

Barriers and benefits of energy communities in the European Union

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Introduction

Energy communities are an effective means to decentralize and renew our energy systems with sustainable solutions as they are usually based on renewable energy. They have already started emerging in 1970's, yet there has been a significant increase in their development only in recent years, also in terms of their introduction into the EU legislation. Especially in Western and Northern European countries the concept already enjoys vast popularity. On the other hand, in Central and Eastern European countries (further referred to as CEE) energy communities are only beginning to emerge.¹ The policy brief (based on literature and interviews with various stakeholders²) examines the benefits energy communities may bring, and more importantly, the main obstacles remaining in their way for greater evolution in the CEE region – and especially Visegrad countries (V4). As these initiatives progress, sharing the best practices will ensure the success of the community energy in the energy transition.

Background

The European Union (EU) provides two definitions for energy communities: “renewable energy communities”, as outlined in the Renewable Energy Directive II (RED II), and “citizen energy communities”, as specified in the revised Electricity Directive (ED). They are “legal entities that empower citizens, small businesses and local authorities to produce, manage and consume their own energy,”³ with renewable energy communities focusing on the production of energy from renewable energy sources. The features both definitions share in common are the voluntary principle of participation and their “primary purpose to provide environmental, economic or social community benefits”⁴, yet they differ in some respects such as the structure of eligible members or the proximity of the members.

¹ Spasova, Deyana, a Sibylle Braungardt. 2022. “The EU Policy Framework for Energy Communities”. In Energy Communities, 25–42. Elsevier. <https://doi.org/10.1016/B978-0-323-91135-1.00022-5>

² The interviews took place in Brussels in July 2023 with seven representatives from the European Commission, consultancies, and NGOs.

³ European Commission. „In focus: Energy communities to transform the EU's energy system“. (2022). Available at: https://energy.ec.europa.eu/news/focus-energy-communities-transform-eus-energy-system-2022-12-13_en

⁴ REScoop. "Q&A - What are Citizens' Energy Communities & Renewable Energy Communities in the CEP?". Available at: <https://www.rescoop.eu/uploads/rescoop/downloads/QA-What-are-citizens-energy-communities-renewable-energy-communities-in-the-CEP.pdf> (Accessed on 1st September, 2023).

The main building blocks for a cleaner energy system at the EU level started to be laid with the energy union strategy. The “*Clean Energy for all Europeans*” package adopted in 2019, was a significant legislative milestone reflecting the importance of a new type of actor in the energy system: consumers actively participating in energy decentralization – referred to as “*prosumers*”. Undoubtedly, these prosumers are to play an important role in achieving the commitments of the European Green Deal as they are typically based on RES and actively help reduce energy consumption. This is also according to the newest revision of RED, the RED III: “*self-consumption installations, including those for collective self-consumers, such as local energy communities, also contribute to reducing overall demand for natural gas, to increasing resilience of the system and to achieving the Union’s renewable energy targets*”⁵. Some countries have already realized that and have created frameworks for community energy, as seen in Denmark, Germany or the Netherlands, and the EU is focusing on supporting pilot projects like UP-STAIRS.⁶ Nevertheless, the transposition of the EU legislation (in this case of RED and ED directives) is an individual process in each member state (MS), thus also resulting in varying legal frameworks for community energy. Their positioning within the updated National Energy and Climate Plans and the Electricity Market Design will be crucial to continued development in the context of the climate commitments for 2030 and 2050.

Overview of the current situation in V4 countries

Kněžice serves as an example of the first energy-independent village in *the Czech Republic*, with similar projects taking place in other cities and villages across the country, including the capital. Interest in such projects has been growing rapidly, making it quite unique in the region, and particularly in the wake of Russian aggression in Ukraine and the increasing demand for lower energy prices.⁷ In *Slovakia*, the first energy community was registered in July 2023, but it is not yet fully operational. However, multiple cities or individuals have shown interest in generating their own energy. The legal framework now recognizes energy communities as an actor in the electricity market, and they will be allowed to

⁵ Official Journal of the European Union. Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023, also known as Renewable Energy Directive III. (2023). Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023L2413&qid=1699364355105> (Accessed on 12th February 2024).

⁶ "UP-STAIRS Project Website" (2020). Available at: <https://www.h2020-upstairs.eu> (Accessed on 5th September, 2023).

