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Energy Communities and the Transition to Energy Democracy: A
Socio-Ecological Perspective from Greece

verfasst von | submitted by

Ektoras Leventis

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Mag. Felix Malte Dorn PhD

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1%CE%B3%CE%B5%CE%B9%CE%B1%CE%BA%CE%AD%CF%82-%CE%BA">https://www.atticaenergycommunity.gr/%CE%B4%CF%81%CE%AC%CF%83%CE% %B5%CE%B9%CF%82_1/%CE%B5%CE%BA%CE%B4%CE%B7%CE%BB%CF% %8E%CF%83%CE%B5%CE%B9%CF%82/%CE%B5%CE%BD%CE%B5%CF%8 1%CE%B3%CE%B5%CE%B9%CE%B1%CE%BA%CE%AD%CF%82-%CE%BA (accessed 05/08/2025).....	41
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List of Abbreviations

CEC	Citizen Energy Communities
CEP	Clean Energy for all Europeans Package
CRES	Center for Renewable Energy Sources
EC	Energy Community
EU	European Union
GAEF ΓΑΕΦ)	Office for Combating Energy Poverty (GAEF stands for the Greek
IEMD	Internal Electricity Market Directive
NECP	National Energy and Climate Plan
REC	Renewable Energy Community
RES	Renewable Energy Sources
RED II	Renewable Energy Directive II

Abstract

In Greece, energy communities have been recognized in its legislation since 2018. However, the cooperation between the state and the energy communities has been a topic of debate. This dissertation discusses the political implications in Greek energy communities and how they affect their transformative potential. To do that, the framework of socio-ecological transformations is used along with Cosmolocalism to grasp the different fields energy communities operate. These theories are chosen to view energy communities not just as technical or isolated examples in energy transition, but as interconnected political initiatives challenging the current energy system. Through five sub-questions, the different aspects are analyzed, drawing on semi-structured interviews, primary documents, and secondary literature. The study demonstrates that energy communities articulate democratic and collective practices in energy production and management. Still, they are restrained by restrictive legislation, uneven state support, and the incompatibility with the neoliberal energy market. The conclusion is therefore that without significant policy reform, energy communities will remain limited in their transformative capacity, though they still provide important spaces for experimentation and alternative energy imaginaries.

Keywords: Energy Democracy, Cosmolocalism, Energy Communities, Socio-ecological Transformations, Energy Transition, Greece, Political Ecology

Abstract in German

In Griechenland sind energiegemeinschaften seit 2018 gesetzlich anerkannt. Die zusammenarbeit zwischen dem staat und den energiegemeinschaften ist jedoch umstritten. Diese dissertation befasst sich mit den politischen implikationen in griechischen energiegemeinschaften und deren auswirkungen auf deren transformationspotenzial. Zur analyse wird der theoretische rahmen der sozioökologischen transformationen zusammen mit dem Kosmolokalismus angewandt, um die verschiedenen dimensionen, dynamiken und auswirkungen von energiegemeinschaften zu erfassen. Diese theorien wurden gewählt, um energiegemeinschaften nicht nur als technische oder isolierte beispiele für die energiewende zu betrachten, sondern als miteinander verbundene politische Initiativen, die das derzeitige energiesystem in frage stellen und eine alternative hierzu präsentieren. Die analyse ist basierend auf fünf teilfragen strukturiert und basiert auf halbstrukturierten interviews, der auswertung von primärquellen als auch sekundärliteratur. Die studie zeigt, dass energiegemeinschaften demokratische und kollektive praktiken in der energieerzeugung und -verwaltung artikulieren, jedoch durch restriktive gesetzgebung, ungleiche staatliche unterstützung und die Inkompatibilität mit dem neoliberalen energiemarkt eingeschränkt werden. Die daraus resultierende schlussfolgerung lautet, dass energiegemeinschaften ohne bedeutende politische reformen in ihrer transformationsfähigkeit begrenzt bleiben werden, obwohl sie nach wie vor wichtige räume für experimente und alternative energievorstellungen bieten.

Schlüsselwörter: Energie-Demokratie, Kosmolokalismus,
Energiegemeinschaften, Sozial-ökologische Transformationen, Energiewende,
Griechenland, Politische Ökologie

Introduction

“I believe that the only way, the last exit towards the freedom of humanity and the planet is the holistic ecological philosophy, thought, action, behavior. Ecology neither brings nor consolidates any power; on the contrary, it renders it useless.”

(Μίσσιος, 2017, p. 28)

Over the last few years, considerable discussion has been taking place regarding the energy system and the changes needed in order to become more sustainable amidst the ever-rising environmental crisis, the planet's limited fossil fuel reserves, and rising global energy costs. In particular, the European Union, and as a member state, Greece, has also taken several measures through its directives to form an energy policy in response to the looming danger of the climate crisis and rising geopolitical tensions. Some prime examples of these are the Clean Power for All Europeans package (CEP), RePowerEU, and the Renewable Energy Directive II (REDII).

These directives are operating through various milestones and goals that are bound by each member state (Santamouris & Ullah, 2023) and set the ambitious goal of carbon neutrality by 2050. To achieve that goal, the reduction of energy use and promotion of renewable energy sources are seen as priorities by the European Union (European Environment Agency, 2022)

Realizing the need for the whole society to take part in the energy transition debates and policies have gone towards the activation of citizens and society in the production and management of energy. One important step in that direction taken by

these directives of the European Union is the promotion of Renewable Energy Communities (RECs) as an important player in the European energy transition (Sofia et al., 2025). In Greece, the law has also been changing following European Union directives, with the National Energy and Climate Plan (NECP) setting the goal of climate neutrality by 2050 (Topaloglou et al., 2024).

This dissertation is rooted in a political ecology perspective and aims to use the framework of socio-ecological transformations as a lens to analyze Energy Communities. Using the theoretical framework of socio-ecological transformations from Melanie Pichler and Ulrich Brand, it aims to better understand how energy communities operate in Greece and how they promote energy democracy, forming a bigger coalition of similar-run initiatives. The use of data collected mostly from organizations that work on energy communities and energy communities themselves was chosen in order to gain an analytic depth from the bottom up and understand further the way that they are run in Greece.

The main research question that is thus derived is, within the socio-ecological transformations framework, how do energy communities in Greece interact with institutional structures and contribute to the democratization and transformation of the energy system. Based on these results, a more holistic understanding of the energy communities in Greece and points that need further research are going to be seen, as well as critical thoughts on how they operate and what hindrances they face as frontrunners of sustainable alternatives in the energy sector.

State of the art

Research on energy communities has been growing from various frameworks, including grassroots and social policy, as well as technological innovations and sustainable development. Even defining Energy Communities has had many different approaches. In their study, Bauwens et al. (2022) try to define community energy through studying 183 different definitions, claiming that the different localities and energy systems make the understanding of community, and thus the creation of a single definition, rather complicated. For the purpose of this essay, as explained better in the next chapters, the European directives and the Greek Law will be primarily used.

A big part of research on Energy Communities, since the adoption of the CEP package, has been comparison studies between countries, in many of which Greece has been examined as well. For example, Spain and Greece have been compared from a degrowth perspective regarding the decarbonization of their islands (Tsagkari et al., 2021), and Greece has been compared with Bulgaria and Poland in relation to energy communities and their interaction with stakeholders in coal-intensive areas using the framework of deliberative democracy (Topaloglou et al., 2024). The findings and the cases that have been examined in these papers is going to be used to add to the variety of views from Greek energy communities and complement the primary data collected. Another comparative study has been done between 71 case studies of energy communities in the European Union, using the energy justice framework and thus delving deeper into their social role in promoting just transition and measures for vulnerable societal groups (Hanke et al., 2021).

The concept of Energy Communities, however, is growing every month, and significant changes have happened in the last months as well that give new data and input. The Energy Communities Coalition (ΔΕΣΜΗ) was officially established in Greece in December 2023, while the first panhellenic convention of energy communities was held in October 2024, showcasing that energy communities in Greece are not just individual cases but are starting to form alliances and exchange ideas. From that perspective, a study that sees the alliances and networks that are created and form a stronger core in the transitional ideas of society and environment is lacking.

For the needs of this research, however, an important role will be played by primary data from interviews and field trips with organizations and energy communities operating in Greece. Also, reports and analyses coming from the European Union and organizations from Greece, like The Green Tank, the Heinrich Böll Foundation, and some of the communities themselves, are seen as the basis of this analysis. This data, approached critically, can be valuable since it is updated constantly (the green tank has monthly updates on electricity production, while reports are also regularly posted) and comes directly from the people involved firsthand in the matter. Further, academic literature regarding energy communities in Greece and Europe is going to be used to make the analysis stronger and more nuanced.

Energy Landscape of Greece

To better assess the energy communities in Greece, a brief overview of the country's energy landscape is necessary. Regarding the renewable energy transition, it has emerged largely during the global financial crisis that emerged in 2008, which seriously affected Greece. More specifically, after 2009, a huge rise in the discourse and economic activity regarding renewables, mostly solar and wind technologies, started (Siamanta, 2017). This tendency is not just a Greek phenomenon but aligns with the ideas of mitigating the climate crisis through market-compatible solutions (Kostakis et al., 2024).

During that time, Renewable Energy Sources (RES) were seen as profitable investments that would also help in combating the recession (Siamanta, 2017). The planning of renewable transition in Greece has thus been based on privatizations and an economic reform for the country to repay its debts (Argenti & Knight, 2015; Siamanta, 2017). What that means is that sustainability and society are put in second thoughts over the economy. The state implemented a policy that led to RES projects from private holders who could move sizable funds, often resulting in land appropriation for industrial stations, an increase in social conflict, and support for large energy companies (Komninou et al., 2023; Pavlis, 2025).

The result is that during the 2010s, large energy companies and suppliers, both domestic and international, accumulated a large amount of funds and power in the RES planning of Greece. This planning has been critically examined with Zoi Siapanta (2017) in her research through interviews and examination of the RES landscape in Greece, describing an “opportunistic” and “clientistic” fashion in which the governments made the RES transition in Greece during the 2010s (Siamanta,

2017, pp. 268–269). Energy poverty is also becoming evident with various research done to measure it in Greece (Halkos & Kostakis, 2023). This term is difficult to define, but the most used definition is the inability to access necessary energy services to attain a decent quality of life (Middlemiss, 2022).

Conflict has been created with RES projects being built on publicly owned land, land appropriated by the state, or protected natural areas. Also, the benefits that were promised with the solar and wind farm projects through job openings and cheaper energy prices were not seen by the population (Argenti & Knight, 2015). Contrary to that, prices showed an upward tendency and the livelihood of citizens in areas with big industrial RES projects has been challenged, with agriculture, livestock farming and even tourism facing substantial challenges with the implications caused by these projects (Argenti & Knight, 2015; Komninou et al., 2023; Pavlis, 2025).

In 2019, the same tendency continued with Law 4643/2019, which pushed reforms in the energy market of Greece. According to that law, much of the public infrastructure, as well as parts of the public power corporation, would be privatized in an attempt to liberalize the energy market (Sofia et al., 2025).

The current National Energy and Climate Plan (NECP) of Greece, which has been drafted by the conservative New Democracy party, is following the same logic, supporting a neo-liberal view of the energy market with little regard to ecological and social matters (Petmesidou & Branco, 2025). This plan has faced criticism as it has various shortcomings, especially in combating energy poverty and in viewing alternatives, having only generic articles regarding energy communities and setting goals in eco-mobility, fall of electricity prices and complete decarbonization which

are deemed by researchers as difficult if not impossible to achieve within the plans limits (Petmesidou & Branco, 2025; Zervas et al., 2021).

