

THE SOCIAL IMPACT OF

ENERGY COMMUNITIES

IN GREECE



in collaboration with: **RESCOPE.U**

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01

INTRODUCTION

The transition to climate neutrality cannot be achieved through technology and markets alone. The participation of citizens and local communities is crucial for this transition to take place in an efficient and fair way, and to ensure that everyone shares its economic, environmental and social benefits equally.

Energy communities are a collaborative model constituting the perfect vessel that allows the direct involvement of citizens and local communities in the management of energy.

At the same time, energy communities can have a strong economic, environmental and social impact. But for this to happen, their cooperative principles must be respected, and institutional actors must acknowledge and respect their special characteristics in order to help create the right environment for their development.

This report aims to present the impact of energy communities at a time when citizen participation in the energy transition and energy democracy emerge as particularly important conditions in order to shield societies against the current energy crisis, as well as against similar crises in the future. The report aims to inspire and inform citizens, the members of the energy communities themselves, government institutions (at a local, regional and national level), academic institutions, organizations, businesses and civil society organizations, so as to deepen their understanding of the special characteristics of energy communities and take initiative in creating and supporting them.

The writing of the report was based on the knowledge accumulated through the [Mapping the social impact of energy communities](#) project, which combines research findings from international literature with knowledge and experience from the field itself. The project, which is implemented in phases, is an initiative of the European Federation of Citizen Energy Cooperatives REScoop.eu, the ELECTRA Energy cooperative and the Heinrich Böll Foundation, Thessaloniki Office, Greece. In the first phase of the project, academics, researchers, as well as representatives of energy communities contributed their theoretical knowledge and practical experience on the social impact of energy communities. Further research in the international literature led to the definition of specific social impact indicators. Finally, in collaboration with energy communities in Karditsa and Crete, two workshops were held to discuss and record aspects of the social impact of the energy communities of ESEK and Minoa respectively.

02

WHAT ARE ENERGY COMMUNITIES AND WHAT DO THEY DO?

Energy communities are cooperatives through which citizens, local authorities and local businesses can produce clean energy intended for sale or self-consumption. Energy communities can also be active in services and projects of energy saving, energy storage and management, electromobility, provide their members with training and consultancy, and plan actions to combat energy poverty. In addition, they can promote environmental education by fostering new ways of thinking, habits and practices in their members and local communities.

What is the institutional framework?

In 2018, through the Clean Energy Package, the European Commission introduced the concept of Energy Communities, aiming to enhance the role of citizens and local communities in the energy system. The frame-

work of energy communities is described in two Directives: The revised Renewable Energy Directive (EU) 2018/2001 defines the framework for Renewable Energy Communities (RECs) and covers the renewable energy sector. The revised Internal Electricity Market Directive (EU) 2019/944 introduces new roles and responsibilities for Citizens' Energy Communities (CECs) in the energy system and covers all forms of electricity. That same year, an institutional framework for the establishment and operation of energy communities in Greece was created for the first time via Law 4513 "Energy Communities and other provisions". In March 2023, a new law for energy community was introduced.

National and European strategies

The role of energy communities is recognized as highly important in multiple Euro-



In June 2022 in Karditsa and in November 2022 in Crete, visits and workshops were carried out in order to record the impact of energy communities. The snapshots capture the workshop of the energy community of Karditsa ESEK and the outdoor celebration that followed, in June 2022. The workshop discussions highlighted the importance of community outreach and of raising public awareness on energy democracy issues.

Energy communities can make a significant contribution to the energy transition and in achieving the ambitious targets set at European level for renewable energy sources. By 2050, half of Europe's citizens could be able to generate their own energy from renewable sources, thus covering 45% of the electricity demand at that time.

pean and national strategies, such as the National Energy and Climate Plans, the Energy Poverty Plans and the Just Transition Plans.

At the same time, at European level, emphasis is placed on the role of energy communities in increasing the social acceptance of Renewable Energy Sources (RES) projects, in enhancing social cohesion and in democratizing the energy system. More specifically, the Solar Strategy, included in the “REPow-

erEU” plan, acknowledges energy communities as part of the solution to decoupling from Russian natural gas and fossil fuels. Moreover, it views citizen participation in the energy market as an important pillar that will strengthen the local energy supply. Finally, it sets the goal of creating at least one energy community based on renewable energy sources in every municipality with a population exceeding 10,000 residents, by 2025.



Snapshot of the social impact assessment workshop of the Minoa energy community in Crete, held in November 2022. The discussions that took place both in Karditsa and in Crete highlighted the importance of social inclusion in the community, especially of vulnerable social groups. Emphasis was also placed on the need to include young people in energy communities as a leverage to reverse rural depopulation and promote the creation of innovative jobs.

