enthusiastic citizens who won a competition for the best sustainable idea with 'the Energetic village' in 2013. With the prize money, they created the Loenen Energy Fund that now has funded over 300 projects. Two complementing organisational forms make up the initiative: a cooperative and a locally based organisation. One of the defining features of Loenen Energy is its community Virtual Power Plant¹⁹ (cVPP) project. Emphasis lies on the community aspect and determines how the energy management system is used: what values does the community consider important, and for which activities is flexibility deployed? The implementation of the cVPP was a bottom-up process with workshops involving local citizens and various stakeholders.



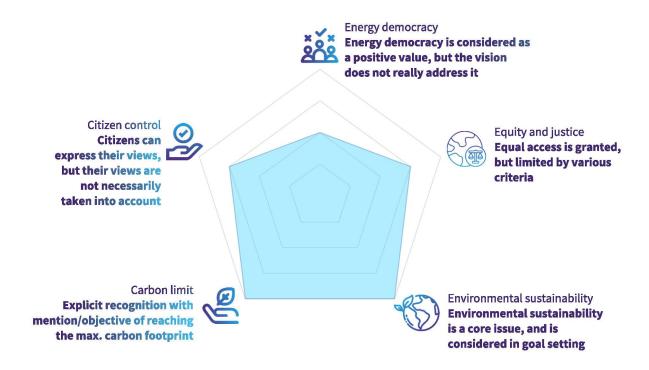
¹⁹ The virtual power plant consists of multiple interconnected small renewable energy sources (usually solar panels) and consumers (usually households) through an energy management system. The energy management system makes generation and consumption transparent and influenceable. See: Kemp, R. *et al.* (2023). The Role of ICT Platforms in Shaping Energy Citizenship. EnergyPROSPECTS Deliverable 4.2, European Commission Grant Agreement No. 101022492.



Environmentally-driven energy citizenship

BBL Home Renovation Campaign (Belgium)

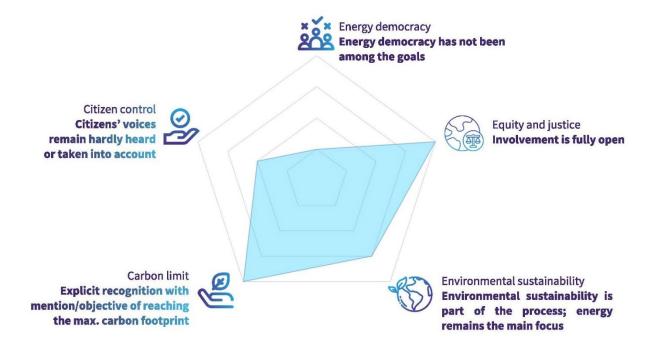
Bond Beter Leefmilieu (BBL) is a Belgian umbrella organisation for Flemish environmental and nature associations, citizens, governments, and companies that aims to foster the transition to a sustainable society across a wide variety of topics. The initiative's activities include movement building, lobbying and awareness raising. The <u>BBL Home Renovation Campaign</u> is a recent project that especially targets the energy performance of homes and the directly associated issues of energy poverty and energy literacy. The initiative, but also the renovation campaign, pays attention to the relevance of their campaigns for average citizens. For example, the campaign includes an online self-assessment tool for energy renovations. To speed up the Flemish 'renovation wave' the BBL has additionally established a network of private, public, and non-governmental stakeholders.





Student Switch Off Campaigns (Bulgaria)

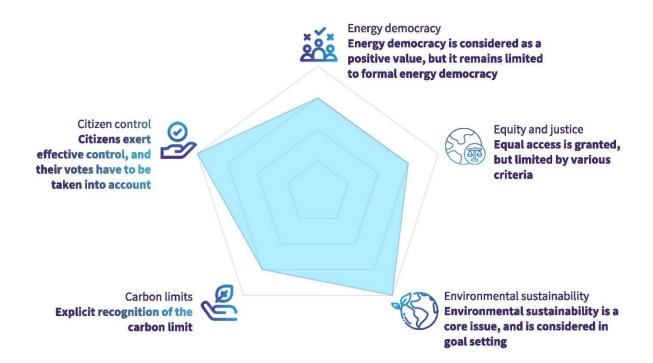
Sofia University participated in the <u>Student Switch Off campaigns</u> organised within the SAVES2 project. One part of the campaign was an inter-dormitory energy saving competition that focused on a predefined set of activities, encouraging students to save energy in their dormitories. The other part of the campaign was directed towards students living in the private rental sectors and aimed at raising awareness of energy performance certificates, smart metres, and energy efficiency, thus improving energy literacy, helping students to reduce energy costs and their exposure to energy poverty. The campaigns represent collective efforts to reduce energy consumption and behavioural change.