The energy market of Greece that energy communities are being subjected to is a market that is viewing the transition to energy as a market opportunity for further accumulation of wealth from a neoliberal perspective (Siamanta, 2017). This market logic in the green transition is based on the continuation of growth, which goes along with the current economic system, but fails to address the climate crisis and the roots of it, focusing on technological fixes (Kostakis et al., 2024).

Laws and Definitions on ECs

Definitions

Energy communities are a fairly new concept, and there have been various definitions from laws of each country, EU directives, reports of organizations, all the way to academia. It is important to see the different perspectives to make policy suggestions and see how the laws are operating in the current situation.

In general, energy communities are defined as “self-organized entities dedicated to carrying out renewable energy projects for their local community” (Jochensen et al., 2024, p.1). Energy communities, however, are more than just new players in energy production. They are an entity that has a pivotal role in the transition from a centralized to a decentralized energy structure. A structure that by its emphasis on community and self-organization promotes democratization and fairer energy systems (Lode et al., 2022).

Similarly, Margosi & Koukoufakis (2024) state that energy communities are “collaborative energy initiatives that emphasize open, democratic participation, and governance” (p.35). A very similar definition is used by the Joint Research Center of the European Commission, adding to the open and democratic practices of the communities the giving of benefits to the participants or the local community (European Commission. Joint Research Centre., 2020). A reason for this plethora of definitions is seen as the different actors that participate and the different perceptions of community in various regions (Bauwens et al., 2022). As a result, part of the literature on energy communities is seen as the collaboration of different actors that take part in the transformation of the energy sector through “ collective, participatory and engaging processes, seeking collective outcomes” (Blasch et al., 2021, p.3).

For the European federation of Energy Communities and Rescoop also energy communities are seen as cooperatives of various local actors that can do varying activities from production and management of energy, “to also be active in services and projects of energy saving, energy storage, electromobility, provide their members with training and consultancy, and plan actions to combat energy poverty”, while also promoting alternative ways of thinking regarding energy transition in the area of operation (Kitsikopoulos & Vrettos, 2023, p. 8).

An important factor to bear in mind is that REScoop states that energy communities must be run on the seven cooperative values as explained by the International Cooperative Alliance (Σκόπουλα, 2024). These values are: 1. Voluntary and open membership, 2. Democratic member control, 3. Economic participation through direct ownership, 4. Autonomy and independence, 5. Education, training, and information, 6. Cooperation among cooperatives and 7. Concern for community (REScoop.eu, 2022).

Energy Communities in the EU

The European Union has set various environmental and energy transition goals in its directives and agreements over the last decade. From signing the Paris Agreementⁱ in 2016 to the promotion of the European Green Deal and the adoption of the European Climate Law, the European Union aims to reduce CO₂ and greenhouse gas emissions and achieve carbon neutrality by 2050. Very important goals to achieve are the rise of the energy produced in the European Union by renewable energy sources, and reducing the use of fossil fuels in a critical sector of the European economy (Sofia et al., 2025)

As such, energy communities are seen as important actors in the European Union's energy transition since they align with the goals of decarbonizing the sector and involving local stakeholders in the process, legitimizing the technological innovations of renewable energy production (Terrier et al., 2024). They also feature prominently in various projects run by the European Parliament that try to promote and assist energy communities across the European Union. At the same time, it has set the goal of every municipality of more than 10.000 people having at least one energy community by 2025 (European Commission, n.d.). Even though this goal has not been achieved yet, Europe has seen energy communities growing rapidly, with a repository made by Wierling et al. (2023) indicating more than 10.000 initiatives existing in 2022 in 29 countries of Europe. The abovementioned goals have been revisited with global political challenges rising and the achievements of those can be difficult to measure and implement since rules and conditions vary in each country of the European Union. The attempts that have been made to map the progress need constant updating and have many variables changing with the legal framework in each country being altered.

Ever since 2015, community energy has come to the attention of the European Union policy offices. However, Energy communities are first mentioned in the 2019 Clean Energy for All Europeans (CEP) package (Jochemsen et al., 2024; Roberts, 2021). The Renewable Energy Directive of Europe has introduced energy communities and highlighted their importance in the European Union's energy policies in the future setting the goals until 2030 for European energy transition (EE 2018/2001, REDII), while the revised Internal Energy Market Directive (IEMD) (EU 2018/2001) set additional regulations on how energy communities are organized and

added the framework for citizen energy communities (European Commission. Joint Research Centre., 2020).

As such, through these directives, two forms of energy communities are supported by European laws: the “renewable energy communities (RECs) and the citizen energy communities (CECs). Since these directives were published, every member state of the European Union has to implement laws to protect and promote energy communities and comply with the articles of RED II and IEMD (Roberts, 2021). Both forms under the CEP are based on open and voluntary participation, are run by its members, and their goals are not to make a profit but to provide to the local community and society (Jochemsen et al., 2024).

Both forms of energy communities that are supported by the European directives are legal entities that operate with the same goals and objectives. Renewable energy communities are operating on open, voluntary, and democratic participation. They can only work with renewable energy sources, and all their members need to belong to the same area where the energy project is located, thus giving emphasis on the local aspect. Membership in RECs can be attained by individuals, small enterprises, local authorities, or even municipalities, and their goal is to provide benefits to the stakeholders and the community and not on the structure itself (Roberts, 2021).

Similarly, citizen energy communities are also based on open, democratic and voluntary participation, but can work with different types of initiatives ranging from electrical mobility and energy management to consumption and distribution. Its members can also be citizens, small enterprises, or local authorities, but they are not tied to a close proximity to a project. They are involved primarily with promoting

citizen participation and education on energy matters. It does not aim to achieve financial profits but rather to give the benefits to its members and the communities involved (Roberts, 2021).

These two forms are the basis for legislation on energy communities in member states of the European Union. Their implementation is also monitored by REScoop.eu, which is the European federation of energy communities. This federation works on promoting energy communities and the seven cooperative principles in the energy sector and has provided important tools on how every country is progressing. The seven cooperative principles, as mentioned in the introduction, are adopted by many organizations and networks of energy communities as constitutive parts of the statutes of energy communities.

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

Figure 1. The 7 Cooperative principles (Kitsikopoulos & Vrettos, 2023, p. 18)

The transposition tracker of REScoop is also monitoring how well the abovementioned forms are implemented by member states of the European Union (REScoop.eu, n.d.).

Greek Laws on Energy Communities

Greece is a country that does not have the rich history of collective energy initiatives of northern Europe. The first move was taken by the people on the island of Sifnos. In 2013, they made the Sifnos Island Cooperative, with the goal to promote a fair energy transition and the energy autonomy of the island for the benefit of its citizens, making it the first such initiative in Greece (Katsaprakakis et al., 2022).

From that point onwards, many things have changed. In 2018, the Greek state, under the coalition government led by the left-leaning SYRIZA political party, made the first law where energy communities are featured and become legally recognized under the law on “energy communities and other provisions.”

(Law 4513/2018) (Douvitsa, 2019). This law predates European legislation and is considered, in some aspects, innovative for the time it was drafted. According to that law, energy cooperatives are established as civil cooperatives whose goal is the promotion of social and solidarity economy, the innovation in the energy sector, the battle against energy poverty, the management and information on smarter and renewable energy sources, and the production, distribution, and storage of “clean energy” (N. 4513/2018, 2018). The law is made in order to address the energy poverty that has risen in Greece after the economic crisis in 2008, and also follows the discussions on energy transition in the European Union. It also promotes the creation of these initiatives specifically to islands trying to put into the transition citizens, local authorities, and municipalities (Douvitsa, 2019).

This law sets the minimum limit of five individual people, excluding any municipality or local authority, in order to be made and are bound to this law for all of their operations (Douvitsa, 2019). This law was a much-needed move in a country where overregulation has been commented on as an important problem in cooperatives, and similarly, many regulations would not be stable but deleted or changed in every political turmoil (Douvitsa, 2019). Important to note is that energy production projects using that law used the virtual net metering and net metering models to give credit to members of energy communities for their production of energy (N. 4203/2013, 2013). This law was revised in 2016, allowing the energy share of communities and cooperatives in Greece, paving the way for the way that energy sharing would work for energy communities (Margosi & Koukoufikis, 2024). According to the net metering mode of electrical management, producers of energy are moving their energy to the central grid, and then they can sell it or match it according to retail price (Dufo-López & Bernal-Aguistín, 2015).

Following the directives mentioned above and the necessity for a revised legal framework on energy communities, the Greek state changed the previous law on energy communities with the current law 5037/2023. This regulation brings forward the two forms already set in European directives, the Renewable energy communities and the citizen energy communities, while trying to also promote that it aligns fully with the European plans for energy transition (Margosi & Koukoufikis, 2024). According to that law, the minimum limit of people needed to form an energy community is raised from five to thirty, the locality of the members is no longer needed, and there are gaps regarding the profitability of energy communities and the ability of enterprises to own them (Margosi & Koukoufikis, 2024; Sofia et al., 2025). Also, the new law does not clarify how already existing contracts and ongoing

applications that are in line with the 2018 law but not with the new one are going to continue operations. There is a legislative gap for the ongoing projects and their transition towards the new legal framework, leading to discontent and bureaucratic hurdles (Sofia et al., 2025).

Another very important change in the new law is the change of the mode of electrical energy match from net metering to virtual net billing, making the net metering mode obsolete. This change means that energy produced by energy communities is valued on the wholesale price of the energy market of Greece to be either exported or used in the internal grid (The Green Tank, 2025).

Considering the current legal framework in Greece, according to data from the General Commercial Registry of Greece, there are 1703 energy communities in Greece as of April 2025. Since the new law of 2023, only 66 new communities have been formed, 40 of them as renewable energy communities and 26 as citizen energy communities, while some of them have switched towards companies, and 784 of them are urban companies (The Green Tank, 2025). Further, from 2024, the national federation of energy communities (DESMI) is officially formed, with 20 energy communities as founding members. DESMI has been very active trying to promote energy communities, putting pressure for better policies, and trying to democratize the energy sector as a coalition (Desmi, n.d.).

Theoretical Framework

Socio-Ecological Transformations

This thesis is based on the theoretical framework of socio-ecological transformations as it analyzes the political aspect and the power relations found in energy communities, not just as technical solutions but as a phenomenon challenging the dominant energy regime. There are opportunities to promote a fair, decentralized, and democratic system with energy communities (European Commission. Joint Research Centre., 2020), but there is a need to understand further the mechanisms and the potential to not just move towards a different mode of energy production but transform the whole landscape of energy. To do that, this theory that comes from a political ecology strand has a lot to offer, exploring alternatives that view strategies which are socially sustainable and go beyond the commodification and market growth orientation of neoliberal capitalist resource relations (Brand et al., 2021; Robbins, 2011).

Socio-ecological transformation is a framework that describes the “political, socioeconomic and cultural shifts resulting from attempts to address the socioecological crisis” (Brand & Wissen, 2017, p.1). Even though much of the discussion regarding the environmental crisis and energy policy is based on the concept of technological innovation as the solution to the current problems, the idea of transformations goes further, trying to not just manage the crisis but combat it through deeply rooted changes in political institutions, societal thinking and practices (Pichler, 2023). Based on the idea of transformations, this framework gives emphasis on solutions and policy recommendations that advocate a transformation of political and social relations. Since they are formed by various interests and conflicting parties,

they are inherently political, thus calling for systemic changes not from a top-down perspective but from the other way around, stating the importance of social movements, organizations and civic participation in political and democratic configurations (Pichler, 2023). As such, it goes into policy discussion beyond the nation state recognizing its inability to deal with the ecological crisis being inherently tied to a human-centered capitalist economy (Brand et al., 2021).

