Res sector in Kosovo

Launching Energy Communities

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Abbreviations

- **EnCT:** Energy Community Treaty
- **EU:** European Union
- **CP:** Contracting Party
- **RE:** Renewable Energy
- **RES:** Renewable Energy Sources
- **FiT:** Feedin Tariff
- **FDI:** Foreign Direct Investment
- **EBRD:** European Bank for Reconstruction and Development
- **PV:** Photovoltaic
- **ERO:** Energy Regulatory Office
- **NECP:** National Energy and Climate Plan
- **kW:** Kilowatt
- **kWp:** Kilowatt peak
- **CECs:** Citizen Energy Communities
- **RECs:** Renewable Energy Communities
- **RED II:** Renewable Energy Directive (Revised)
- **IEMD:** Internal Electricity Market Directive
- **WB6:** Western Balkans 6
- **SMEs:** Small and Mediumsized Enterprises
- **SUPSI:** Institute of Systems and Applied Electronics
- **LIC:** Lugaggia Innovation Community
- **KCGF:** Kosovo Credit Guarantee Fund
- **MFIs:** Multilateral Financing Institutions
- **PPA:** Power Purchase Agreement
- **DSO:** Distribution System Operator
- **TSO:** Transmission System Operator

Abstract

This paper explores the potential for implementing energy communities in Kosovo, a country with a legal framework supporting renewable energy sources but facing significant challenges in transitioning away from its reliance on outdated lignite power plants. While Kosovo has made progresses in renewable energy integration through policies such as the auctions and net-metering for solar PV, energy communities have yet to be established.

The paper highlights key benefits of energy communities, including local economic development, reduced energy poverty, and enhanced system resilience, while also addressing the regulatory, financial, and organizational barriers to their implementation. It discusses the roles of government support, financial institutions, and development partners in financing EC projects and emphasizes the need for capacity building, awareness campaigns, and the development of clear byławs to guide the formation of these communities.

The paper concludes by proposing a strategic approach, including targeted policy measures, pilot projects, and regional knowledge sharing, to facilitate the successful establishment of energy communities in Kosovo and contribute to its renewable energy goals.

1.0 RENEWABLE ENERGY SECTOR IN KOSOVO

The Energy Community Treaty (EnCT) was created as a partnership between the European Union (EU) and Southeast European countries, aiming to extend the EU's internal energy market to Southeast Europe and beyond. As a Contracting Party (CP) to the EnCT, Kosovo has committed to various obligations, including mandatory renewable energy (RE) targets within its overall energy consumption[1].

Currently, Kosovo's electricity generation is predominantly reliant on two outdated power plants, Kosovo A and Kosovo B, which together produce over 85% of the country's electricity[2]. However, these plants are unreliable and insecure, posing a significant challenge to the country's economic development.

To meet the EnCT's 2020 renewable energy targets and to attract foreign direct investment (FDI) and stimulate economic growth, Kosovo has introduced policies, legislative and regulatory frameworks, and assessed the potential for various renewable energy sources (RES). A Feedin Tariff (FiT) program was established to support the development of new RESbased generation capacity. The combination of the FiT program and a firstcome, first-served authorization process has successfully attracted both domestic and international private investment, helping Kosovo achieve its 2020 RES objectives[3].