La Borda Housing Cooperative (Spain)

La Borda Housing Cooperative pursues a collective cooperative housing model where minimisation of environmental aspects is in focus. The houses are built with passive design or low-energy consumption, with local, decentralised, and self-managed renewable energy generation. Less energy and materials are consumed as major appliances and amenities are shared. La Borda aspires to become an alternative model to traditional public housing, affordable for people on low incomes. To this end, the initiative is interested in becoming a self-managed neighbourhood, in which social commitment and a different way of developing the city prevails.

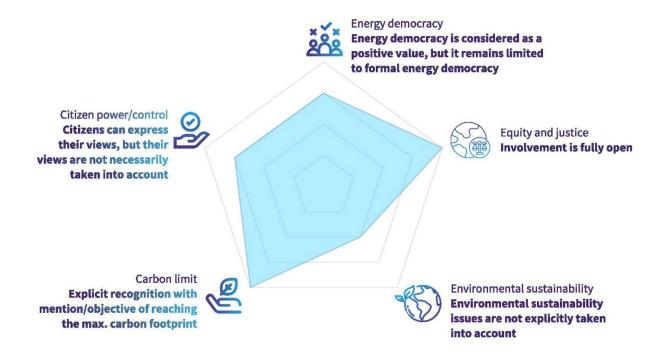




Energy citizenship with modest sustainability focus

EirGrid Public Consultation: Shaping Our Electricity Future (Ireland)

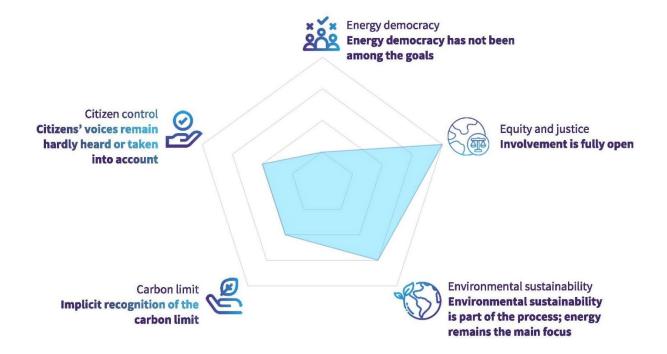
EirGrid, the state-owned electric power transmission operator in Ireland, has been tasked by the Irish government with preparing the electricity grid in anticipation of 80% renewable energy by 2030. To this end, EirGrid produced the 'Shaping Our Electricity Future' strategy, which presents four different approaches to grid development. For the development of the strategy, EirGrid implemented a nationwide consultation process in the form of several online workshops and an online consultation platform to improve engagement with the public and all stakeholders. The consultation process allowed individual citizens to voice their opinions and views on grid development, a key energy transition topic. Although not formally compulsory, the results of the consultation process have been considered in planning the development of the grid.





Hauts-de-France Pass Rénovation (France

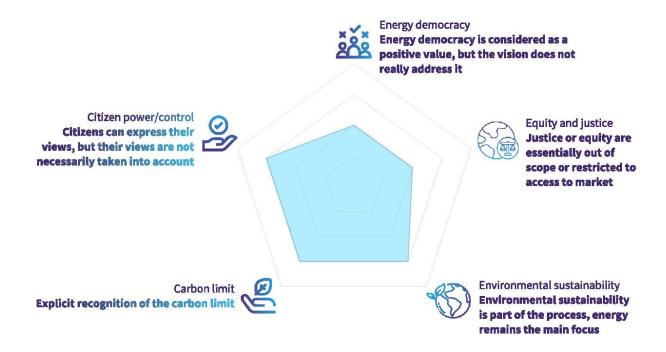
Hauts-de-France Pass Renovation was first launched as a pilot project by the region. After the pilot-phase, the initiative was continued and is operated by the regional one-stop-shop PSEE (the Regional Public Service for Energy Efficiency). The initiative enhances energy efficiency through energy retrofitting in private buildings, including both single-family homes and condominiums. Pass Renovation facilitates citizens throughout the whole renovation process and is based on an innovative *third-party financing* economic model. The economic model is financed by a dedicated public fund through which the PSEE advances the payment for renovation works to the beneficiaries. Once the renovation works have been carried out, the beneficiaries can make the repayment in whole or in part through the financial savings that the energy renovation has generated.