03

THE IMPACT OF ENERGY COMMUNITIES

Different aspects of the impact of energy communities are presented in this section, which are based on the experience of Greek examples studied and on research findings drawn from international literature.

ECONOMY + society + environment

The energy communities enshrine the etymology of the term economy and effectively demonstrate how the latter can be put at the service of society and not the other way round. They also remind us that energy is a social good and must be treated as such when developing business plans, when determining how energy markets operate and when designing the energy system.

More specifically, energy communities yield multiple economic benefits:

✓ **They mobilize local** capital by giving ordinary citizens and members of the local community the opportunity to invest in projects and services with significant benefits for themselves and the local community. Especially in times of crisis, energy communities can keep energy prices low for their members, shielding them from market volatility. At European level, citizens can mobilize up to 240 billion euros for energy transition by 2030.

✓ **They foster various forms of innovation.** They foster business innovation, as their members are not customers but co-investors, owners and beneficiaries of the projects and services designed and implemented by their energy community. They identify social challenges, such as energy poverty, and implement socially innovative solutions. They highlight and strengthen organizational innovation, through the participatory and democratic model of governance and decision-making they adopt. They implement innovative fundraising tools (crowdsourcing, crowdlending, etc.). They apply innovative technologies for vehicle sharing, and the implementation of demand-response schemes, energy sharing, etc.

✓ **They redirect funds.** Due to their participatory nature, energy communities have the inherent ability to effectively communicate the economic, social and environmental need to produce and save clean energy. Hence, they redirect funds to Renewable Energy Sources that would otherwise be directed to polluting fuels. Significant household funds that hitherto were channeled for imports of fossil fuels can instead be invested in local projects, through energy communities, and thus ensure energy self-sufficiency. This preserves local funds, which would otherwise leave the local community and the country.

✓ **They keep the generated profits within the local community.** Unlike large private initiatives, which, even if they invest capital in one place, do not prevent the transfer of generated profits outside the community (even outside the country in many cases), energy communities distribute the profits to their members, who belong to the local community. These profits are even reinvested in new projects, based on the needs of the community, hence contributing to local development.



It has been calculated that the total economic benefit from energy community projects can be from two (2) to eight (8) times bigger for local communities as compared to the benefit from private projects of the same size.

✓ Through their projects, energy communities primarily seek to ensure that their members have **access to the cleanest and cheapest energy possible**. In this way, they highlight the fact that energy is a good that everyone should have access to. They also make members aware that the right to access comes with the responsibility to treat energy as a good, thus enhancing savings and optimal management.

✓ **They achieve economies of scale** by accumulating human resources, capital and knowledge, and thanks to the high level of expertise, they deliver projects that are fully competitive and economically viable. This would be extremely difficult if each citizen acted in isolation, relying on their individual knowledge and financial capabilities.

✓ **They create new job opportunities** within local communities. Like private investors in RES projects, energy communities, through their investments, create new job opportunities, either within the energy communities themselves or related to their services and projects. What differentiates energy communities is that they are more likely to tap into the local workforce of the community in which they operate.

✓ **They enhance local development**, as they are organic parts of the local community: their members belong to it, work in it and develop multifaceted activities within it. Through the production of clean and cheap energy, they boost the competitiveness of local businesses, they support key sectors such as agri-food, tourism, etc., they create new business opportunities, synergies, new ideas, and they foster cooperation. In this way, they strengthen the incentives of young people to stay in their place of origin and contribute to addressing demographic challenges.

ENVIRONMENT + society + economy

Energy communities bring citizens in direct contact with the local environment and the energy resources of each region. Through their projects and actions, citizens can monitor and actively participate in the processes of energy production, management and consumption and thus, gain knowledge, take a more responsible attitude towards environmental issues and propose solutions. More specifically:

✓ **They contribute to the protection of the local environment.** Energy community projects tend to be more respectful of the local environment, as they undergo smaller-scale and locally appropriate development, and their impacts are monitored and evaluated by the citizens themselves.

✓ **They address the environmental crisis** by developing renewable energy sources projects, informing and educating the public, and promoting the efficient use of resources.

✓ They are helping to **save energy, increase efficiency and change behavior**. As experts say, the cleanest form of energy is the one that is not consumed. Energy communities not only develop energy saving projects, but also inform and raise awareness, encouraging their members to do the same. Research shows that members of energy communities use less energy than other consumers. In addition, energy communities develop projects and services to increase the efficiency of the energy produced and contribute to its better management, through innovative projects and solutions of vehicle sharing, demand response and storage.