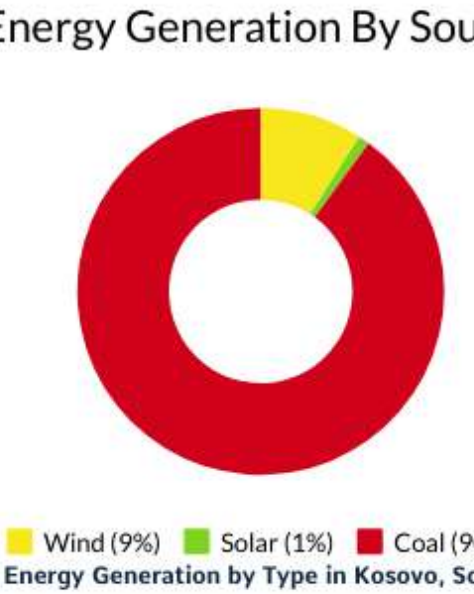

Figure 1: Energy Generation by Type in Kosovo, Source: Eurostat

[1] https://www.energycommunity.org/aboutus/whoweare.html
[2] https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Raportet%20Vjetor/01.%20Raporti%20vjetor%202023_Final%20(2)%20-%20ANG.BA.pdf
[3] https://www.energycommunity.org/dam/jcr:dd34ec42e67542599261-

International financial institutions, such as the European Bank for Reconstruction and Development (EBRD), have provided support to foreign investors in executing significant wind projects[4]. Meanwhile, local investors and lenders have participated in smallerscale solar photovoltaic (PV) and modest hydropower initiatives. Looking ahead, Kosovo has set more ambitious targets for the future, aiming for 35% of total power output, as outlined in the Energy Strategy for the period 2022–2031[5]. In collaboration with international partners, Kosovo has developed a new legal framework that promotes private sector participation through auctions and open competition, particularly for its 100 MW utilityscale solar PV project pipeline[6].

Kosovo has also implemented a separate netmetering assistance program for smallscale, selfconsumption solar PV installations[7].While relatively effective, the program faces legal and technical challenges. Overcoming these obstacles and properly integrating these projects into the electrical grid are crucial for realizing the ambitious 100 MW target for future smallscale solar PV projects (prosumers). In addition to this, the Law No. 08/L258 on the Promotion of the Use of Renewable Energy Sources has been approved in 2024, paving the way for the largescale launch of prosumers and Energy Communities.

[4] https://www.ebrd.com/sites/Satellite?c=PageModule&cid=1395238732801&pagename=EBRD%2FPageModule%2FPreFilterLink
[5] https://me.rksgov.net/wpcontent/uploads/2023/04/EnergyStrategyoftheRepublicofKosovo2022203111.pdf
[6] https://balkangreenenergynews.com/kosovotoholditsfirstwindpowerauctionin2024/
[7] https://energycommunity.org/dam/jcr:706de886847d4b7298f7e06fdee5caa0/ECRB_Framework_062019.pdf

2.0 Prosumers in Kosovo

Prosumers represent a transformative shift in the energy landscape, where individuals and businesses transition from being mere consumers of electricity to becoming active producers as well. This concept, which merges "producer" and "consumer," has gained significant momentum globally and is increasingly being embraced in Kosovo.

By generating their own renewable energy—most commonly through solar panels—prosumers contribute to a more decentralized, sustainable, and resilient energy system.In Kosovo, the latest 2024 government open call on subsidizing the RES systems have been instrumental in promoting prosumerism, recognizing its potential to drive the country's energy transition, reduce reliance on fossil fuels, and empower citizens and businesses to take an active role in shaping the future of energy. Kosovo has been updating its legal and regulatory frameworks to facilitate the integration of prosumers into the energy market. This includes establishing clear guidelines for grid connection, energy trading, and compensation mechanisms for excess energy supplied to the grid.

The promotion of prosumers is a key component of Kosovo's Energy Strategy, which aims to increase the share of renewable energy and enhance energy efficiency. This aligns with the broader goals set out in the National Energy and Climate Plan (NECP). Since initiating the process of joining the electricity market in Kosovo in 2018, the Energy Regulatory Office (ERO) has seen 9.8 MW of installed capacity enter the market through prosumers participating in the netmetering scheme, with a shift to netbilling introduced in late 2023. This capacity is distributed among more than 290 individual consumers, whose installations range from 2 kW to 100 kW[8].