Off-Grid Renewable Energy DIY for Rural Development (Latvia)

The Off-Grid Renewable Energy DIY for Rural Development project, led by local action groups in the Baltic Sea Region (of which four in Latvia), aimed to collect and explore appropriate renewable energy technology solutions, develop prototypes and an open licence manual to promote decentralised renewable energy generation opportunities in rural areas. The project involved the installation and demonstration of alternative technologies on selected farms. Practical workshops were also carried out, where experts trained an interested rural audience on how to make and install renewable technologies, such as solar heat and photovoltaic panels. The initiative is a platform and community for smart solutions and ways to live with energy. Activities to close the gap in competencies and skills for utilising and installing renewable energy solutions have furthermore been carried out.





How to empower citizens in the energy transition?

In the previous section we presented selected good practice initiatives that enable and support citizens to practise energy citizenship in a variety of ways, and how they incorporate environmental and social sustainability into their activities and objectives. Collective action initiatives have an important potential to contribute to a more just, equitable and sustainable energy transition in Europe. But what is needed for citizens to become involved in such activities and how can citizens be empowered through these initiatives to take part in the energy transition?²⁰

What empowers citizens to act within the energy system?²¹

Autonomy to make decisions about one's own actions – "I am not constrained by any outer barriers".

At the individual level such barriers include:

- Financial resources.
- Time-availability.
- Knowledge and know-how.
- Access to reliable information and assistance.

Perceived capacity to make a difference by undertaken actions - "What I do makes a difference".

• Either at the individual level, for financial reasons, life quality, feeling of control or autonomy, or at the collective level, to contribute to sustainability objectives, community development, energy independence, etc.

Motivation to act and take part in the energy transition - "I am motivated to act".

- Individual motivations: Being inspired by/interested in the initiative, control, autonomy and choice, time availability, sense of belonging, pride, and sense of achievement.
- Community-based motivations: Community needs and shared interest in energy issues.
- Pro-environmental motivations: awareness of environmental problems and seeking out environmentally and/or socially sustainable solutions.

²¹ Please note that these factors are not exhaustive.



²⁰ Our in-depth analysis of the 40 initiatives included an analysis of empowerment as a process, see: Dumitru, A. *et al.* (2023). <u>Empowerment Toolkit and Knowledge Repository.</u> EnergyPROSPECTS Deliverable 3.6, European Commission Grant Agreement No. 101022492.



Why is collective action important? Energy citizenship initiatives as opportunity spaces

In our survey, a majority of respondents stated that they perceive their roles in the energy system is limited to actions within their private sphere: their individual actions or within their households²². This necessitates the expansion and reinforcement of efforts to convey the transformative potential of collective action in driving the energy transition forward. As demonstrated by the initiatives outlined in the last section, collective action can generate wider impact, by helping citizens to take on new roles and integrating responses to environmental and social sustainability challenges into their objectives and actions.

Energy citizenship initiatives provide concrete venues for action and alternatives to how energy is produced, consumed, owned, financed, and governed. They furthermore have an impact through their connections with different levels of government, by taking part in dialogues and collaborations with other actors, which can generate networks of best-practice sharing and even the creation of new partnerships.

"[...] people can feel powerless in certain situations and say, 'I can't do anything'... [the initiative] is an enabler in the sense that they give solutions so that people can do things by themselves - acquire knowledge, train, and increase skills and know-how to do things concretely - and take decisions that concern them, personally and collectively" (Interview, Energy cooperative).