SOCIETY + economy + environment

Taking into account both qualitative and quantitative data, energy communities contribute effectively to addressing social challenges and strengthening the resilience of local communities.

✓ **They strengthen social cohesion, social capital and trust**. Through co-operation and the cultivation of a common identity, loyalty and trust are built. Through participatory planning, the community finds solutions to issues that its members might not be able to tackle individually. Participation and action within energy communities also seems to increase social cohesion, as interaction and dialogue between members is enhanced.

The engagement of the wider society is done both through informing the members and inviting them to participate in decision-making on the development of RES and energy saving projects. But those who respond also enjoy the benefits of participating in these projects. In this way, energy democracy is put into practice and citizens are given the opportunity for a more effective control of energy management.

✓ **They contribute to social inclusion**, by welcoming groups of citizens who are vulnerable and often marginalized.

✓ **They fight energy poverty**. As organic parts of the local community, energy communities can identify vulnerable consumers and design appropriate solutions for them. In fact, in cases where the projects, services and actions are devel-

oped in cooperation with the municipalities, the benefits are even greater. At the same time, efficiency levels are also high, as energy communities provide tailored practical solutions (e.g. building insulation, heat pumps), in cases where the state cannot, and private companies do not want to provide support.

✓ **They empower citizens in their efforts to fight the climate crisis.** Many feel that they cannot deal with it on their own and that their governments are inactive. An energy community constitutes an ideal-scale body for these citizens to develop collective action and boost participation.

✓ **They enhance self-sufficiency, security and make societies more resilient.** By producing their own energy from local resources, local communities become self-sufficient, feel secure and develop resilience to all kinds of challenges (environmental, political, economic, social, geopolitical, natural disasters, etc.).

✓ **They contribute to handling the social cost of fossil fuels:** Apart from significant environmental and economic costs, fossil fuels also involve social costs, as they degrade mining areas, having a direct impact on local communities through displacement and air pollution. At the same time, mining areas often become fields of competition which increases the chances of geopolitical tensions. Energy communities direct the interest and funds of the local community towards the development of clean energy projects and support the transition of areas degraded from fossil fuels (e.g. lignite areas) to this model, thus effectively addressing the social cost of fossil and polluting fuels.

✓ **They reinforce democracy.** Energy communities are schools of democracy, as their governance model tends to familiarize citizens with participatory decision-making tools. The members acquire knowledge and develop qualities, which they carry outside the energy community, in other activities and interactions. Similarly, institutions and local businesses that work directly or indirectly with the energy communities are positively affected. Finally, equal participation mitigates differences related to age, gender, etc.

✓ **They cultivate synergies** between citizens, local businesses, municipalities, other energy communities, institutions and national and international organizations.

✓ **They enhance justice.** Thanks to the democratic model of governance and management, energy communities can ensure that benefits are shared more fair-

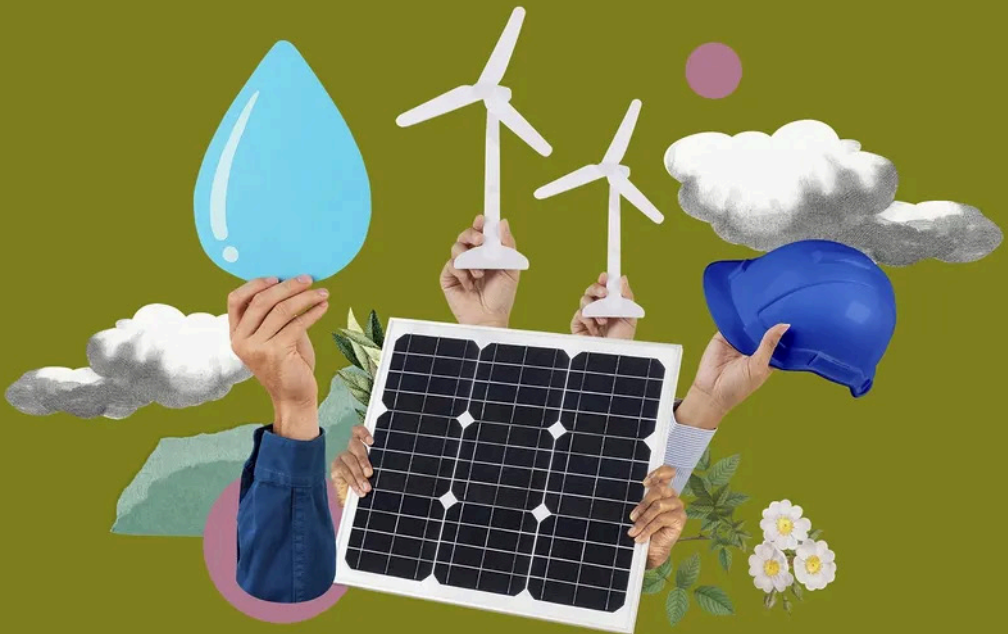
ly, more equitably and to a larger population of beneficiaries compared to corporate schemes, where profits and benefits are usually distributed to a small number of investors. At the same time, social justice between groups from different regions is enhanced. A typical example is the non-interconnected islands, where electricity is based on oil-fired plants entailing high environmental footprint and significantly higher electricity production costs than mainland Greece. This difference is covered by subsidies paid by citizens all over the country (the so-called Utility Charges included in the electricity bills). Island communities are now given the opportunity to develop local projects to meet their needs and thus reduce this part of the bills in favor of the society as a whole.