[8] https://www.ero-ks.org/zrre/sites/default/files/Publikimet/BRE/Regjistri%20i%20Aplikacioneve%20p%C3%ABr%20gjeneratoret%20per%20VET%20%E2%80%93%20KONSUM%2031.12.2023_0.pdf

Currently, it is estimated that over a 6 MW of additional installed capacity, with capacities ranging from 6 to 7 kWp, are generating electricity for their own use without contributing surplus power to the grid[9]. At present, only grid-connected projects are required to follow the established procedures to become recognized as prosumers. The Ministry of Agriculture, Forestry, and Rural Development's support programs have had a significant impact on the agricultural sector, encouraging these independent energy initiatives.

However, those who wish to participate in prosumer schemes and increase their power generation—particularly to cover needs during nighttime or winter peak periods—must adhere to specific guidelines[10]. The application process is divided into two phases, with the first phase focused on obtaining approval for the development of new selfgenerating capacities. The second phase focuses in joining the netbilling scheme.

For a consumer to qualify as a prosumer in Kosovo, they must meet nine specific criteria and navigate numerous administrative hurdles causing unnecessary delays and the lack of transparent processes. Consequently, completing a project can take up to 230 days, with administrative costs per project ranging between 220 and 370 euros, creating a bottleneck on the development of RES projects[11].

[9] https://www.mbpzhrks.net/sq/listaevleresimevepreliminare2016
[10] https://me.rksgov.net/bre/
[11] Representative of Solar Installation Businesses, 05. 07. 2024

3.0 ENERGY COMMUNITIES

Energy communities are groups of individuals, businesses, or municipalities that come together to produce, share, and manage energy, primarily from renewable sources. They allow members to collectively benefit from clean energy, such as solar or wind power, while reducing costs and environmental impacts. For example, neighbors in a town might join forces to install solar panels, sharing the electricity they produce and splitting the savings on their energy bills.

Energy communities not only empower local people but also contribute to the broader transition to renewable energy. Energy communities represent an innovative approach to energy production, distribution, and consumption, enabling groups of individuals, businesses, or municipalities to collectively manage and benefit from renewable energy resources.
By pooling resources and sharing infrastructure, energy communities empower participants to produce their own clean energy, often through solar, wind, or biomass projects, and to distribute the generated power among members or even sell it back to the grid. This collaborative model not only fosters local energy independence and resilience but also promotes social cohesion, economic savings, and environmental sustainability.
In Kosovo, the concept of energy communities is gaining attention as a viable solution to enhance the uptake of renewable energy,democratize energy access, and support the country's transition to a law-carbon future.

This sistem was firstly introduced during the Energy Strategy and the Implementation Plan of the Energy Strategy 2022- 2031, and later was introduced on the Law on promotion RES.

3.1 Energy communities in European Union, Western Balkans and Kosovo

Energy Communities have made significant strides in Europe and are poised to become a crucial element in the transition to a more decentralized and flexible Energy Union, where citizens play an increasingly vital role. The Clean Energy Package, particularly the revised Renewable Energy Directive (RED II), aims to give a substantial boost to community energy and collective selfєonsumption. While the Internal Electricity Market Directive (IEMD) required Member States to implement provisions on Citizen Energy Communities (CECs) by December 2020, they have until June 2021 to transpose the European legislation for Renewable Energy Communities (RECs). This includes establishing enabling frameworks that allow energy communities to actively participate in energy markets. However, the implementation process has proven challenging, with varying levels of ambition across Member States due to differing interests among policymakers, regulators, and market actors.

The diverse approaches to implementing community energy reflect the complex sociopolitical and technical landscapes within each Member State. While some countries, historically leaders in energy community, have fallen behind, others, newer to the field, have demonstrated innovation and resourcefulness in promoting communitybased energy initiatives. Although RED II and IEMD represent a consensus at the EU level, the reality of transposing and implementing these directives is far more intricate. A recurring concern among regulators is that RECs could disrupt existing market logic and lead to an unfair distribution of costs. Despite these challenges, the merits of RECs in achieving a citizenєentered energy transition aligned with the European Green Deal are clear. However, significant discrepancies remain between Member States regarding the support and promotion of RECs, indicating that more effort is needed to create enabling frameworks that meet EU requirements and fully realize the potential of community energy in Europe.