Pichler (2023) discerns in socio-ecological transformations three processes that explain different parts of the societal struggle these are polity, politics, and policy. “Polity” analyzes how the official structures associated with the capitalist order (states, authorities, etc.) promote or inhibit transformative change and what is the dynamic created in the transition from a fossil to a renewable energy-based economy and society. “Politics” is engaged mostly with conflicts and competition that is inherent in political decisions and strategies. As such, this part aims to see how power relations are influencing transformative change and analyze their characteristics. Finally, “policy” is about the public policies and how they influence transformative change and how they should be designed in order to promote transformations (Pichler, 2023). The political dimensions mentioned above are explained further in Figure 2.

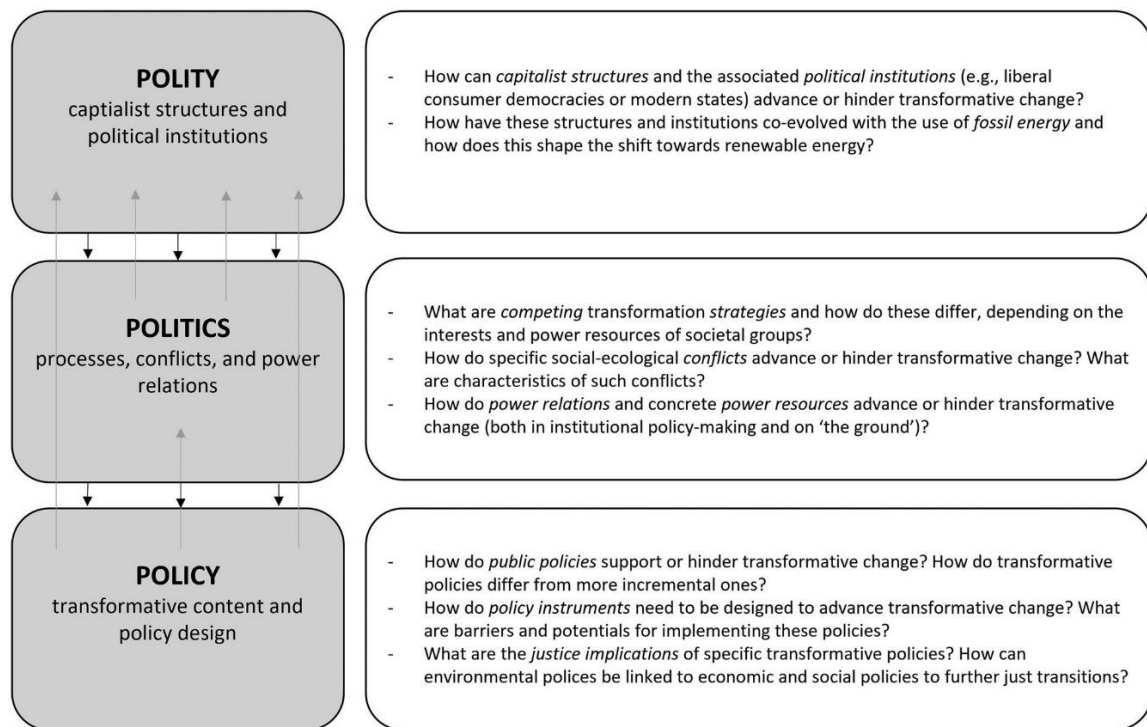


Figure 2 Political dimensions of social-ecological transformations (Pichler, 2023, p. 9)

Politics is an important part of this analysis without its contradictions. When analyzing politics in socioecological transformations, the analysis goes further than just the state, admitting that it is not just a matter of management and institutional framework (Görg et al., 2017). On the contrary, as this study begins with the capacity of the institutional framework and the laws of the European Union and Greece, it bases the analysis on the societal aspect of energy communities and explores legal frameworks on how they can allow a transformative view to flourish. So, to better analyze policies through the socio-ecological framework, they are seen as the ones that set the rules and thus possibilities of transformation happening in a democratic setting (Pichler, 2017).

A more democratic way of organizing the relations between society and nature is important from a socio-ecological perspective. The need to institutionally stabilize structures that operate in a way that democratic control of resources is important

(Brand & Wissen, 2017). The very central role of democracy in that framework makes it important to also understand the term energy democracy within the socio-ecological transformations framework.

Energy democracy is hailing from social movements and critical think tanks, advocating for a more fair, community-controlled, and sustainable way of producing, distributing and managing energy sources (Becker & Naumann, 2017). As such it is a framework that promotes decentralization of the energy system that goes against not just the use of fossil fuels but the whole way the energy socioeconomic system is built.

The Institute for Local Self-Reliance defines energy democracy as a system “that is democratic, where decisions are made by the users of energy” (Farrell, 2024). From a social movement perspective based in Greece, the local branch of Greenpeace gives the definition of energy democracy as an antithesis to the capitalist mode of the energy sector where the actors involved in production and management is the whole society, citizens, small and medium businesses and the local administration and they are the ones who carve the path for just conditions on energy transition towards an economic system without fossil fuels (GreenPeace Hellas, n.d.).

As seen above, a very important aspect of energy democracy is participation and the forms used. Literature on Energy democracy focuses on cooperative models and organizations run by communities. As the current energy model based on fossil fuels has created and is responsible for increased social and spatial inequalities, energy democracy is seen as an alternative or the goal of an alternative future, antithetically to neoliberal policies and uneven development (Becker & Naumann, 2017). Combining the various works on energy democracy, the common ground is the

push towards politicizing the energy sector. Moreover, it can be seen as an alternative form of imaginary for society, where decentralization of economic and energy systems is promoted in a way of making them more equitable and inclusive giving more political power to local bottom-up structures, which aligns with how socio-ecological transformations aim to analyze systemic change and possibilities for deep rooted transformations in the current system (Pichler, 2023; Van Veelen & Van Der Horst, 2018).

Cosmolocalism

The other theoretical framework that is going to be used is the one of Cosmolocalism. This framework has been made utilizing the ever-growing connection between informal networks. Communities and localities are in communication with between them, exchanging ideas and information, forming a bigger co-existing network (Schismenos et al., 2020). Thus, cosmologicalism creates the idea of local action and production through a bigger network of communities that use the global commons as a common pool of knowledge accessible to each other, in order to produce local solutions (Kostakis et al., 2023).

Cosmolocalism is chosen as a framework as it is tied to the political side of socioecological transformations. The need for alliances to be formed that follow the principles of socio-ecological transformations is also considered a highly important concept that operates as a bridge between the two theoretical frameworks (Brand et al., 2021). A cosmological framework is inherently transformative, aiming at ways to organize locally, innovate, and create in a post-capitalist way, where the benefit of the community and cultural diversity is the center instead of market growth (Kostakis et al., 2023). The main drivers of this perspective are freedom of the parties involved,

innovation cooperatively made and accessible to all, equality, and democratic control (Schismenos et al., 2020). It is important to note that cosmolocalism as a concept in literature aims to be a transformative framework, but there are also concerns regarding it being used as just another tech solution in a liberalized market economy structure (Kostakis et al., 2023; Schismenos et al., 2020).

This framework is going to be used to analyze the connections and collaborations of energy communities in Greece. Especially considering the fruition of the Greek association of energy communities (DESMI), REScoop.eu being the European federation of energy communities and programs like the European LifeLOOP, where energy communities of all over Europe participate and form a network of exchanging ideas and knowledge. As a result, the research will try to understand how these networks are operating with what dynamics and if they aim to be just a tech solution or to actually be a transformative way of rethinking societal relations regarding energy.

Methodology

Research Objective and Questions

The study is going to use the theoretical knowledge that has been previously analyzed to understand how the energy community concept is operating in Greece. It will assess the structural and political conditions that enable or hinder these communities in fostering energy democracy and decentralized, sustainable energy transformation.

The theoretical framework will be used along with policy reports and analyses from organizations working in Greece with energy communities and qualitative data

from interviews, field trips and informal conversations done during February - May 2025 in Greece. Greece is seen as a case study in this thesis as a country where the phenomenon of energy communities is rising, and there have been various moves like the creation of DESMI and the organization of various initiatives to make the energy communities stronger. Important to note is that even though there is qualitative data, there are some differences that could occur with local communities operating or viewing the same concept differently in different regions of Greece. However, for the needs of this thesis, the data is sufficient to get a general understanding of the phenomenon.

Drawing from the design of the previous paragraphs, one main research question is formulated along with five research sub-questions. The sub-questions approach the different aspects that are implied in the main question, and after being separately analyzed, the common themes are debated in the integrated discussion chapter. The research questions that have arisen are as follows:

Main Research Question: Within the socio-ecological transformations framework, how do energy communities in Greece interact with institutional structures and contribute to the democratization and transformation of the energy system

- 1 Using the socio-ecological transformation perspective, how do institutional structures (polity) and public policies (policy) in Greece shape the development and transformative potential of energy communities?

- 2 How are energy communities in Greece contesting the existing governance in the energy sector, and how do they challenge or reproduce existing socio-technical regimes?
- 3 How is energy democracy understood by energy communities, and how is it shaping the organization and operation of energy communities?
- 4 How do networks and collaborations among Greek energy communities contribute to the empowerment of energy communities in Greece?
- 5 How can energy communities be further enhanced and take an even bigger role in the energy transition and democratization of energy in Greece?

Data Collection

The research analysis will use a mixed methods approach, merging qualitative data with reports, pre-existing literature, and research conducted on the matter. The data collected through qualitative methods is in the form of semi-structured expert interviews, field trips, and informal conversations with people who are members of energy communities. This plethora of methods was chosen to further contextualize the data collected (Hussein, 2022). As a common feature, people who are members of an energy community could also be members of organizations or DESMI. Semi-structured interviews were chosen as they can provide flexibility and freedom, allowing also the interviewees to better express their views (Quillivic & Payet, 2024). The interviews used a set of questions tied to the research objectives of the thesis, but also there was space for follow-up questions in order to gain more insight or make the transition from one question to another smoother if the interviewee used longer answers.

Furthermore, expert interviews are chosen since the people who participated in the research are in positions that make them experts in the matter of research. Also, it is a more efficient way of gathering information according to the time schedule of the research and getting specialized knowledge in a social setting not familiar to the researcher. Experts in this case are defined as people who, through their specialized knowledge as core members of the phenomenon of research, can provide information on the social and practical matters that are under research (Bogner et al., 2009)

Conversations and field trips are seen as part of event ethnography, where the researcher gets a deeper understanding of political and social relations engaging in events through participant observation and informal conversations in these events (Koch, 2023). These events are complementary to the interviews conducted. Unfortunately, due to the overall resources, targeted timeframe, and lack of responses to the contact attempts, only two semi-structured interviews relevant to the thesis could be gathered.

The two interviews were done with people who are both members of energy communities but other organizations, namely Electra Energy Cooperative and DESMI as well. The first interview was done in February 2025 with a person from Electra, which is an organization promoting the transition to a more democratic, inclusive, and sustainable energy system, and will be quoted from now on as interview 1. The second interview is conducted in March 2025 with a member of the SOLARITY energy community and DESMI. This interview will be quoted as interview 2.