✓ **They contribute to the social acceptance of renewable energy sources.** An energy community promotes participatory planning and gives everyone the opportunity to participate in the investment of new projects and the benefits they bring. This significantly increases the acceptance of renewable energy sources by the local community. A recent survey in ten European states, including Greece, showed that the social acceptance of renewable energy sources increases significantly through energy communities, due to parameters such as the creation of local jobs and the reduction in energy prices.

✓ **They educate, inform and spread knowledge.** Other than “schools of democracy” they also operate as “schools of sustainability”, promoting to their members proposals for holistic interventions (low carbon mobility, zero waste practices, etc.). At the same time, they familiarize their members with the way the energy sector works, providing them with the necessary know-how and new skills.

They also develop synergies with educational and academic institutions. Thanks to them, accumulated academic knowledge is applied to solutions that contribute to the common good. The energy communities themselves constitute an ideal field for academic research with interdisciplinary characteristics.

✓ **They improve health and quality of life,** by helping to reduce air pollution and improve air quality. They also ensure the quality of water resources and soil and provide their members with adequate and quality heating and cooling. Moreover, they improve the living conditions of the weaker social groups, who often resort to inefficient and highly dangerous means to heat their houses.



The social impacts associated with energy communities, grouped into categories. You can find an extensive list of indicators by category in the [relevant interactive chart](#).

In summary, energy communities have wide-ranging and cross-cutting social, environmental and economic impacts. But as national and global experience has demonstrated, in order for an energy community to achieve maximum impact, the seven cooperative principles must be strictly observed. At the same time, governments and relevant institutions must create enabling frameworks that support their development and help them unlock the full range of their potential positive impacts.

THE 7 COOPERATIVE PRINCIPLES

✓ VOLUNTARY AND OPEN PARTICIPATION

✓ DEMOCRATIC MEMBER CONTROL

✓ MEMBERS' ECONOMIC PARTICIPATION

✓ AUTONOMY AND INDEPENDENCE

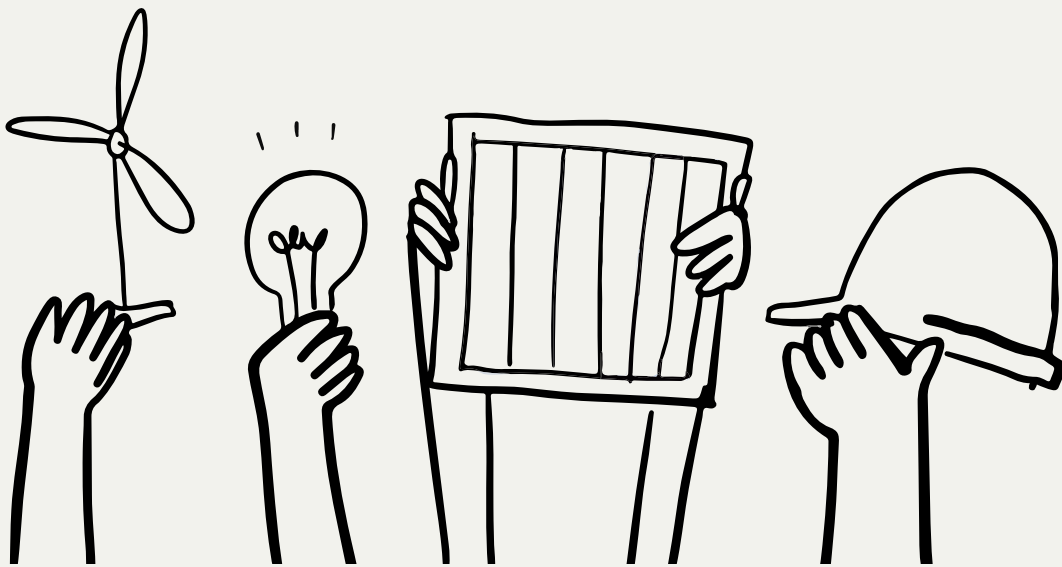
✓ EDUCATION, TRAINING AND INFORMATION

✓ COLLABORATION AMONG COOPERATIVES

✓ CONCERN FOR COMMUNITY

More about the seven cooperative principles and how they differentiate energy communities from other market players, in the short video series by the European Federation of Energy Cooperatives REScoop.eu