Similar to developments at the EU level, Kosovo and other Western Balkan countries have made progress in promoting energy communities by adopting the primary legislation, with all WB6 countries except North Macedonia updating their renewable energy legislation to specifically address these communities.

3.2 Examples of Energy Communities

Across the globe, several pioneering examples illustrate the diverse and impactful ways that energy communities can contribute to a sustainable energy future. These bestcase scenarios not only showcase innovative solutions for local energy generation and consumption but also highlight the economic, social, and environmental benefits that can arise from community-driven energy initiatives.

These successful models provide valuable insights and inspiration for advancing energy community projects, demonstrating how local involvement and ownership can drive the transition to a more resilient and equitable energy system. The examples bellow tend to represent different types of energy communities that are possible to be implemented in Kosovo, with Minoan Energy being located in Greece and having the most similar energy setting, the Lugaggia project being focused on digitial transformation and usage of AI, and lastly the RE/SOURCED project being focused on circular economy solutions for electricity generation, similarly to the recommendations derived from Kosovo's circular economy roadmap[12].

[12] https://mmphi.rksgov.net/MMPHIFolder/DocumentsFiles/2023_8171e270643b4de3938791794084eb8b.pdf

MINOAN ENERGY

Minoan Energy stands as the largest energy community in Greece, dedicated to facilitating the participation of local citizens, small and mediumsized enterprises (SMEs), and regional authorities in the renewable energy transition on the island of Crete. Currently, Minoan Energy focuses on a range of activities including the production of renewable energy, collective selfeonsumption, education, and consulting services, such as assisting members with the installation of heat pumps. The community is also exploring energy efficiency upgrades for municipal buildings. Minoan Energy is looking to expand its services to include electric mobility, district heating, demandresponse strategies, and energy storage in the future.

The initiative is supported by a diverse group of stakeholders, including three municipalities—Minoa Pediadas, Archanon Asterousion, and Viannos—as well as the Regional Authority of Crete. Key partners include the Phaistos supermarket cooperative, municipal services for water and wastewater management, and a local agricultural cooperative. The community also involves energypoor households and the local church authority, reflecting its broadbased approach to inclusive and sustainable energy solutions.

[13] https://sustainableenergyweek.ec.europa.eu/energycommunitycretewinseuropeansustainableenergyawardpavingway-freeelectricityall_en

THE LUGAGGIA INNOVATION COMMUNITY (LIC) PROJECT

Launched in 2019 by the Institute of Systems and Applied Electronics (SUPSI), the Lugaggia Innovation Community (LIC) is nearing completion and represents a pioneering effort in selfeonsumption communities. Initially sparked by the low consumption rates observed from a solar photovoltaic installation on a kindergarten roof in the municipality of Capriasca, the LIC project connects this facility with ten nearby homes to optimize energy use.

The project leverages advanced technologies, including a centralized energy management platform by Optimatik and a decentralized control system from Hive Power, which incorporates blockchain technology for enhanced synchronization, payments, sensing, and actuation. Originally experimental, the LIC has evolved into a model of innovation, striving to maximize efficiency and serve as a benchmark for future community energy initiatives.

[14] https://lic.energy/

RE/SOURCED

The RE/SOURCED project, based in Zwevegem, Belgium, focuses on integrating circular economy principles with renewable energy solutions. This initiative, led by the intercommunale Leiedal and supported by Urban Innovation Actions of the EU, aims to transform the historic Transfo power station into a multifunctional energy community. The project highlights the use of diverse renewable energy sources, such as wind turbines, solar panels, and storage facilities, within a DC grid. Emphasizing circularity, RE/SOURCED addresses the efficient use of materials like steel, copper, and lithium to enhance sustainability. The initiative is designed to benefit the local community by providing a reliable power grid while promoting circular economy practices in renewable energy.