Many of these initiatives serve as opportunity spaces for learning, making citizens feel heard, and providing the feeling that they can contribute. It is important that these opportunity spaces are open and accessible, where different types of contributions are possible and valued. Energy citizenship initiatives can do this by:

- Offering ways to participate without monetary contribution, such as preparing the meeting room, providing food and drinks, taking notes, sending out information, etc., and allowing differentiated monetary contributions which can reduce the participation gap for lowincome and vulnerable groups.
- Offering possibilities to attend meetings when possible and provide opportunities to bring children, timing participation around holidays, etc., helping to facilitate work-life balance.

²² 57% out of 10 000 respondents. Hajdinjak *et al.* (2024). <u>Analysis of the online survey</u>. EnergyPROSPECTS Deliverable 5.4, European Commission Grant Agreement No. 101022492.





"People lose the fear of contact a bit and they get more confidence in themselves. Since they have had the experience [they think]: 'I can do something that I did not think I could do before', they might now dare to do something else." (Interview, Non-profit association)

Collective initiatives that enable citizens to practise energy citizenship can generate motivation for action, help to overcome barriers at the individual level, and improve the sense of capacity to make a difference. For example, by:

- Allowing differentiated types of involvement, and thresholds related to knowledge, skills, and time-availability, as outlined above.
- Providing access to reliable information and technical support.
- Creating spaces for learning: democratic decision-making, advocacy, community-building, knowledge and skills related to the energy system (technical, legal, administrative, etc.) and social and environmental sustainability, etc.
- Providing avenues for dialogue and debate.
- Enhancing energy literacy through the practical experience of participating in the energy system. For example, the act of individuals installing solar panels both contributes to enhancing renewable energy supply and raises awareness about overall energy consumption. Solocal Energy provides a concrete example of this by mobilising citizens in do-it-yourself balcony solar panel installation circles, as well as for climate awareness and action, which improves energy literacy and turns individual acts into a collective endeavour.
- Pooling financial resources, supporting citizens, groups, or communities with knowledge and know-how to access government grants, and/or providing innovative financial instruments to ease the burden of repayment.



Recommendations: Empowering collective energy citizenship for a democratic and sustainable European energy transition

Collective energy citizenship initiatives face a myriad of challenges that hinder their growth and potential to contribute to a more just, democratic, and sustainable energy transition. In this section we outline key points of intervention and introduce concrete recommendations for policymakers at different levels to unleash the potential of collective action, especially pertaining to strengthening social and environmental sustainability aspects of collective energy citizenship initiatives.

Increasing public engagement in the energy transition overall

Declining public engagement limits the success of energy citizenship initiatives. There are furthermore considerable challenges in reaching citizens with limited knowledge, financial resources, and time. These barriers could partially be overcome by:

- Boosting perceptions of possibilities to engage collectively in the energy transition by sharing examples of collective energy citizenship initiatives that exist and what benefits they entail. Traditional media outlets such as radio, newspapers (online and offline) as well as TV, at different territorial levels could be used to raise awareness and disseminate energy transition information.²³ [Local and regional authorities]
- Strengthen stakeholder and citizen dialogues in energy and climate governance and decision-making.
 - o Member States should properly implement and increase their ambitions regarding stakeholder dialogues mandated under article 11 of the Governance of the Energy Union regulation (2018/1999). This could be done through the institutionalisation of Citizen Climate Assemblies together with fora for dialogue at different levels of government where a variety of stakeholders can be heard, such as, local, and regional authorities, civil society organisations, businesses, investors, and other relevant stakeholders. Good practices in relation to the <u>partnership principle</u> that is required to access EU cohesion funds should be followed. [Member States]
 - Creating conducive conditions for the involvement of citizens with limited knowledge, financial resources, and time. Processes of deliberation and discussion could be integrated into the daily routines of citizens whose voices are not well-represented in public debates and decision making. Conversations and choices regarding the energy transition could be integrated into workplaces, childcare facilities, and various social services, where they can be gathered and subsequently contribute to decision-making processes. [Member States, local and regional authorities]

²³ See, Thalberg, K. *et al.* (2023). <u>Feedback report on knowledge exchange workshops.</u> EnergyPROSPECTS Deliverable 6.1, European Commission Grant Agreement No. 101022492.