The field notes are the sum of extensive notes in order to make some descriptions relevant to the codes for interviews from events that are going to be quoted as field notes (Koch, 2023). To be more specific, field notes as well as photos were taken from the events and visits mentioned below. First, a visit and small tour of the facilities of the National Centre for Renewable Energy Sources and Saving (CRES). Second, a visit and small tour of the Office for Combating Energy Poverty (GAEP) of the Municipality of Athens. Lastly, the participation in the POWERYOUTH capacity building program in May 2025, where instructors from energy communities and organizations relevant to the matter did presentations regarding energy communities in Greece and the EU.

The interviews work complementary to previous research conducted on energy communities in Greece, along with reports from organizations and official sources. More specifically, previous research is used to see the legal framework of the energy sector and the energy landscape of Greece. Also, other research with qualitative methods is used to gain further views from different communities and organizations, and then applying the qualitative data acquired for this research to draw its conclusions.

Data Analysis

The first interview was done through ZOOM, where the video call is stored in the cloud of the University of Vienna; meanwhile, the second interview was done in person, and the recording is saved on a personal external hard disk. The events will use field notes taken during participation and observation from these events and conversations with people who are either members of energy communities or are members of other relevant organizations. After transcription, the interviews

were analyzed through thematic coding, with the codes used being 1. Energy democracy, 2. Laws, policies, and state 3. Co-operation/cosmolocal 4. Transition/transformation and 5. Corporate capture.

During the coding process, the original language, which is Greek, was used so that the original script was not modified, thus avoiding even minor changes in the analysis process through translation issues. Then the parts highlighted were translated into English to be incorporated into the same language as the writing of the study.

The codes were chosen in order to better answer the main themes of the research sub-questions, according to the socio-ecological transformations and cosmocalism frameworks. Some codes were used in multiple research questions, as policies and laws are crucial and intertwined in many aspects. In the table below, coded versions of the research questions are used along with the codes that were correlated and the keywords or the logic used in the inductive process of transcription and analysis.

Research questions	Codes	Inductive keywords
<i>RQ 1 Socio-ecological theory on polity and policy</i>	Laws, policies and state	Policies both EU and Greece, and the ability to work or produce results on the goals (social or practical) of the communities

<i>RQ 2 Politics and transformation</i>	Transition/transformation Corporate capture	Ability to be a different mode of energy initiative, market antithesis, and transformation challenges
<i>RQ 3 Energy democracy ideas on energy communities</i>	Energy democracy	Questions about energy democracy and its position in the actions and goals
<i>RQ 4 Networks and collaborations between energy communities and empowerment</i>	Cooperations/cosmolocal	Mentions of federations or cooperation between different actors. Exchange of information
<i>RQ 5 Policy recommendation for enhancement</i>	Transition/transformation Corporate capture Laws, policies, and state	More conclusive, use of reports. Views on laws and ideas for change. What they ask for.

Table 1. Presentation of the use of codes and the analysis thought process

For all interviews and data collected through informal interviews and conversations in events, oral consent is taken for its use in the research presented. For formal interviews, the consent is recorded, but it is important to note that the subject is not sensitive when thinking about ethical considerations.

Limitations

As with any qualitative study, certain limitations must be acknowledged in order to contextualize the findings. Although the study incorporates only two interviews, which inevitably constrains the breadth of perspectives, the positions of the interviewees—representing both individual energy communities and the federation of Greek energy communities—contribute to the credibility and transferability of the findings. Their insights provide a nuanced understanding of how active energy communities in Greece operate and interact, even if the results are not intended to be statistically generalizable.

Also, DESMI and the energy communities that have been contacted and used for the analysis form a minority in regard to the sheer number of how many energy communities are registered in Greece. As corporate capture and legislative issues are seen in both the reports and the interviews (The Green Tank, 2025, Interview 2), communities that are called “genuine” and are part of European and Greek federations are discussed in this thesis.

The choice of the organizations and communities was done through research on social media, platforms, and events, to find which are active, since first of all, there are many registered communities that are inactive or cannot be found publicly. Also, the use of reports from organizations and federations has a certain bias coming from initiatives with their political agendas and views. This matter is tackled through the use of competing sources and the critical assessment of the reports to avoid subjective statements. Similarly, both primary and secondary data are products of various perspectives coming from the state, the European Union, energy communities, different organizations, and individual researchers. This research views all the data

critically to make an analysis and draw conclusions, following social research methods, being as objective as possible.

Analysis

Development of ECs Through *Polity* and *Policy*

The analysis will focus on each of the research questions, using the literature quoted before and adding primary data from interviews, reports, letters, and policy papers. Some of the data used in the first chapters of the analysis are intertwined with the data needed for the rest of the research questions.

The first research question set for this research is how institutional structures (polity) and public policies (policy) in Greece shape the development and transformative potential of energy communities. To answer this question, a mixed method of qualitative data from interviews and reports with previous research conducted on the matter is going to be used.

To review the *polity* and *policy* as mentioned in the political dimensions of socio-ecological transformations framework, there is a need to check the policies in Greece and correlate them with the institutions and structures to understand their position in transformative change. As explained previously, these two parts of the political life are interrelated heavily, and as conflicts arise, they are needed for any transformative change, without though meaning that conflicts always bear change (Pichler, 2023).

According to the National Energy and Climate Plan (NECP) of the Ministry of Environment and Energy, as revised in 2024 in Greece, energy communities are deemed very important in diversifying the electrical production of Greece and will be supported as promoters of self-production through renewable energy sources

(ΕΘΝΙΚΟ ΣΧΕΔΙΟ ΓΙΑ ΤΗΝ ΕΝΕΡΓΕΙΑ ΚΑΙ ΤΟ ΚΑΙΜΑ, 2024).

	Objective 2030		2021
	NECP 2019	Revision of the NECP	
GHG emissions reduction (without LULUCF); % reduction vs 1990	- 40%	- 54%	- 26%
Renewables adoption; % of gross final energy consumption	35%	44%	22%
Gross final energy consumption; mtoe	16.5	15-4	15-65

Figure 3. Key objectives for the preliminary draft revision of the NECP for 2030 (Topaloglou et al., 2024, p. 5)

Specifically, measure number thirteen is focused on energy communities, and according to the plan, it puts emphasis only on the promotion of renewable energy sources and provision of financing tools from both national and European funding plans (ΕΘΝΙΚΟ ΣΧΕΔΙΟ ΓΙΑ ΤΗΝ ΕΝΕΡΓΕΙΑ ΚΑΙ ΤΟ ΚΑΙΜΑ, 2024, p. 294).

This plan has been called by Petmesidou and Branco “politically polarized” since it promotes a neoliberal market logic in the energy sector aligned with the ruling conservative New Democracy political party ideology (Petmesidou & Branco, 2025, p. 10). Matters of social vulnerability and inequalities are not mentioned in the NECP, and the discussion surrounding it has caused political controversy, with left-leaning political parties questioning the government's proposals (Petmesidou & Branco, 2025; The Green Tank, 2025; Zervas et al., 2021).

Bearing these measures in mind, it is important to examine data regarding the production and the application procedure of energy communities. Since Greek legislation contains legal gaps regarding the ability of energy communities to operate in the energy market, the vast majority of connected projects take advantage of these provisions, resembling more of a corporate structure. On the contrary, projects for self-consumerism are only 4.4% of the total 1.335,7 MW of energy community

projects connected to the grid (The Green Tank, 2025). And to go even further, from that amount of energy, the amount that is tied with members of DESMI is approximately 7,6 MW (Desmi, n.d.). Similarly, the new frameworks, along with the inability to find space for electrical connection to the main grid by the national agency, have resulted in a reduction of applications for projects from energy communities, with 2025 seeing an important decrease in both applications and connection to the central grid (The Green Tank, 2025).

Also, in 2024, a law was passed by parliament regarding the project *Apollon*. According to that, the peripheries of Greece had a time limit to become members of the project and form their citizen energy communities with the main purposes being combating energy poverty and making the local administration more autonomous regarding energy (The Green Tank, 2025). Project *Apollon*, according to the government, is a program that aims at the creation of an energy community in every periphery in Greece and aids in the lessening of energy costs of vulnerable homes and local administration (N. 5106/2024, 2024).

By simply looking at the goals set, the law seems to follow the European guidelines and objectives, but reading the details, there are serious omissions. To be more specific, the energy communities that are chosen are CECs that its members constitute the local administration, the municipal water and sewerage companies, and the local land reclamation companies (N. 5106/2024, 2024, Article 103). As a result of that, the energy communities that are included are not going along with the European guidelines nor the definitions of energy communities. They are not communities where participation is open and voluntary, but rather, they are closed communities run by local administration and have limited actions given to them by the *Apollon* program.

Similarly, Article 104 has various problematic points according to which the administration and ownership of the projects is not given to the municipalities as members but to third parties responsible for making the project (N. 5106/2024, 2024, Article 104). As such, the principle that each member of the community has an equal amount of ownership and decision-making capacity on the projects is again bypassed.

Electra has made a public statement regarding the problems of that program, and at the same time, DESMI has sent various letters to the Ministry of Energy and Environment signifying their complete omission from the program *Apollon* and their omission also from most of the financing tools that the state has announced (DESMI, 2025a). Similarly, during the public consultation on the new national Social Climate Plan from the vice president of the Greek government run between the fourth and eighteenth of July 2025, again DESMI and Electra have provided comments about the governments continuous refusal to add the energy communities in the central planning and give access to financing opportunities as the European directives clearly state (*Public consultation on national Social Climate Plan*, 2025).

Moreover, DESMI is clearly declaring that it is the one coalition representing the open and broader base bottom-up communities and has sent numerous letters to the government with proposals and comments on how to better promote energy communities. In a letter sent in May 2025, DESMI criticizes the Ministry of Environment and Energy that it does not help broader base communities and sets various limitations leading to the abandonment of projects and degradation of energy communities in general (DESMI, 2025b).

Similarly, in the field, using information from the interviews and field trips conducted, the state was seen as not cooperating with energy communities. When

asked regarding the relations with the state, the answers that were given portrayed the state as “hostile” towards the “genuine” energy communities (Interview 2, pp. 6-7). Similarly, in the interview with Electra, the state was portrayed as not taking into consideration the calls and proposals of the communities and following just barely the European directives when in reality it has also many laws that do not go along with the “spirit” of the directives (Interview 1, p.12). Moreover, the capitalist market that the state serves with its policies creates a “suffocating” landscape for energy communities (Interview 1, p.12). In the same interview, it is clearly stated that the biggest problem is not the legal framework but the political will and choices made by political and business actors (Interview 1, p.12).

Based on that data, the assessment of the research question is that the *polity* and the *policy* that result are heading in a direction that does not support genuine energy communities. The laws in Greece, although they initially allowed for a rapid rise in the phenomenon's development, have since changed, revealing that the growth of energy communities is hindered, and their transformative potential under the existing legal and market framework is limited.

Contesting Energy Governance Through ECs

The second research question delves into energy communities themselves and seeks to explore how energy communities are contesting the existing governance in the energy sector and how do they challenge or reproduce existing socio-technical regimes. Energy communities are promoted by European climate policy to help with climate goals that have been set. However, that does not necessarily mean transformative change or challenging the existing socio-technical regimes. By reading

various views and policy ideas, we can better understand how energy communities are viewed and by whom.