Some details of the implemented survey show the following:

[15] https://urbact.eu/partnersearchtool/resourced

GERMANY

In Germany community energy projects tend to be mediumsized projects as this way the project size can cover the costs of all the effort involved in project planning, network / grid connection, etc. but usually communities report that they have limited resources, both in terms of workforce and finance.

As of 2021, there were 914 renewable energy production systems in Germany, with energy cooperatives primarily focusing on solar PV installations[1]. Most cooperatives began with PV systems of varying sizes, aligned with legal and economic requirements set by the German Renewable Act. This Act established thresholds, such as feedin tariffs for installations under 100 kW, market premiums for 101–300 kW, and tenders for projects above 300 kW, shaping the feasibility of renewable projects. However, changes in legal and economic conditions over time have made planning and operating PV systems increasingly challenging, significantly reducing new project development.

[16] https://www.catf.us/resource/cleanenergygroundupenergycommunitieseuropean-union/#:~:text=Overview%20and%20definition%20of%20energy%20communities&text=As%20of%202021%2C%20Germany%20had,communities%20with%20over%20220%2C000%20members.&text=Although%20Germany's%20first%20cooperative%20law,within%20the%20last%20two%20decades.

3.3 How can Energy Communities be implemented in Kosovo

Kosovo, the most recent country to adopt a Renewable Energy Sources law, has established a legal framework for renewable energy communities, granting them governmental recognition through the Law on the Promotion of the Use of Renewable Energy Sources Law no.24/2023. These communities represent a transformative approach to energy production and use, allowing local stakeholders such as public schools, kindergartens, households, businesses, local nongovernmental organizations and individuals—to collaborate in producing, using, storing, and even selling renewable energy.

While the law acknowledges the right of prosumers and consumers to form energy communities, it leaves room for interpretation regarding the formation process, including the roles of nonprofit and forprofit organizations. This is mainly due to the fact that the current law does not specify the forms in which the Energy Communities can be registered, and operationalized as a functioning entity, including the procedures on selling, storing and trading electricity.
electricity.

One significant barrier is setting up the processes in which the owners of single apartments in multi apartment buildings can invoke their rights on joining an energy community or/and using common premises (such as roofs) in establishing such economic activities.

In Kosovo, the prevailing trend is shifting towards auctionbased remuneration schemes, where the lowest bidders are awarded contracts. While national renewable electricity support schemes have been in place (FiT), many are being phased out in favor of auctioning for larger renewable energy source projects. This approach is preferred because it fosters market competition, which can lead to lower electricity prices per kWh. However, evidence suggests that auctionbased systems tend to disadvantage smaller and communitybased actors. These schemes often impose high levels of professionalization, transaction costs, and risk, making it difficult for smaller entities to participate.

Currently, most regulations and support schemes in Kosovo focus on individual households or commercial prosumers rather than on RES communities. This creates a challenge for citizens, small and medium enterprises, or local authorities interested in starting RES community energy projects, as they must navigate complex regulations and identify available support, if any. The regulatory support that does exist often emphasizes market activities over the specific identity of the actors involved, meaning that energy community participants still face the same competitive market rules as larger players.

Launching energy communities in Kosovo requires a strategic approach to ensure effective and sustainable implementation. Initially, it is crucial to develop a robust regulatory and legal framework. This involves reviewing current energy byławs to identify gaps and necessary amendments, creating specific regulations tailored to the needs of energy communities, and engaging stakeholders such as local authorities, energy experts, and community members to align the framework with practical needs.