⁷ Friends of the Earth Europe. "Community Energy in Hungary and Czechia Briefing" (2020). Available at: https://friendsoftheearth.eu/wp-content/uploads/2020/01/community_energy_in_hungary_and_czechia_briefing.pdf (Accessed on 10th September, 2023).

enter the market once the Energy Data Centre is set-up and put into full operation which is expected in approximately June 2024..⁸ Poland initiated pilot projects as early as 2021, such as “Sunny Serock”.⁹ In Hungary, the *Magyar Természetvédők Szövetsége*, is focusing on pilot photovoltaic energy community projects in Budapest.

Main benefits and barriers of energy communities

The main benefits of energy communities lie in the “*decarbonisation of the energy system*”, as they are predominantly based on renewable energy sources, especially solar. They are also likely to “*lower energy prices*” by increasing energy efficiency and saving energy. An unseen benefit is reportedly increased knowledge on energy saving, which is crucial in light of high energy prices and their volatility.¹⁰

In this regard, a few interviewees have also mentioned the positive impact on alleviating energy poverty. For instance, in Austria, renewable energy communities have contributed to reducing energy prices.¹¹ Another important aspect highlighted in the research is the “*strengthening of social ties*” within the community. These three benefits are among the main motivations for citizens in Western Europe when setting up such communities.¹² However, they can vary from country to country.¹³ In some countries or specific energy communities, the priority is put on environmental aspects, while in others, the focus is primarily on lower energy prices or even the social aspects. The primary motivation varies among the respective actors, meaning that local authorities aiming to initiate such projects will likely want to build stronger social networks.

⁸ “Na Liptove vzniká prvá energetická kooperatíva” (2023). Available at: <https://www.teraz.sk/regiony/na-liptove-vznika-prva-energeticka-ko/704802-clanok.html> (Accessed on 25th August, 2023).

⁹ REScoop. “January Success Story: Paving the Way for Community Energy in Poland”. (2023). Available at: <https://www.rescoop.eu/news-and-events/stories/january-success-story-paving-the-way-for-community-energy-in-poland> (Accessed on 5th September, 2023).

¹⁰ REScoop. „Factsheet Behavioral“ (2020). Available at: <https://uploads.strikinglycdn.com/files/c7d0a24b-78f1-4dab-a449-d8c2cdb9b114/Factsheet%20Behavioral.pdf> (Accessed on 10th September 2023).

¹¹ YES for Europe. “Energy Communities as a Booster for the Energy Transition: Expectations and Status Quo in Austria” (2022). Available at: <https://yeseurope.org/energy-communities-as-a-booster-for-the-energy-transition-expectations-and-status-quo-in-austria/> (Accessed on 5th September 2023)

¹² Dóci, G., Vasileiadou, E. (2015). ‘Let’s Do It Ourselves’ Individual Motivations for Investing in Renewables at Community Level. *Renewable and Sustainable Energy Reviews*, 49, 41-50. <https://doi.org/10.1016/j.rser.2015.04.051>.

¹³ Walker, G. (2008). What Are the Barriers and Incentives for Community-Owned Means of Energy Production and Use?. *Energy POUŽITÉ ZDROJE* 51 Policy, 36(12), 4401-4405. <https://doi.org/10.1016/j.enpol.2008.09.032>.

Moreover, citizens can provide significant value to their respective economies. According to some estimates¹⁴, a total value of €200 billion could be reached by 2030, not only boosting the local economy but also driving technological innovations. Additionally, community energy helps address the "democracy crisis in the EU" because energy communities allow citizens to participate in important decisions concerning energy, promoting "decentralization" and a shift from big energy companies. In contrast to the West of the EU, where energy communities have been enjoying popularity for decades and thus are well researched, in the Eastern part of the EU, the areas of potential benefits perceived by citizens are yet to be explored. However, some interviewees suggest that the primary motivation behind setting up such communities in CEE or V4 countries will likely focus on lowering energy prices, with the social aspect being the least motivating factor.