[The 7 cooperative principles of energy communities](#)



04

BEST PRACTICE EXAMPLES

Across Greece, there are several best practice examples of energy communities that support their local communities effectively.

In Thessaly, the [energy community of Karditsa \(ESEK\)](#) is active in the exploitation of biomass from forest and agricultural residues (with strict environmental criteria) and constitutes one of the first and most successful ventures with more than 300 members. The community's immediate plans are to expand to other activities and technologies, such as collective self-consumption of energy through a photovoltaic park.

In Central Macedonia the [energy community WEnCoop](#) is a venture of women entrepreneurs aiming for clean energy production and the promotion of gender equality and justice.

In Western Macedonia, [non-profit energy communities formed the OFeLOS network](#). It involves the energy communities created by citizens from the Municipalities of Ypsilanti and Ellispontos, as well as the agricultural producers of Proud Farm. Each one of them develops projects for self-consumption in order to address the acute problem of energy poverty in the region. They are working together to remove obstacles such as the extremely limited electrical space available in the region, and to strengthen the role of non-profit energy communities in the just transition of Western Macedonia.

In island regions we find the example of [the Minoa energy community](#) in Crete, which, in the first stage of its operation, is developing self-consumption projects in order to reduce electricity bills for its more than 400

members, among whom are citizens, local businesses, municipalities and the Region of Crete. Among its priorities are the emphasis on scientific and research issues and the undertaking of social actions, such as the provision of free electricity to individuals affected by the 2021 earthquake in the Arkalochori region.

The [energy community of Chalki](#), covers the needs of the whole island's residents and supports innovative electrification services. Through its projects and actions, it effectively contributes to strengthening the social cohesion of the local community and addressing demographic challenges.

The [energy community of Samos](#) contributes to the energy transition of the island, enhances synergies between citizens, municipal authorities and businesses, and plans educational actions, awareness-raising actions and self-consumption projects.

The [energy community Kinergia/CommonEn](#) in Epirus implements self-consumption projects, designs services for the optimal management of the energy produced and is highly active in research activities. At the same time, it focuses on political advocacy activities, encouraging its members to participate in public affairs.

In Attica, the energy communities of [HYPERION](#), [Attica energy community](#) and [Collective Energy](#) are planning actions to save energy, educate, fight energy poverty, promote electric mobility and strengthen gender justice.

All the above initiatives have a wide geographical spread, covering urban, island, mountainous and semi-mountainous regions. Moreover, they develop a network of projects, services and actions with an economic, environmental and social impact that is significantly greater than that of private corporate schemes active in the development of RES projects. Several are planning projects to combat energy poverty, while interest has also been shown in strengthening the agri-food sector. At the same time, as profit is not their primary motivation, these communities have come together in a national network of energy communities, which exerts coordinated pressure to adopt policies that favor energy democracy in Greece.

At the same time, energy communities, such as those mentioned above, are forming a national coalition which will help accelerate the development of more community energy groups, by mediating the transfer of know-how, best practices and financial solutions.

05

CONCLUDING REMARKS

Is unlimited economic growth the answer to our problems or the cause of our problems? Should energy be treated as a good or as a commodity? How do non-commercial local community energy projects improve social welfare?

Both academic research in Greece and other countries as well as Greek examples illustrate that energy communities provide important services and benefits to their members, while spreading multiple benefits to the local community in which they are created and developed.

At the same time, due to their direct roots in local communities and their democratic model of ownership, operation and governance they can reconfigure the rules of the energy system more broadly, prioritizing human wellbeing and environmental sustaina-

bility over profit. Therefore, the services and projects carried out by energy communities differ significantly from conventional projects and private services.

Governmental authorities should thus recognize the special characteristics of energy communities and support their development, so as to transform the entire energy system in a more fair, participatory, efficient and democratic direction.

Learn more about the transformative role of energy communities in the short video created by the Electra Energy Cooperative and P2PLAB, with the financial support of Guerrilla Foundation.

[The Transformative Potential of Energy Communities](#)

06

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