By reading the opinions of various organizations in the European Union, an idea of a more transformative power of the energy communities is seen. Community Power sees Energy communities as organized forms that are “not just a tool for decarbonization but a foundation for more just, democratic and resilient societies” (The European Community Power Coalition, 2025, p. 1). On a similar note, the European Commission webpage on energy communities characterizes them as important players in “re-structuring our energy systems” that “support the energy transition” (*Energy Communities*, n.d.). But it is important to understand also what the implications are beyond just between a fossil fuel energy regime and a renewable energy regime. The differences in the political economy of the renewable energy sector must also be addressed.

First of all, energy is seen as a commodity in the current socio-technical regime. In this essay, socio-technical regimes are used as a term to describe the social and technical aspects that are intertwined in a highly complex system, making a rigid system whose dynamics are therefore hard to alter (Morgunova, 2021). Using that definition, the current regime is a mix of fossil fuels and a call for the rise of renewable energy sources in energy production, while treating energy as a marketable commodity. That regime, until now, has been letting the people who want to take part in it only in the later stages. For example, in the usage of private solar panels, owners still have to follow the rules of energy commodification, from how much energy is sold for and how it is distributed, to how it is produced and managed (Giotitsas et al., 2022).

The transition to a renewable energy market has shown characteristics where huge projects of solar or wind energy are done in various areas, but the local population has not received the benefits (Giotitsas et al., 2022). European projects and national laws are fostering a transition that favors this kind of big projects and work as a tech solution towards the goal of sustainability. This political choice has shaped a strong divide in the environmental movement as well, since there is heavy criticism that the transition is not fighting the inherent sustainability problems of the socio-technical regime where the energy sector is based upon (Kominou et al., 2023; Μάκη & Βελεγράκης, 2022).

There has been growing literature on the problems tied to the vast support of companies and states towards a sustainable future with renewable energy sources from wind and solar farms to hydrogen projects. There has been a huge debate regarding the social acceptance and the land-grabbing techniques used in order to create such huge projects (Ulloa, 2023; Μάκη & Βελεγράκης, 2022). The question that is produced, therefore, is whether energy communities challenge that transition further than just the difference between fossil and clean energy, delving into deeper social structures.

From the interviews and reports that have been published lately, another important factor to take into consideration is the rising phenomenon of corporate capture of energy communities (Cots & Eco-Union, 2025; Eco-Union, 2025; Kominou et al., 2023). Corporate capture in energy communities means that various energy companies or industrial producers of energy are using either loopholes in the legal framework on energy communities or influencing them in ways that are not in line with the definitions of energy communities (Eco-Union, 2025). As energy companies are trying to preserve their status in the market they use lobbying to create

or even change policies to their own interest. This means that they can either acquire or create their own energy communities or be part of existing ones, which can lead to misconceptions regarding the energy community principle and the distinction between genuine and “fake” or industry-based communities (Cots & Eco-Union, 2025, Interview 1, Interview 2).

Also, in academic literature, the influence of various powerful players in the national legislation, after the emergence of the CEP from the European Union, has been reviewed. In that way, how policy is formed and what goals does it have can showcase the nation’s vision on energy futures (Envall & Rohrer, 2024). Similarly, it is questioned how the involvement of powerful players is going to influence the social perspective and thus the transformative potential of energy communities (Dóci et al., 2015). In Greece, the transformative power of energy communities is firstly seen through the policies and reports, thus entailing both genuine and fake energy communities, and second through the interviews and reports only on the genuine energy communities.

Starting with the data that are available from reports, the vast majority of the energy communities operating in Greece are projects that operate in the market for profit. Out of the 1703 energy communities that are registered in Greece, only a few dozen are genuine energy communities operating according to the cooperative principles promoting a just transition and a non-profit model (Fameliari & Vrettos, 2024; The Green Tank, 2025). Similarly, the energy providers as well as the ministry in the reports are seen as unwilling to cooperate with a new form of independent production and consumption of energy (Fameliari & Vrettos, 2024).

The national legislation and the plans of the energy policies from the NECP have serious omissions. Even though they have various mentions of supporting energy communities in their main goals, they are seen as a theme to be expanded primarily with solar technologies on industrial and commercial facilities (*EΘNIKO ΣΧΕΔΙΟ ΓΙΑ ΤΗΝ ΕΝΕΡΓΕΙΑ ΚΑΙ ΤΟ ΚΑΙΜΑ*, 2024, p. 87). This priority on the for-profit form of energy communities or their direct connection with industries instead of citizens is contrary to the notion of energy communities and simultaneously gives them a conservative role with little space for any fundamental change.

The national plan places some emphasis on the social role of energy communities in fighting energy poverty. To be more precise, program *Apollon* and the participation of vulnerable people in energy communities are seen as the main components of fighting energy poverty. The reduction in their energy expenses through these two forms is proposed (*EΘNIKO ΣΧΕΔΙΟ ΓΙΑ ΤΗΝ ΕΝΕΡΓΕΙΑ ΚΑΙ ΤΟ ΚΑΙΜΑ*, 2024, pp. 328–329). These plans give a passive role to the participants, making the energy communities a bureaucratic instrument to provide some form of state social policy, but do not allow for much freedom and power to the communities' members, either being citizens or local administration. The *Apollon* program is also seen as a controversial measure that further reduces the transformative power of energy communities since decision-making and ownership are given through contracts to private energy providers and contractors, leaving a very limited role to the citizens participating and the local administration (Eco-Union, 2025)

Commercial energy communities are also considered by Electra as problematic forms that are made with the sole purpose of creating a project and then remaining inactive with no general assemblies or any social work done, but rather resemble a company structure (Interview 1, p. 4). During the second interview, the

case of “sharks” operating and abusing the legal framework by either creating a project and then transforming the community towards a commercial legal form or even applying to create energy communities belonging to companies without any citizen participation (Interview 2, pp. 6-7). By the term “shark” in this interview, big energy companies that operate in Greece, as well as other private investors who capitalize on every market opportunity and, in a way, do not allow smaller or antagonizing views to develop, are meant (Interview 2, p. 11). Arguably, the data in hand lead to an understanding of energy communities as a supplementary force in the current socio-technical regime if seen through the eyes of policies, the Greek state, and its goals.

Things do show, however, differences if the focus is put on genuine energy communities. These communities are working by democratic principles and keep the profits in the community, having a very important social role, primarily at the local level (Kitsikopoulos & Vrettos, 2023). Reports indicate that with a proper legal framework and if the seven cooperative principles are followed, then energy communities have the potential to offer environmental, social, and economic benefits to the areas they are operating in (Kitsikopoulos & Vrettos, 2023).

Currently, a problem that halts the possibility of energy communities being more impactful is the legal framework. It is restricting, and from a policy perspective, the recommendations sent either by DESMI, Electra, or energy communities on their own are, in most cases, ignored by the state, thus leading to small changes from that perspective (DESMI, 2025b, Interview 1, p. 11-12). In general, the framework in Greece is leaving small room for transformative change in energy communities as a whole in the energy market as it is.

The main transformative tool that can be seen through the NECP in Greece is the ability to run educational programs. These could range from raising acceptance of renewable projects to alternative ways of viewing energy production and consumption. From that point of view, there have been various events and seminars run by energy communities that put the emphasis on terms like energy democracy, just transition, and solidarity economy. The examples of figures 4 and 5, translated from Greek, emphasize the call for energy democracy and the answer to energy crises through the social and solidarity economy. Similarly, most events and actions seen in sites of energy communities focus on these ideas and put great emphasis on the alteration of the energy landscape in Greece. Typical examples are the event from ENA institute on energy democracy and CECs (<https://enainstitute.org/event/energeiaki-dimokratia-energeiakes-koinotites-politon/>, accessed, 18/08/2025), or the first panhellenic summit of DESMI (https://web.facebook.com/events/8389506231133799/?acontext=%7B%22event_action_history%3A%5B%7B%22surface%3A%22external_search_engine%22%7D%2C%7B%22mechanism%3A%22attachment%22%2C%22surface%3A%22newsfeed%22%7D%5D%2C%22ref_notif_type%3A%22null%7D%7D%7D, accessed, 18/08/2025).



Figure 4. Minoan energy community event with title “ Energy in our hands, To make energy democracy in/ practice” <https://www.crete.gov.gr/enimerotiki-ekdilosi-sta-chania-gia-tis-energeiakes-koinotites/> (accessed 05/08/2025)



Figure 5. Event on social and solidarity economy run by Attica Energy Community, Electra Energy and other institutions. Title of event “energy communities as an answer to energy crisis through social and solidarity economy” https://www.atticaenergycommunity.gr/%CE%B4%CF%81%CE%AC%CF%83%CE%B5%CE%B9%CF%82_1/%CE%B5%CE%BA%CE%B4%CE%B7%CE%BB%CF%8E%CF%83%CE%B5%CE%B9%CF%82/%CE%B5%CE%BD%CE%B5%CF%81%CE%B3%CE%B5%CE%B9%CE%B1%CE%BA%CE%AD%CF%82-%CE%BA (accessed 05/08/2025)

The primary data from interviews also promotes the idea that genuine energy communities are viewed as possible transformative frameworks that, through democratization of the energy sector, can acquire more power against the strong lobby

of energy companies that is formed in Greece. Since in Europe there are also more positive examples, according to interviewee number two, the energy communities can actually become an important player in the energy sector by combining the rise of a sense of community through collective effort. Further, they democratize these projects so that collective thought is put forward instead of an individualistic one, thus even overturning the power scale from energy corporations to energy communities (Interview 2, p. 16).

For the first interviewee, the energy communities are a “child” of the “liberalization” of the energy sector (Interview 1, p. 12). Since the main approach to energy planning has been based on the liberal capitalist idea, the possibilities of people taking advantage of it lie there. Ideally, then, move from the liberalized energy market to a new one more communal that truly supports the energy communities and can provide a framework complementary to the fundamental principles of energy communities (Interview 1, p. 12). The most important step that needs to be taken, therefore, is to make this narrative of decentralized, community-based and controlled mode of energy production and management dominant and proceed to deep transformative change in the frameworks as well (Interview 1, p. 12).

Furthermore, energy communities need to take small steps since it is a new framework, and its rise to the dominant narrative is based on delivering good results. Most people become members according to Electra because of the benefits that they get economically with reduced bills, and then gradually they get familiar with mechanisms like the general assembly and concepts of community owning and managing (Interview 1, p. 13). This will result in decreasing dependency on big players, making them obsolete for energy access (Interview 1, p. 13). The need to have a plan that actually produces benefit in this market system, not profit but benefit

for its members, is inherent for the planning and maintenance of the energy communities. Then, as people get accustomed to values and become organized, there can be an actual conversation of raising energy communities as a noteworthy transformative power in the energy system, further than a strong potential.

To conclude, the practices of the genuine energy communities, following the seven cooperative principles and promoting energy democracy, are contributing to a transformative framework. Moreover, the perspective seen in the interviews as well is that the energy communities are trying to constitute a form of energy governance and production based on the well-being of the community and democratic principles, quite different from how the current energy system operates.

Perception and Influence of Energy Democracy

The third question raised is how energy communities perceive energy democracy and how it shapes the way that they operate. Through questions asked during the interviews as well as data from reports, policy papers, events, and websites, the importance and influence of energy democracy on energy communities is going to be evaluated.

Energy democracy has been mentioned in the beginning as a framework that is very important in the conversation of energy communities. Not only is it seen in conversations, events and goals regarding energy communities, but it also indicates the political importance of the framework. The matter of control over energy and the lessening transparency has led to a call for a more democratic governance over energy resources. This call has materialized through energy communities (Petrovics, 2024).