As per the Law, The Regulator shall issue secondary legislation to determine the authorization rules, operation terms, procedures for registration, and manner of recordkeeping by Renewable Energy Communities, furthermore, the Regulator shall adopt secondary legislation specifying the rights and obligations of distribution system operator, suppliers and other market players concerning the connection, energy sharing, metering, balance responsibility, billing, compensation and other relevant matters for the operation of Renewable Energy Communities.

Following this, support mechanisms must be established, including financial and technical support programs like subsidies or grants, and incentives to encourage investment in renewable energy technologies and communitybased projects.

To facilitate the formation and development of energy communities, it is important to promote awareness and encourage participation through campaigns, workshops, and networking events. Technical and financial planning should include feasibility studies to assess project viability and detailed planning to support project development. Implementing pilot projects can help test the framework and identify challenges, with ongoing monitoring and evaluation to refine support mechanisms.

Additionally, enhancing capacity building through training programs and fostering partnerships with local and international entities will strengthen community expertise. Continuous monitoring and refinement of policies based on feedback will ensure the successful launch and growth of energy communities, contributing to a more sustainable and inclusive energy system in Kosovo.

3.4 Benefits of Energy Communities

In Kosovo, the potential benefits of community energy organizations are significant, even though specific examples of such communities have yet to emerge. These organizations have the power to lead the transformation needed in the energy sector by fostering public acceptance of renewable energy technologies, encouraging behavioral change, and supporting the decentralization of the energy system.

By empowering communities, they can help reduce carbon emissions while building the trust and active participation necessary for a just and sustainable energy transition. Energy communities can be instrumental in promoting renewable energy projects that are tailored to local needs, redirecting financial resources from fossil fuels to sustainable alternatives. These projects have the potential to enhance system flexibility, reliability, and resilience while also creating local economic opportunities, such as job creation and the development of local energy markets with stable and fair pricing, which could be particularly beneficial in rural areas.

Additionally, with more than 40 percent of the households falling under the energy poverty threshold[17], energy communities could play a crucial role in addressing energy poverty in Kosovo by providing loweost electricity to vulnerable populations and strengthening social cohesion through collective efforts. Participation in these communities would offer citizens the chance to acquire valuable technical knowledge and skills, fostering innovation and collaboration on future projects, such as eear sharing schemes.

Moreover, energy communities would raise awareness about the importance of energy sufficiency and the need to adopt sustainable energy consumption practices. While Kosovo has yet to see the development of these communities, the potential benefits are clear: they could contribute to a socially just, fair, and environmentally sustainable energy transition, leading to healthier and more fulfilling lives for all citizens.

[17] https://www.giz.de/en/downloads/giz2023enfactsheetenergypoverty.pdf

3.5 Unlocking Finance

3.5.1 Governmental Support

To unlock finance for energy communities, governmental support is essential. This involves creating and implementing financial mechanisms such as subsidies, tax incentives, and lowinterest loans specifically designed for renewable energy projects. Governmental backing can also include the establishment of dedicated funds or programs aimed at reducing the initial financial barriers for community energy initiatives. This can be also enacted through Energy Efficiency mandatory schemes, as per the Law on Energy, which requires all the energy companies in providing a portion of their income on supporting energy efficiency and community based activities. By providing clear guidelines and streamlined application processes, the government can facilitate access to these financial resources and encourage greater participation from local communities.

To support these efforts, the Kosovo Credit Guarantee Fund (KCGF) offers loan guarantees, aiming to decrease the risk of investment, while local banks and Multilateral Financing Institutions (MFIs) provide financing at market interest rates, making the investment climate for smallscale solar PV projects in Kosovo moderately favorable. Additionally, larger MFIs and banks have shown interest in expanding their lending opportunities for solar PV, supported by programs like EBRD's GEFF & SME financing.

Apart from this, two systems (net billing and auctions) are in place in further promoting the investments in RES.