All the interviewees cited the "lack of a regulatory framework" as a crucial issue hindering further development. The "lack of financial resources" was another commonly cited problem, especially during the initial development phase. For instance, in Germany, feed-in-tariffs and feed-in-premiums were introduced to create a financial model with stable conditions for energy communities. Various barriers are however mentioned in the research carried out, thus it can be said this also differs in the countries. For instance, the evidence from Germany, the UK, and the USA confirms the financial aspect to be very important, but also the problem of communicating the concept to the citizens.¹⁵

In the CEE countries, "the shortage of experts" could present a problem in the further implementation of community energy and advisory, along with "scepticism towards renewable energy sources," according to a few interviewees. The last point also differs significantly between countries – while in the Czech Republic, distrust in the European Green Deal is slowly gaining ground on social media, this is not a topic in Slovakia, and thus renewables in the energy mix may be perceived more positively.¹⁶

¹⁴ REScoop. "The Social Impact of Energy Communities: Ten Benefits They Bring" (2023). Available at: <https://www.rescoop.eu/news-and-events/news/the-social-impact-of-energy-communities-ten-benefits-they-bring> (Accessed on 5th September, 2023).

¹⁵ Brummer, V. (2018). Community Energy – Benefits and Barriers: A Comparative Literature Review of Community Energy in the UK, Germany and the USA, the Benefits It Provides for Society and the Barriers It Faces. *Renewable and Sustainable Energy Reviews*, 94, 187-196. <https://doi.org/10.1016/j.rser.2018.06.013>

¹⁶ Prague Security Studies Institute. „European Green Deal in the Czech Disinformation Space“ (2023). Available at: https://www.pssi.cz/download//docs/9800_pssi-brief-v1-infografika.pdf (Accessed on 10th September, 2023)

Lastly, problems with distribution system operators are also present, as existing communities are not allowed to trade their excess energy and are forced to consume the majority of it.¹⁷

Recommendations

- **In terms of the initial development of energy communities, financial motivation should be considered.** This can take the form of incentives such as feed-in tariffs and temporary state aid, depending on the legal framework of these communities and in accordance with energy state aid guidelines. While a market-based approach is crucial, these incentives are important for unlocking the potential.
- **More recognition and communication about the importance of communities from the state and political actors is needed.** Currently, the framework allows for their creation; nevertheless, on top of lacking financial possibilities, community energy does not receive enough attention from politicians or ministries. Public awareness about the opportunities should be actively promoted.
- **An additional input from the system will be required in the form of designated areas for the development of renewable energy,** for example, through pilot projects. Communication campaigns should be implemented in the later stages to create a positive perception of energy communities and the benefits they bring.
- **To achieve this, it is essential to research the motivation that drives individuals to invest their time in energy communities, especially in Eastern Europe.** The preliminary results suggest that the main motivation would be stemming from lower energy prices and protection of the environment but not from developing social ties with others. Once we have such knowledge, it is easier to set up communication about the phenomenon of energy communities. The decentralization of the energy system may also pose a major challenge, as there is usually a lack of grassroots initiative and engagement. Local authorities and mayors have been identified as crucial drivers of community energy, as demonstrated in preceding

¹⁷ Orhan S. (2022). „Powering Up Energy Communities in Central and Eastern Europe“ (Year). In Green European Journal. Available at: <https://www.greeneuropeanjournal.eu/powering-up-energy-communities-in-central-and-eastern-europe/> (Accessed on 10th September, 2023)

research in Western Europe or on the example of Czech Kněžice village or Polish Serock city.¹⁸

- Additionally, there will be **a need for an advisory body to guide energy communities** through technical and legislative procedures and to set up training processes.

Conclusion

In summary, there is a lack of sufficient knowledge on the main motivations and barriers for energy communities in the CEE/V4 region, necessitating further research to establish and accelerate a faster uptake of energy communities. As suggested, what is among the main motivations in Western Europe (e.g., building social ties, positive impact on the environment) may not be the same in CEE / V4 region, and the focus will likely shift primarily towards lowering energy prices, with potential barriers varying. Many countries have already established at least the basic legal requirements for creating energy communities, but they still face challenges, especially concerning financial resources. Nevertheless, significant progress has been made in the past year, and many citizens are beginning to support these energy projects. Supporting such opportunities in the region will be a crucial challenge for the respective countries.

¹⁸ Energy Community Platform. "Community Energy Municipal Guide". Available at: <https://energycommunityplatform.eu/resources/community-energy-municipal-guide/> (Accessed on 10th September, 2023).



About EUROPEUM

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