Energy democracy has also become apparent in government and institutional debates. The Greek minister of environment and energy who served between 2023 -

2025, Theodoros Skulakakis, has also spoken about the necessity of energy democracy in a press conference, connecting it with the benefit of the consumer. He also mentioned energy provision as an action of both political and economic aspects, but the focus was still given in the economic sphere and the correlation between industry and energy. (Ypen.gov.gr, 2024)

In the European Union, officials have also started using the term energy democracy and as political tensions rise in the energy sector, it becomes more evident that a more democratic system is not just “fairer” but also better operating in terms of governance (Szulecki & Overland, 2020).

The fact that there is no common energy democracy definition leads to working on it first through common themes in the academic debate and second through the perception of it by energy communities. In the academic debate, as mentioned in the introduction chapter, the main common themes in the definitions of energy democracy are participation and control over energy resources from the people, and consequently, a decentralized energy system. Moreover, the decarbonization of the energy system is seen as another component in energy democracy debates since it is viewed as the fairer choice in comparison to the centralized market energy economy of the fossil fuel industry (Giotitsas et al., 2022; Szulecki & Overland, 2020).

In literature, energy communities are given a prime importance in the role “in envisioning, promoting, establishing, and sustaining a more democratic energy system” (Jochemsen et al., 2024, p. 1). This system is based on the cooperative principles as mentioned before, and these are closely related in regard to energy democracy. In Europe, there are thousands of energy communities that promote these

principles and are seen in academic literature as potential frontrunners in energy democracy, but the research on the results is lacking (Petrovics & Savini, 2025).

In Greece, energy democracy is seen in every form of energy community that is non-profit and called genuine. The municipality of Athens, in April 2025, passed a resolution signed by 44 more municipalities all over Greece titled “Energy Democracy in Local Authority” after a meeting hosted in the mayor’s office of Athens (Municipality of Athens, 2025a). In this meeting, the mayor of Athens, Haris Doukas, supported by the center-left PASOK party, stated that this resolution is “the first crack against the energy system of the country” labelling energy a public good and not a commodity, and calling on the government to aid energy communities and citizens with legal frameworks suitable for them (Municipality of Athens, 2025a). On a similar note, the mayor of Vari, Voula, Vouliagmeni, Grigoris Konstantellos, slammed the program *Apollon* as doing the opposite of what it proposes, thus creating an energy stock exchange that serves the interests of certain big investors (Municipality of Athens, 2025a).

The resolution mainly asks for priority to the energy communities of local administration to electrical space connection in the central grid and funding tools for projects done by these energy communities (Municipality of Athens, 2025b). The target is to acquire more resources to be put especially into programs for alleviating energy poverty. In general, the current mayor of Athens, Haris Doukas correlates actions against energy poverty with a call to energy democracy in the energy system. On that note, the Office of Combating Energy Poverty (GAEP) was created, and during an event held about the first 25 beneficiaries of the actions of the municipality, the mayor called it an active example of promotion of energy democracy (GAEP, 2025).

The mayor has announced the creation of an energy community of the municipality of Athens, “*ΦΑΕΘΩΝ*”, but the first actions tied to energy democracy are being done by GAEF using the sources already available to the municipality, like solar panels at the various holdings of the municipality.



Photo 1. The solar panels over GAEF (Photograph by Ektoras Leventis)

During the tour at GAEF, it was also said that promotion of energy democracy is important in the actions of the municipality, especially until the energy community

starts running its own projects. In the case of the municipalities and the energy communities coming through them using the example of the municipality of Athens and the common alliance between 44 more municipalities in all of Greece, energy democracy is tied with alleviating energy poverty and being able to harvest clean energy to be given especially to vulnerable citizens in zero or very low price (Municipality of Athens, 2025b).

In the interview with Electra, it was said that they have not done a discussion specifically on how to define energy democracy, since, in its essence, the definition of the term will not change how the communities operate. However, there is a common ground that when using the term energy democracy, it refers to the power over energy decisions being given to its members.

“We can do it of course [speaking about defining energy democracy] it's true although I don't think it will change anything, that there is a common perception internally and I think with the energy communities it has to do with citizens having a say in how we produce and how we manage energy. This is mainly in decision-making and in issues in general to have more of a say in all these issues” (Interview 1, p. 4).

The main mechanism that is directly correlated in this interview with energy democracy is the power of general assemblies, which are the ones holding the power over how the energy community will produce and manage its energy, as well as every other decision taken over the community (Interview 1, p. 4).

Similarly to the data seen in the municipalities, in the second interview, when asked about energy democracy, it was first tied with matters of energy poverty. Since energy poverty is not equivalent to economic poverty, it can also encompass people above the poverty line. Trying to combat this is also considered a component of

energy democracy (Interview 2, p. 10). Energy democracy is also used in the statutes of both DESMI and Solarity, thus it is central to the way they operate.

“Energy democracy is definitely the issue, we say it through our statute and it's also how we implement it in practice. Because it sounds nice, but how does it apply in practice. Let's say another point that one can say and see some changes and different perspectives is in that okay we are like an open community, we didn't exclude anybody” (Interview 2, p. 12).

The inclusiveness of the community is seen as a way of showing the democratic aspects of the community. The fact that everyone can be a member, regardless of their economic situation or class, and still hold the same power with the one-member one-vote principle in the general assembly, promotes a democratic way of operation. The cooperative side of energy communities also has many democratic implications since it works on a collective framework where the benefits are shared equally among everyone in the community. This way they build more trust between members and work towards finding not the individual benefit but the common one (Interview 2, p. 16 & 19). Also in the public consultation on the NECP, DESMI put a proposal for the creation of a national strategy towards energy democracy that would aim to enable more people and municipalities to become members or form energy communities and make projects for self-consumption (DESMI & REScoop.eu, 2025; *Public consultation on national Social Climate Plan*, 2025).

What is understood over the use of energy democracy in energy communities in Greece is that it is still a quite vague term, even though it can be seen in many statutes, events, and documents that are available. The main things that are associated with energy democracy are helping vulnerable citizens, gaining more control over

energy built through the distrust of how the energy market of Greece operates, and promoting a collective and inclusive form of energy production and management. In practice, that means the use of general assemblies and establishing rules to keep the power of the assembly dispersed among the members.

It also means that members are pushed towards collective decision-making, with many informative events happening and transparent debates being important before actions are taken through the vote and work of the general assembly (Kitsikopoulos & Vrettos, 2023).

Impacts related to policy and political processes

- Democratic processes
- Participatory decision making
- Citizen involvement and local organising
- More vocal citizenship
- Public debate
- Impact on policy making

Figure 6. Social Impact Indicator of Energy Communities (Kitsikopoulos & Vrettos, 2023,

<https://my.visme.co/view/q687k34e-social-impacts-related-to-energy-communities#s1>)

Energy democracy is thus understood by the energy communities in Greece in a way that they actually politicize the energy sector, since they advocate with policy recommendations and pressure towards the state, and also, they put frameworks like open participation and general assembly decision-making. The big difference with the theoretical discussion on energy democracy is the emphasis given to energy poverty. For energy communities in Greece, energy poverty is a very important measure when advocating for energy democracy, going along with the principle that there can be no democracy with huge inequalities. Since indicators of energy poverty in Greece are very high even in comparison to other European countries, it is understandable how

energy poverty is so central to the narrative of energy communities in Greece (Halkos et al., 2025; Sarafidis et al., 2025).

Networks and Collaborations Between ECs

Another question that has been raised is what the impact of networks and collaborations between energy communities in Greece is. To answer this question, primary data from the field trips and the interviews are used, along with data from the various letters DESMI has published and reports from other organizations that constitute a broader network of energy communities.

The work of collaborations and networks in energy communities is a very important aspect when researching the phenomenon in Greece. These networks can provide platforms of collective action and knowledge sharing with Electra and DESMI, being two prime examples. These networks have been praised numerous times in literature and constitute important factors in energy transition (Neij et al., 2025).

Also, members of these networks share common values, and this is another way to find more genuine communities since commercial ones tend not to form similar collaborations. DESMI has 20 members as the national coalition of energy communities, with 9 extra honorary members consisting of various organizations like Greenpeace Hellas, Electra Energy, WWF, Laboratories from the University of Patra

and the Athens Polytechnical School, among others.

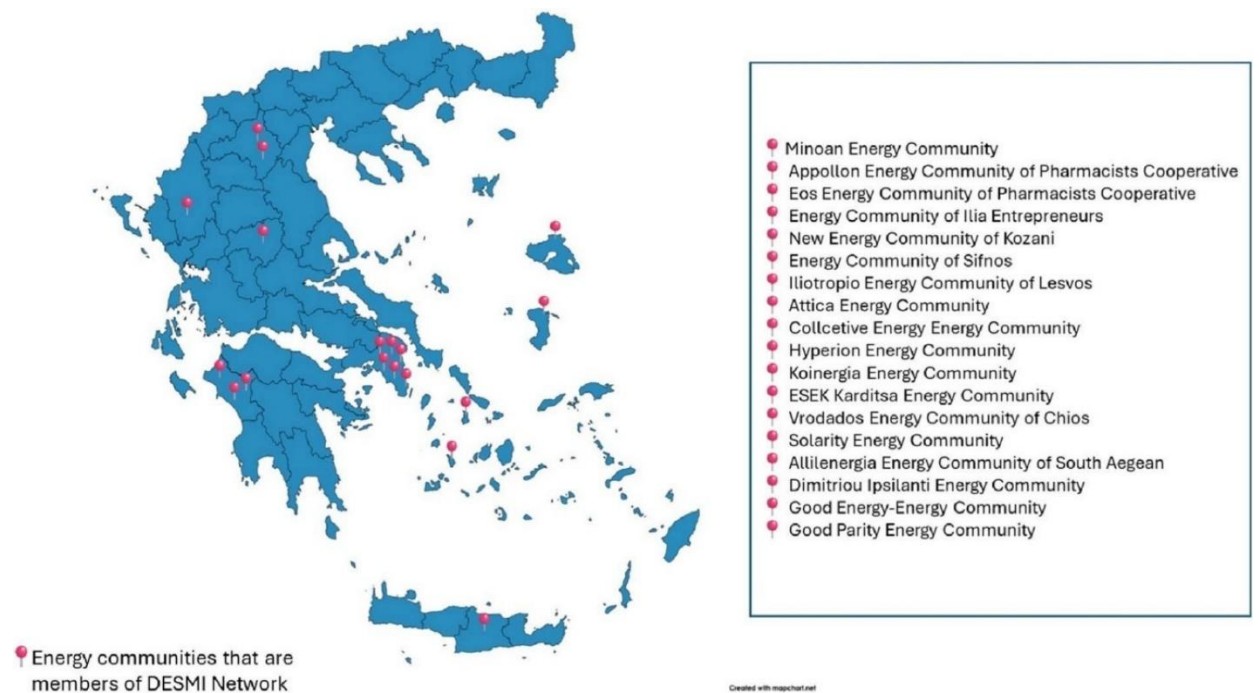


Figure 7. Energy community members of DESMI. (Neij et al., 2025, p. 9)

The European federation Rescoop.eu also has 13 members from Greece, and there is also the network of non-profit energy communities of western Macedonia “ΟΦεΛΟΣ”. Adding to those are organizations that act as intermediaries (Neij et al., 2025), like Electra Energy and the Centre for Renewable Energy Sources and Saving (CRES) whose collaboration with energy communities puts them in the form of a network and knowledge sharing.