Net Billing Scheme

The energy regulator suspended all new applications for the regulated framework support plan as of May 15, 2023, with Decision V_1740_2023. According to ERO Rule No. 03/2023[18], the netmetering scheme is now changing to a netbilling plan. Prosumers of all voltages with projects up to 200 kW can sign a prosumer contract with their supplier under the net-billing plan. The value of the electricity sent to the grid is monetary compensation, equal to 85% of the net energy component of the retail tariff for customers connected at 0.4 kV and 80% for all other customers[19].

While accumulated credits can be used by consumers to reduce their power bills, grid use fees, such as those for the Distribution System Operator (DSO), Market Operator, and TSO, must still be paid.

The precise degree of assistance given to prosumers is still unknown because statistics on grid injections and prosumer energy generation are scarce.
This scheme is suitable for smaller energy community projects (with a maximum capacity of 200 kwp), it can be suitable for multiapartment buildings that want to invest in reducing the shared space electricity bills.

[18] https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Vendimet/Vendimet%202023/engV_1740_2023_Vendimi%20per%20PEZULLIMIN%20E%20SKEMES%20MB%C3%8BSHTET%C3%8BSE%20FINAL.pdf
[19] https://www.eroks.org/zrre/sites/default/files/Publikimet/Legjislacioni/Rregullat/Rule%20on%20Prosumers.pdf

Energy Auctions

In 2023, Kosovo announced its first competitive auction for renewable energy, focusing on a 100 MW solar photovoltaic (PV) capacity[20]. This auction is part of Kosovo's broader strategy to increase the share of renewable energy in its electricity mix and meet its climate and energy goals. The auction was designed to attract both local and international investors by offering longterm Power Purchase Agreements (PPAs) at competitive prices. The bidding process allowed participants to propose their price for the electricity generated, which promotes costeffective renewable energy development.

This 100 MW solar auction is a significant step towards Kosovo's goal of diversifying its energy sources and reducing dependency on lignite coal. A follow up auction on 100 MW wind capacity is expected to be launched by the end of 2024. While technically this scheme is suitable for Energy Communities and they are not discouraged from applying, this scheme also poses multiple challenges due to the requirements such as prior experience on the energy sector, revenue, staff etc. Furthermore, this scheme favors larger companies with stronger financial backing, leaving newly established energy companies and energy corporative disfavored. Furthermore, considering that the Law on promotion of RES, allows only 10% EC shareholders being businesses, this limits the amount of funding, to apply for larger projects such as the one for wind auction.

[20] https://me.rksgov.net/en/blog/announcementforsolarphotovoltaicauctionwithacapacityof100mwannounced/

3.5.2 Grants and Development Partners

Grants and support from development partners play a crucial role in financing energy communities. International organizations, development banks, and nongovernmental organizations often offer grants and technical assistance to support renewable energy projects. These grants can help cover capital costs, feasibility studies, and project management expenses.

Collaboration with development partners can also provide valuable expertise and additional resources, ensuring that energy communities have the support needed to successfully implement and sustain their projects.
Currently, the development partners such as GIZ, UNDP, and KFOS etc. are implementing a number of energy related projects, with a special focus on prosumers. However, there are no studies being done in unlocking the potential of energy communities.

3.5.3 Local Financial Institutions

Local financial institutions can significantly contribute to unlocking finance for energy communities by offering tailored financial products such as green bonds, specialized loans, and investment schemes. Banks and credit unions can play a pivotal role in providing financing solutions that are adapted to the needs of communitybased renewable energy projects. By developing innovative financial products and fostering partnerships with community organizations, local financial institutions can support the growth of energy communities and help bridge the gap between project funding and implementation.

A survey conducted with financial institutions in Kosovo highlighted their current involvement and capacity to support renewable energy projects and energy communities. Both surveyed institutions confirmed their active support for renewable energy sources over the past three years, with the number of clients supported ranging from over 200 to 800. Green financing products are already offered, with benefits such as improved reputation, client and staff retention, and new business opportunities. However, awareness of energy communities varies; while one institution is familiar with the concept, the other is not, indicating a need for increased awareness and capacity building.