Creating enabling conditions for engagement in energy citizenship initiatives

Many energy citizen initiatives face challenges due to reliance on volunteers with limited availability, and constrained expertise, that can hinder the progress, growth, and impact of their actions. Moreover, insufficient funding and government support²⁴, further jeopardises long-term viability.

- Create and/or support networks at the relevant territorial level to support capacity-building
 and scaling of energy citizenship initiatives. The <u>regional support networks</u> that Energie
 Partagée set up in France is a good example in this regard (see the previous section). They offer
 training programs, a knowledge bank, sharing of best practices and support to access financing.
 [Member States, local and regional authorities]
 - This recommendation could be further strengthened by dissemination of good practice cases where local and regional authorities successfully collaborate with citizen-based organisations, civil society, and private actors on implementing collective energy actions.
- Implement and support mentorship programs for volunteers in energy citizenship initiatives with training and capacity-building opportunities to enhance their skills and commitment. [Member States, local and regional authorities]
- Earmark EU-funding and technical assistance for citizen-based organisations and initiatives with strong commitments to sustainability, for example in initiatives like the Green Assist project and the Energy Poverty Advisory Hub. [European Commission]

Supporting collective energy citizenship initiatives to involve and benefit more citizens

Certain groups are overrepresented within energy citizenship initiatives. These groups include men, citizens with higher levels of education and income, as well as a with non-migrant background. To empower citizens beyond the 'usual suspects' to take part in energy citizenship initiatives, it is important for policy makers to support inclusive and effective outreach strategies.

- Include support for outreach and inclusion in existing technical assistance offers from relevant EU initiatives such as the Energy Communities Repository, Rural Energy Community Advisory Hub and the Energy Poverty Advisory Hub. This could include the development of a resource base on best-practices on benefit-sharing and improving energy literacy beyond the initiative and on the inclusion of hard-to-reach citizens (some of these examples are listed in the previous part of the brief). [European Commission]
- Develop strategies for boosting energy literacy within and beyond energy citizenship initiatives through "Next Door Energy Literacy", i.e. by operating on a citizen-to-citizen level to raise interest and appeal to citizens' everyday lives and challenges. [Member states, local and regional authorities]

²⁴ Overall, local, and regional authorities are key actors in supporting collective energy citizenship initiatives. To do this they need increased human resources, competencies, and financial capacities to support energy citizenship. See the <u>Sun4All project</u> for comprehensive recommendations aimed at local and regional authorities.



Annex 1. Examples of environmental sustainability integration from our case studies²⁵

Overall environmental sustainability, energy sources, energy use, and planetary boundaries

- Renewable energy consumption, production, or distribution.
- Efficiency-related focus and objectives.
- Sufficiency-related focus and objectives.
- Combining efficiency and sufficiency.
- Including changes of behaviour and practices.
- Aiming for overall reduction of environmental impacts.
- Transparent measuring, monitoring, and reporting on environmental impacts.
- The focus is not limited to energy-related environmental impacts, but includes other planetary boundaries such as biodiversity loss and freshwater scarcity, etc.
- Systematic approach when dealing with environmental impacts.
- Recognising global environmental issues and connecting them to local solutions.
- Aiming to satisfy needs in a sustainable way.
- Considering environmental impacts in all decisions made.
- Recognising that nature has values in its own right.
- Accepting responsibility for causing environmental harm.

Climate change and 1.5° carbon limit

- Showing awareness of climate change issues.
- Explicitly recognising the carbon limit according to the Paris agreement.
- Recognition of the carbon limit paired with concrete (sciencebased) reduction targets.
- Using a calculation and/or monitoring system to keep track of their environmental and climate impact (e.g., carbon footprint).
- Linking plans, targets, and activities to local and national climate objectives and/or energy strategies.
- Aiming to educate and increase the capacity of others in recognising and reducing their carbon footprints.

²⁵ All the examples listed in Annex I can be found in Vadovics, E. et al. (2024). <u>Meta analysis of energy citizenship detailed case studies</u>. EnergyPROSPECTS Deliverable 3.5, Part 1, European Commission Grant Agreement No. 101022492.