These networks are open for the participation of energy communities and are working together many times as well, in actions like advocacy or policy recommendations, or even campaigning to the state with commonly signed documents and events (DESMI & REScoop.eu, 2025; REScoop.eu et al., 2022). This collaboration is also evident as one of the seven cooperative principles calls specifically for “collaboration among cooperatives” (Kitsikopoulos & Vrettos, 2023, p. 18).

Continuing the analysis, the CRES is a public entity supervised by the Ministry of Environment and Energy, and even though it does not belong to any other federation, it collaborates with energy communities regarding policy, research and technical solutions. According to conversation with CRES while having a guided tour around the facilities in Athens, a researcher of the facility explained how CRES operates as a channel of communication regarding policies between energy communities and the ministry (CRES, personal communication, May 30, 2025).

Specifically, the department of solar technologies does research on solar panel technologies, checks the main national grid and micro grids, and collects data that can be used to make the whole grid better (CRES, personal communication, May 30, 2025).



Photo 2. CRES renewable installations and solar research facilities (Photographs by Ektoras Leventis)

Collaboration and networks of energy communities tend to work like a platform where ideas are exchanged between them and the intermediaries that are trying to help strengthen the phenomenon in Greece.

“A third community, which is the Energy Communities DESMI... is also an area of cooperation, so it's quite a bit more direct and more two-way, meaning that everything that used to be done in a somewhat more detached way, now there are also communication channels and the needs come to the surface more directly and in general all of this is being strengthened more.” (Interview 1, p. 2)

DESMI plays a very important role here as the federation where communities and organizations use as a common pool area of information, and for direct communication. As both interviews outline the way that DESMI operates strengthens the energy community's phenomenon in Greece and showcases that there is more to be gained by operating together than what would happen if they were to compete with each other

“... all the communities that we are in DESMI we have communication and information and there is also a Viber channel of DESMI members that we can exchange some views there. There are meetings, there are working groups at the bundle level there is the monthly meeting. It is generally understood that it is within the core cooperative values to have the information to share this experience etc. And helping each other etc. We are not competitors...” (Interview 2, p. 13)

As seen by the interview, DESMI runs on similar bottom-up structures like energy communities, with monthly meetings and communication channels open for calls and discussion of problems or ideas that each community may have. Also, they even communicate with each other in order to promote the projects of others, communicate

possible needs for more members, and guide people who want to be part of these communities to other ones where they are either closer to geographically or might even require members in new projects if the projects they are running are already full (Interview 2, p. 13).

The DESMI board of directors is also comprised of people from various of the energy communities that are members of the federation and have set the goals of advocating energy democracy, raising awareness, sharing of knowledge, making collaborations, promoting social justice and equal access to the energy sector, and connecting with research institutes and universities (Desmi, n.d.; Kitsikopoulos & Vrettos, 2023).

In the European domain, REScoop works as a very important federation as well since it brings energy communities in Greece into contact with other similar communities across Europe. It also works as a means of putting pressure for legislative reforms at the European level through its operation in Brussels. As a not-for-profit association that has set the goal of achieving energy democracy in Europe, it has gained power through the number of members and their collective action. Also, an energy communities' forum is run annually with support from REScoop, where energy communities from all over Europe meet for three days, doing various workshops and building stronger collaborations.

“There is the forum that takes place once a year... So there is a three-day event there, where you learn and exchange good experiences and methods and so on. You see what's happening in other countries, there are workshops and so on.” (Interview 2, p. 13).

The declaration of the last forum held in Krakow also listed specifically the need to create collaborations between energy communities, local municipalities, and stakeholders in the energy sector. They point out that, especially through strong networks of municipalities and communities, the national and European legislation and stance can be pushed towards the goals of energy democracy and justice (energycommunitiesforum.eu, n.d.).

The works of these networks are highlighted as a very important step in enhancing the energy communities' movement, especially in Greece, since various platforms of putting pressure on legislative institutions are created from a formal point of view. On the other side, informal networks of exchanging solutions, ideas, and viewpoints are created, enhancing the concept of “think globally – produce locally” concept seen in the cosmological mode of production (energycommunitiesforum.eu, n.d.; Schismenos et al., 2020).

Moreover, the goals set in the forum and then separately in the federations are promoting energy transition through grassroots and the just transitions framework (DESMI, 2025a). The antithesis to the commodification of energy and the nurturing of the people involved in democratic practices and international communication is definitely a step towards transforming the energy sector on the one hand and, on the other hand, greatly empowers the role and discursive power of energy communities.

Enhancing ECs in a Democratic Energy Transition

The fifth research question discusses how energy communities can flourish and acquire a greater role in the transition and the democratization of energy in Greece. This question is analysed through two data inputs, mostly policy recommendations and the views of the energy communities themselves. There are, of

course, many different viewpoints on which are the best steps to enhance the energy communities' movement, but the focus will be on data from either the energy communities themselves or the federations.

From 2015, it was already visible that important changes had to happen, and a framework to make the community-based energy transition stronger was needed. REScoop stressed the importance of that, especially since the current fossil fuel-based energy system is unable to deal with crises that have emerged both economically and environmentally (Vansintjan, 2015). The recommendations of REScoop were divided into two sections, the technical and the more socio-political. In the technical section, the rise of renewable energy sources and the use of smarter grids could lead to a greater mix of renewable energy sources and would be more flexible with demand response and a decentralized model. In the socio-political section, the need for distribution, management, production, and the commons goods to be owned by citizens instead of big companies is stressed as of utmost importance, along with the need to spread this movement throughout Europe (Vansintjan, 2015, p. 59).

Undeniably, the movement did grow, and the European directives and national laws that recognise, and to some extent promote, energy communities are evidence of that. They have been institutionalized and have gained prominence in policy discussions in the European Union (Petrovics, 2024). The question remains, however, what moves need to be taken to further enhance the phenomenon amidst challenges like corporate capture or practical stalemates.

The first step needed to enhance energy communities is to solidify and enforce the guidelines that are set by European directives. In one of the latest letters sent to the Ministry of Energy and Environment by DESMI, it is clearly stated that even in

the most recent legislative and policy plans of Greece, there are important omissions that create problems in the frameworks. To be more specific, the law in Greece allows for energy communities without the majority percentage being citizens, but municipalities, enterprises, and public companies, something that goes against the RED II directive that has been adopted by Greece. What the European directive and the energy communities themselves, or through the federations, express is the need for the citizen majority in energy communities and the support in an energy system that allows citizens to acquire more power being imposed (DESMI, 2025b).

Moreover, a matter of resources and access to electrical space on the grid is strongly advocated by energy communities in Greece. In further detail, projects by energy communities need access to funds and resources that are often provided by the European Union's grants and programs. However, the way that the Greek state uses those funding opportunities through the program *Apollon* and similar programs ends up draining funds in a different direction than towards genuine energy communities. Also, energy communities in Greece do not have priority access to electrical space in the grid, leading to many of the communities getting their projects delayed and making them essentially inactive (DESMI, 2025b).

In general, the conditions for energy communities in Greece are considered mediocre in the national report done by the Life COMET European program (Fameliari & Vrettos, 2024). In further extend, the report places the political will, the regional and national strategies, awareness and stakeholder engagement as significantly low in Greece ringing the bell on the political clashes that occur around the energy sector, especially by taking into consideration the view that the state is hostile towards energy communities (Interview 2, p. 6) as seen in the interviews and the fact that DESMI calls out the ministry that it does not engage to meaningful

dialogue with energy communities regarding policies and national strategies to find better solutions (DESMI, 2025a, 2025b; Fameliari & Vrettos, 2024, Interview 1, p.8, Interview 2, p. 16).

In the report, in order to make the conditions significantly better, a lot of emphasis is put on the work of DESMI, intermediaries like Electra and the communities themselves as the ones that can advocate and campaign for better legal frameworks, raise awareness and hold training programs (Fameliari & Vrettos, 2024). The report presents an action plan to make conditions better for the energy communities' movement in Greece to thrive.

Objective	What will be done to reach the objective	By when?	By Whom?	With what resources
Improvement of the quality of the transposed directives	Advocacy actions, in particular to support the legal forms of the previous legislation	May 2025	● Electra Energy ● Desmi - National Community Energy Coalition	Present project
Mobilising municipalities and regions to create strategies	● Informational meetings ● Pilot projects with the creation of energy communities	December 2025	Electra Energy	● Present project ● LifeLOOPeu ● ECF ● Community Solar Garden
Regulatory framework improvement	● Policy feedback ● Collaboration with CRES which is responsible to monitor issues with EC development ● Strengthen the internal legal working group of the Coalition	January 2026	● Electra Energy ● Desmi - National Community Energy Coalition	Present project

Creating new business models through research and testing (e.g. flexible demand, storage, etc.)	• Active literature and field research • Pilot applications	December 2026	• Electra Energy • Desmi - National Community Energy Coalition • Universities	• Present project • ECF • DR RISE • Voluntary efforts
Mature the National Community Energy Coalition (Desmi) as a networking body	• Financial independence roadmap • Increased participation in synergies and decision-making forums	December 2026	• Desmi - National Community Energy Coalition • Coalition's individual m	• Voluntary efforts • Present project
Increase the number of people who are aware of energy communities	• Utilization of Electra Energy and Desmi's channels and websites for updates • Organisation of more extroverted actions (e.g. Desmi's Conference) • National Service Point (LifeCOMET)	October 2025	• Electra Energy • Desmi - National Community Energy Coalition • Coalition's individual members	• Present project • Voluntary efforts • ECF
More participation in consultations around energy democracy issues	• Open calls for participation through Desmi's channels • Strategic synergies • Formulating recommendations to be shared publicly	March 2026	• Desmi - National Community Energy Coalition • Electra Energy	• ECF • Utilisation of international networks (eg. Community Power Coalition)

Table 2. Maturity upgrade action plan in Greece (Fameliari & Vrettos, 2024, pp. 206–207)

The report identifies seven key objectives that can be pursued by DESMI, Electra Energy and the individual communities themselves. There are two objectives

that focus on the betterment of the legal framework and the adoption of the European directives in Greece through advocacy for the legislation, policy recommendations, and analysis, cooperation with the CRES and the strengthening of the legal group of DESMI. Then another objective is pushing for municipalities and regions to join the movement with various programs, the municipalities can run or even create their own energy communities. Research and work with different business models is also put as an important objective, where collaboration with universities is seen as pivotal. The last three objectives are more about campaigning, making the energy communities framework known to more and more people, enhancing the role of DESMI as a networking body and making consultancies on energy democracy stronger with stronger alliances and publicly available information on policy recommendations and discussions (Fameliari & Vrettos, 2024).

From the interview with Electra, when thinking about what ideal policies for energy communities would be, the problem of political will arises. Since there is a framework already, the best that can be worked on are smaller changes to that framework.

“The truth is that because we are looking more at the framework that exists and we are trying to somehow change it a little bit as much as we can, as little as we can, 9-10 times unsuccessfully but also 1-10 times successfully, we have not seen it in such a macro and more strategic way, which is nice to like that but we have not thought about it so much” (Interview 1, p. 11-12).

Especially since Electra sees the unwillingness of the state to work on their recommendations and proposals, the question of ideal policies seems as part of a macro strategy that is left on second thought, amidst working with the ever-changing

frameworks and the making of collaborations between energy communities and DESMI.