Key requirements for financing energy communities include robust financial models, partnerships with experienced engineering, procurement, and construction companies, and power purchase agreements with rated trading companies. However, support for non-profit energy communities remains limited, with one institution suggesting that decisions depend on feasibility studies and central bank approval. Both institutions emphasized the need for additional training, particularly on legal frameworks and financial packages tailored to energy communities.

5.0 CONCLUSION

The Energy Community Treaty, aimed at extending the European Union's internal energy market to Southeast Europe and beyond, highlights Kosovo's dedication to renewable energy targets and improved energy infrastructure. However, with over 85% of electricity generated by outdated lignite power plants, the country faces considerable challenges in achieving its energy transition. Policies like the Feedin Tariff program have attracted domestic and international investments, while the 2022–2031 Energy Strategy sets ambitious goals, including a 35% renewable energy share and the promotion of competitive auctions.

Smallscale initiatives, such as netmetering for solar PV, and legislative advances, including the Law on Promotion of RES, demonstrate Kosovo's commitment to integrating prosumers and exploring innovative solutions like energy communities. While ECs offer a collaborative model for sustainable energy management, Kosovo has yet to establish its first energy community.

Recent workshops conducted with local stakeholders' revealed mixed readiness within communities to embrace energy communities. While there is notable interest in the concept, many communities lack the organizational and technical capacity to establish and manage ECs. Participants expressed concerns over financial barriers, limited awareness, and insufficient inclusion in decisionmaking processes. Despite this, banks and donors have shown interest in supporting EC initiatives, presenting a significant opportunity for future collaboration.

To successfully establish energy communities in Kosovo, a focused and strategic approach is needed. Key actions include:

Developing ByŁaws and Regulatory Support: while the legal framework is in place, specific byławs are necessary to define operational, financial, and administrative procedures for energy communities. Clear guidelines will provide the certainty needed for stakeholders to move forward.Therefore, the Regulator should issue secondary legislation to determine the authorization rules, operation terms, procedures for registration, and manner of recordkeeping by Renewable Energy Communities, furthermore, the Regulator should adopt secondary legislation specifying the rights and obligations of distribution system operator, suppliers and other market players concerning the connection, energy sharing, metering, balance responsibility, billing, compensation and other relevant matters for the operation of Renewable Energy Communities.

Target Setting in NECP: National Energy and Climate Plans should therefore include specific policies and measures to promote RECs, outline their role in energy efficiency and renewable policies, and involve local authorities and existing communities in setting objectives, particularly for distributed energy projects.

Raising Awareness and Capacity Building: A nationwide awareness campaign should be launched to educate communities about the benefits of energy communities and their potential to lower energy costs, promote local sustainability, and enhance energy independence.

Inclusion in DecisionMaking Processes: Strengthening community involvement in planning and decisionmaking will foster local ownership and ensure that energy communities align with the specific needs and priorities of each area.

Securing Financial Support: Collaboration with banks, donors, and development partners is essential to provide grants, low-interest loans, or guarantees tailored to community-led energy projects. Innovative financial products, such as community energy bonds, should be explored

Knowledge Sharing and Partnerships: Leveraging the experiences of established ECs in Europe can provide valuable insights and best practices. Regional partnerships and cross-border collaborations could support knowledge exchange and accelerate the learning curve for Kosovo.

Pilot Projects and Demonstrations: Initiating pilot EC projects in willing communities can serve as proof of concept, demonstrating their feasibility and benefits while refining the legal, technical, and financial frameworks.

Raising Awareness and Capacity Building: A nationwide awareness campaign should be launched to educate communities about the benefits of energy communities and their potential to lower energy costs, promote local sustainability, and enhance energy independence.

Inclusion in Decision-Making Processes: Strengthening community involvement in planning and decision-making will foster local ownership and ensure that energy communities align with the specific needs and priorities of each area.