Examples of social sustainability integration from our case studies

Energy democracy

- The democratic functioning is not limited to the initiative but has an external impact.
- Creating or proposing to create new types of organisations/bodies to promote and/or ensure democratic operations (e.g. Citizen Council).
- Practising self-governance.
- Going beyond representative democracy: through commitments to and/or practices of horizontal and inclusive modes of decision-making and direct democracy.
- Creating a quality assurance label for energy democracy.
- Creating a model that can be replicated and acting as a role model.
- Enabling or expanding individual/collective ownership of energy infrastructure.
- Creating decentralised, locally controlled production and consumption systems.
- Initiating and/or participating in public decision-making processes.
- Making the voices of various groups and solutions heard in such processes.
- Providing a forum for deliberation on energy and/or climate change.
- Improving accountability in energy production and governance.

 Showcasing and spreading information on energy democracy and its tools/methods.

Citizen power and control

- Enabling all actors to participate in the initiative, including those in energy poverty (through targeted communication efforts, training, support, differentiated/low/no membership, or service fees, etc.).
- Ensuring and defining citizen control in founding documents.
- Making different levels of engagement possible, and creating different roles related to participation, decisionmaking and in the division of responsibilities.
- Having an impact on the wider political and decision-making system.
- Creating or enabling the creation of citizen-controlled and managed decision- making structures and processes.
- Ensuring and creating structures for transparent operations.
- Operating in a cooperative form, which essentially promotes citizen control through the strong involvement of its members.

Equity and justice

- Sharing and/or giving power to members.
- Establishing inclusive governance structures.
- Ensuring that all voices are heard, including marginalised voices in the energy system.
- Ensuring accessibility of what the case offers, i.e. sharing the benefits of the initiative (e.g. access to renewable energy, access to low-energy housing, etc.).
- Defining access to energy as a basic need.
- Allowing access to energy to those in need (e.g. when access to power is turned off).
- Establishing co-ownership of energy or housing infrastructure.
- Considering solidarity and burdensharing in energy production and consumption.
- Ensuring and enabling diversity in membership.
- Awareness of historical responsibility for climate change.
- Awareness of the rights of future generations to basic energy needs and a liveable planet.

Annex 2. List of initiatives studied in-depth

Sustainability-driven energy citizenship

Extinction Rebellion Etterbeek (Belgium)

LaVidaVerde (Germany)

Solocal Energy (Germany)

GoiEner Taldea (Spain)

Railcoop (France)

Shared Energy (France)

Cargonomia (Hungary)

From the Community Energy Programme to Community Energy Service (Hungary)

TreeDependent (Hungary)

Aran Islands Energy Cooperative (Ireland)

Citizens' Assembly on 'How the State can make Ireland a Leader in tackling Climate Change' (Ireland)

Socially-driven energy citizenship

Berlin Energy Citizen (Germany)

Trégor Energ'éthiques (France)

Biobriquettes programme (Hungary)

Energy Communities Tipperary Cooperative (Ireland)

Galway Energy Co-operative (Ireland)

Loenen Energy (Netherlands)

National Association of Active Residents (Netherlands)

Weert Energy (Netherlands)

Environmentally-driven energy citizenship

BBL Home renovation campaign (Belgium)

Hydro Electricity Ourthe and Sambre (Belgium)

Student Switch Off campaigns (Bulgaria)

Naturstrom AG (Germany)

La Borda: Housing cooperative (Spain)

Zsuzsanna Hojtsy-Keresztény - Energy Neighbourhoods energy master, local change maker (Hungary)

Social media influencer "Edgar Fresh" (Latvia)

Drechtsteden Energy (Netherlands)

Energy citizenship with modest sustainability focus

Energy Transition of City of Burgas: Going Smart and Sustainable (Bulgaria)

Som Energia – Green Energy Cooperative (Spain)

Nagypáli, the renewable energy village (Hungary)

EirGrid Public Consultation: Shaping Our Electricity Future (Ireland)

Installation of solar heat panels in multi-apartment building, complementary with energy efficiency improvement of the building (Latvia)

Reindonk Energy (Netherlands)

Energy efficiency mission ULB (Belgium)

Bike Evolution (Bulgaria)

Student Energy Teams (Bulgaria)

Couso's project (Spain)

Hauts-de-France Pass Rénovation (France)

Association "City for people" (Latvia)

OFF-GRID: Renewable energy DIY for rural development (Latvia)

Detailed case reports for all listed initiatives are available online.