On a similar note, in the second interview it was said that from the perspective of both DESMI and Solarity EC, the state does not consider the various policy recommendations and discussion done by either of them and on the contrary many times even adopts frameworks that are both “*unpleasant*” and not discussed with the organizations involved (Interview 2, p. 16-17). The most important thing that the interviewee identifies is the need for “*firm legislation, for there to be a fair regime for dealing with genuine grassroots energy communities. It is not enough just to say energy communities or organisations that have some social impact and so on. It has to be specific that it is about broad-based energy communities that are open to participation and are inclusive*” (Interview 2, p. 16).

What is thus evident in both interviews is that the collaboration with the Greek state has proven to be quite unfruitful and has resulted in objectives set following the Greek state’s policies and objectives. Small moves to pressure for a solid framework that the energy communities can work with and then continue with even better proposals. On the other hand, more emphasis is put on objectives that can be run on an alternative route without the state intervening but rather pursued by the networks built within energy communities and organizations. Goals such as raising awareness, thinking of better self-made solutions and gaining more power over the negotiating table with the state are seen through the national report by REScoop as pushing the energy communities more in the third way of operating in this liberal market and slowly growing it as an alternative that could first coexist and maybe later overtake the energy system (Fameliari & Vrettos, 2024; Giotitsas et al., 2022; Interview 1, p. 12)

Integrated Discussion/Results

The objective of this essay is to analyze the political and structural conditions of energy communities in Greece and use qualitative data along with literature and research conducted by other scholars or reports to understand the perspective from the communities and their networks themselves, as well as analyze and discuss the policies and the recommended paths that could allow for energy communities to thrive in the future. To do that, the main research question was divided into five research sub-questions, which were discussed in the previous chapter. The common themes and the interrelation are analyzed from the main research question being, within the socio-ecological transformations framework, how do energy communities in Greece interact with institutional structures and contribute to the democratization and transformation of the energy system.

Following that perspective, the emphasis is put on the power relations and conflicts in the transformation of the energy sector in Greece and the European Union. The review of the three political dimensions of socio-ecological transformations has many interesting findings. Starting from polity, the belief of DESMI and many organizations and energy communities is that the state is hindering transformative change by allowing various bureaucratic hurdles and not being open to dialogue. As seen in the first and last paragraphs of the analysis of all available data, the state is seen as an entity that is actively going against the promotion of genuine energy communities. This animosity is also seen in the legal framework that, ever since the first very radical adoption of Law 4513/2018, the subsequent frameworks pose problems and have resulted in reports from DESMI and energy communities arguing for changes (DESMI, 2025b).

The national report on the conditions of energy communities for Greece showcases the worst results in political will and engagement and regional and national strategy, both being placed as “low” on the index for energy communities' maturity. The political will and engagement indicator is the only one for which the report cannot provide strategies in order to make it move in a better position (Fameliari & Vrettos, 2024).

Furthermore, the move from virtual net metering to virtual net billing for any self-consumption project has resulted in a steep decline in new applications for energy communities and self-consumption projects to be made. This move by the state, without also providing clear frameworks on how the transition to net billing will operate with already existent projects and not having adequate articles to set an operating framework, has been categorized as problematic and may even challenge the public acceptance that is growing on renewable energy solutions (Mantzaris, 2024; The Green Tank, 2025).

The above conditions combined with the limited parts of the NECP of Greece, despite the vague statements of support towards energy communities is showcasing that any transformative potential that may be in the promotion of energy communities is not supported by the state.

This stance of the polity is leading to inherent conflict in the arena of energy communities in Greece. This conflict is translated into the various letters and policy recommendations sent by energy communities towards the state that underline the various problems caused by the state policies and plans. It is also seen in the rhetoric of the genuine energy communities that call for practices and projects that go beyond the objectives and policies of the state.

The term energy democracy and the plans for citizens to be the core of energy communities are not even mentioned in the NECP or any legal frameworks. For the state, energy communities are supplementary to big renewable energy projects. The NECP considers big projects like wind farms and the privatization of the national grid as vital in order for funds to be funneled from private capital, along with European funds, and create space for these industrial large scale renewable projects to be done. These projects often result in conflict between local citizens and even energy communities that consider these projects as not helping towards actually transforming the energy sector (Komninou et al., 2023; Μάκη & Βελεγράκης, 2022).

An example of that conflict is seen in Kythira, where a big industrial wind farm project is planned and has been backed by legislation and the NECP, but the locals, along with the energy community of Kythira, are against it. The Kythira energy community specifically states that they are not against renewables; on the contrary, they are promoting renewable projects of significantly smaller scale that can cover the energy needs of the island, respecting the wildlife and considering the consequences of the environmental intervention in the landscape (Πρωτονοτάριου, 2025).

The state conflict is also evident there since the Kythira energy community has applied for a solar energy project, but has many bureaucratic hurdles that postpone the project, with the community blaming the national grid operator and the slow response from the ministry that has told them it would help them with legislation that is still pending (Πρωτονοτάριου, 2025). There is also a webpage made by locals in Kythira that showcases further the rift between the industrial renewable projects and the solutions that are promoted by energy communities (<https://Kythira-Windturbines.Com/En/>, n.d.) with interviews and analyses as well as alternatives proposed by the Kythira energy community and the islands' citizens.

Bureaucratic issues are also mentioned in the interviews with Solarity that they had to postpone plans for a second project amidst the changes in the legislation and the slow responses by the grid operator (Interview 2, pp. 2-4). From that perspective, energy communities are seen as supporters of an antagonizing transformative framework. Energy communities operate in a liberal market and constitute a third way that is different from the private sector or the state-owned model. It is a community model that hopes to slowly become a dominant narrative and then overcome the current model, with the priority being the welfare of the community instead of profit or economic growth (Kitsikopoulos & Vrettos, 2023).

On the ground level, the politics of the energy communities are also in conflict with the phenomenon of corporate capture and market players like fossil fuel companies or big energy companies. Reports are indicating that corporate capture has caused serious problems in the promotion of energy communities, with the vast majority of them also belonging to big companies that have the capacity to create clear and complicated plans that operate in the market logic and can create growth that is, until now, the biggest criterion used by funding mechanisms (Eco-Union, 2025).

That is possibly one of the reasons that collaborations and networks are created and opt to gain power, as to acquire a stronger position in the power relations between the players operating in the energy market. DESMI, the European connections made through REScoop, and the annual energy community's forum are clear examples of these alliances that push for a better power position. All these constitute networks that promote a localized, decentralized, and more democratic way of producing and managing energy. From the seven cooperative principles that are

constitutive in the charters of these organizations to the recommendations and proposals that are central in these networks, that claim is evident.

The way the networks operate is both a form of politics in promoting transformative change as well as a sign of cosmopolitism where the local benefit is put in front of the market growth and tries to work on a self-organized democratic way (Giotitsas et al., 2022; Petrovics, 2024).

The results of the *politics* and *polity* analyzed in the essay are *policies* that differ between the perspective of the state and formal policy, and that of energy communities and their networks, which in many aspects constitute an opposing force. State policies and actions can be seen as hindering, thus, transformative change. In the NECP or the legal frameworks, the emphasis is put on the economic criteria and the work of formal institutions, but not on citizens and not in terms like transitional justice and energy democracy.

On the contrary, energy communities are using their formal and informal power to enhance practices and logic that go beyond the market logic. Genuine energy communities are operating with general assemblies and use a form of network that diversifies the people engaged and de-commodifies energy (Petrovics, 2024; Petrovics & Savini, 2025). In Greece, this is evident through the energy communities that are members of DESMI or REScoop, where they all stick to the abovementioned principles.

Electra has also stated that the communities that they collaborate with follow the same principles, not because they have set rules for the collaborations, but the energy communities that seek this type of networking have the same principles and form networks naturally in order to grow their ideas symbiotically (Interview 1, p. 1-

2). The policy recommendations seen in the national reports or from DESMI are more moderate because they are tailored to the existing frameworks and the state policy.

This strategy is based on raising possibilities to acquire more favorable state policies.

However, the goals and actions they are promoting on their network and their charters are implementing a transformative way of how the energy market operates.

Conclusion

This research has shown that evaluating the energy communities and their potential is a complicated and multifaceted matter. Additionally, perceptions vary significantly regarding the role and needs of the energy transition, as advocated by the state and the energy communities themselves. The result is that energy communities end up operating in a rift between the formal and the informal modes of action. On the one hand, they run projects for self-consumption and strive to establish a more efficient framework for their operations. On the other hand, taking into consideration the limitations set by the state's goals and the laws set, ECs are working on creating a mindset that comes into direct conflict with the market logic of the current energy system.

The need for transition is seen by energy communities, but if they want to constitute alternatives that aim to promote energy democracy and consider the social and ecological aspects of the transition instead of economic growth, they are bound into conflict. By analyzing the policy recommendations, the NECP of Greece, and the legal framework of energy communities, the limitations in the transformative potential are tied to the growth-oriented liberal market. Recommendations like reducing bureaucracy, acquiring more electric space, or the more effective use of the virtual net billing and virtual net metering modes are not aiming for any structural change, but rather, try to establish energy communities in this market system. The struggle faced by energy communities, as reflected in their own sources and those of aligned organizations, is whether they can continue growing within the current energy system without directly contesting it. Instead, they may focus on laying the

groundwork to become a force that could, in the future, challenge the prevailing market growth logic.

For transformative change to be achieved, policies are not enough, but deeper changes that come into conflict with the current economic and political structures are needed (Pichler, 2023). By reviewing energy communities in Greece, there are, however, practices that go towards this direction. The formation of bottom-up networks and collaborations, the disapproval of profit in their logic of operation, and the promotion of energy democracy instead of transition are signs of a framework that aims to go deeper in transformational change. There is a need to further research each aspect mentioned on its own to better understand the potential energy communities can offer, not only in Greece, but in the planning of the whole energy sector.

Another part that is important to note is the distinction between genuine and *fake* energy communities. This essay focused on the genuine energy communities as seen in the Greek energy community phenomenon. As energy communities are a very modern concept, research on the corporate capture in energy communities and the distinction between genuine and *fake* energy communities would also provide important information as the phenomenon grows.

Concluding, the potential of energy communities to pose a framework that could cause deep socio-ecological transformations is there. Energy communities strive for a democratic, bottom-up energy structure that promotes an equal social, political, and ecological relation between members of society, thus coming into conflict with the current capitalist growth-driven energy structure (Brand et al., 2021). As energy communities are operating in an unfavorable market for their principles, the danger of them turning into technical solutions or isolated local experiments, thus not causing

any transformative change or producing transformative discourse and practices, is there. Research on how corporate capture can be countered and how energy communities can work not just as a small production paradigm in the neoliberal economy, but being an antagonizing force of it in the energy sector is needed.

Energy communities face a balance between providing benefits such as cheaper electricity, e-mobility, and fairer access to energy production and management within the current system and participating in an energy market marked by structural differences. The resulting tension creates a parallel struggle in both the formal policy and informal planning processes. Energy communities, according to the findings, need to work with policy recommendations based on economic performance and market competition but maintain their principles, their collaborative networks and socio-ecological planning. These are the ones that give them their transformative power if they are to be examples of an alternative social paradigm through the ongoing sociopolitical struggles.

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%CE%BA%CE%BF%CE%B9%CE%BD%CF%89%CE%BD%CE%B9%CE%BA%
CE%AE-%CF%85%CF%80%CE%B5%CF%81%CE%B1/

ⁱ The Paris Agreement is the first universal, legally binding global climate agreement voted on United Nations Climate Change Conference in 2015 and aims to fight rising temperature levels with multi-level environmental and social policies (<https://eur-lex.europa.eu/content/news/paris-agreement.html>)