

ENERGY POVERTY

in just transition



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1 Introduction

Energy poverty is an ongoing issue across Europe, particularly for low-income households, which often face difficult choices between energy expenses and other basic needs. In Kosovo, this issue is even more pronounced. This problem arises from low incomes, poor-quality housing, and inefficient appliances, with a higher prevalence in Southern and Central-Eastern Europe, though millions of people in Western Europe are also affected¹.

Energy poverty leads to lower living standards and health issues due to insufficiently heated living spaces, poor air quality, and psychological stress from the inability to afford energy bills. According to Eurostat, in 2022, over 41 million people in the EU (9.3% of the population) were unable to keep their homes adequately warm, while approximately 7% were in debt on their energy bills².

The energy supply crisis, worsened by Russia's war in Ukraine, has further intensified the situation, pushing prices higher, which remain elevated even after retreating from peak levels. Energy poverty is driven by three key factors: low-income, high-energy costs, and poor energy efficiency in buildings³.

Addressing energy poverty is essential to ensuring a fair energy transition, as highlighted in the European Green Deal. Measures include targeted support for vulnerable households, renovation schemes, and efforts to lower energy bills, ensuring that no one is left behind in the shift towards a climate-neutral economy.

¹ [Towards an inclusive energy transition in the European Union - Publications Office of the EU \(europa.eu\)](#)

² [Statistics | Eurostat \(europa.eu\)](#)

³ [Quarterly market reports highlight unprecedented gas and power prices in the EU in Q4 2021 - European Commission \(europa.eu\)](#) [Market analysis - European Commission \(europa.eu\)](#)

2. Energy poverty in the context of the EU and Kosovo legal frameworks

2.1 EU context

Energy poverty and energy vulnerability are key issues addressed in various EU energy legislations. The initial legislative efforts to tackle energy poverty can be found in Directive 2009/72/EC (July 13, 2009) on common rules for the internal electricity market. This directive requires Member States and Contracting Parties to implement protective measures for vulnerable consumers, including defining the concept of vulnerable consumers. This concept refers to energy poverty and may include a ban on electricity supply disconnection for these consumers during critical periods. Furthermore, the legislation mandates that Member States and Contracting Parties take measures to ensure energy supply for consumers in remote areas connected to the grid. The directive calls for appropriate measures, which may include national energy action plans, social security benefits to cover energy needs, or support for improving energy efficiency in buildings. These efforts should not hinder the effective opening of the market but should ensure adequate protection for vulnerable consumers⁴.

Directive 2019/944/EU (June 5, 2019) further expands the concept of vulnerable consumers by specifying factors such as income levels, the share of energy expenses relative to disposable income, energy efficiency of buildings, critical dependency on electric equipment for health reasons, and age, which may contribute to consumer vulnerability. Article 29 of this directive requires Member States and Contracting Parties to set criteria for identifying energy poverty, which may include factors such as low-income, high-energy expenses, and poor energy efficiency⁵.

Additionally, **Regulation 2018/1999** mandates Member States and Contracting Parties to develop integrated National Energy and Climate Plans (NECPs), which must include an assessment of households affected by energy poverty. Article 3 of the regulation requires that if a country has a significant number of households experiencing energy poverty, it must establish national targets for reducing energy poverty and include relevant policies and measures in its NECP. Moreover, Article 24 mandates Member States and Contracting Parties to report on progress made in reducing energy poverty and provide quantitative data on the number of affected households⁶.

Directive 2018/844, which amends **Directive 2010/31/EU** on the Energy Performance of Buildings, also plays a role in combating energy poverty by requiring long-term renovation strategies. These strategies should include actions to alleviate energy poverty through building improvements and energy efficiency measures⁷.

⁴ DIRECTIVE 2009/72/EC of 13 July 2009 concerning common rules for the internal market in electricity and repealing Directive 2003/54/EC

⁵ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019L0944>

⁶ Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action

⁷ Directive (EU) 2018/844 of the European Parliament and of the Council of 30 May 2018 amending Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU on energy efficiency.”

The Energy Efficiency Directive (2012/27/EU), in Article 7, emphasizes that energy efficiency measures should prioritize households affected by energy poverty or those living in social housing. This provision is further emphasized in Directive 2018/2002, which includes provisions to prioritize improvements in the homes of vulnerable consumers⁸.

The revised **Energy Efficiency Directive**, in Article 2, defines energy poverty *as the inability of a household to meet essential energy supply needs due to unaffordability or lack of access to essential energy services*⁹. These services are necessary to guarantee basic levels of comfort and health, including adequate heating, cooling, lighting, and energy for appliances. Energy poverty is often caused by a combination of factors, including low income, high energy expenses, and poor energy efficiency in homes. Through this directive, the EU has introduced an official definition of energy poverty for the first time. Article 8 of this directive also focuses on energy efficiency measures to protect those affected by energy poverty, low-income households, and vulnerable consumers. Member States must ensure that their policies do not negatively impact these groups and that they effectively use public and EU funding. Additionally, they must set a minimum percentage of energy savings in vulnerable groups in line with their national energy and climate plans. Within this directive, Article 22 requires Member States to develop long-term strategies to protect and empower vulnerable consumers and those affected by energy poverty. Member States should ensure that energy efficiency measures, especially in buildings, do not increase costs for these groups. Furthermore, they should establish networks of experts to help mitigate energy poverty and support measures that guarantee benefits for all, including homeowners and renters. This directive is mandatory for Member States, while it has not yet been adapted for Contracting Parties.

Furthermore, **Regulation (EU) 2023/955**¹⁰, which establishes the Social Climate Fund, provides an updated definition of energy poverty as the lack of access to essential energy services that ensure a decent and healthy standard of living, including adequate heating, cooling, lighting, and energy for appliances. This definition emphasizes the importance of social policies and national context in addressing energy poverty.

2.2 Kosovo context

The Energy Strategy of the Republic of Kosovo 2022-2031¹¹, through its fifth objective, aims to protect and empower consumers through three main pillars. Firstly, it seeks to enable vulnerable consumers to afford their energy bills through investments in energy efficiency, including building renovations, household appliances, and heating solutions. Secondly, consumer empowerment will be facilitated through active participation in the liberalized energy market, providing them with greater opportunities to benefit

⁸ Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC

⁹ https://www.europarl.europa.eu/meetdocs/2014_2019/plmrep/COMMITTEES/ITRE/DV/2022/07-13/EED_FinalCompromiseAmendment_EN.pdf

¹⁰ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023R0955>

¹¹ <https://kryeministri.rks-gov.net/wp-content/uploads/2023/03/Strategjia-e-Energjise-e-Republikes-se-Kosoves-2022-2031.pdf>

from the energy market. Thirdly, environmental protection aims to reduce exposure to environmental pollution, ensuring a healthier environment for citizens.

To achieve these goals, by 2024, a new program will be created that will link energy support with the reformed social assistance scheme, transitioning to a poverty-based approach. Additionally, by 2024, two new schemes will be introduced focusing on vulnerable consumers, addressing the needs for energy efficiency, heating solutions, and solar panel installation. With a long-term objective, by 2031, four additional schemes will be developed to further expand support for consumers.

This approach aims to ensure fair and sustainable access to energy for all citizens, with a particular focus on the most vulnerable, improving quality of life and protecting the environment.

The Law on the Energy Regulator (05/L-084¹²): Article 50 requires subsidies for vulnerable consumers, which must be implemented transparently and without distorting competition in the energy market. All subsidies must comply with state aid rules.

The Law on Electricity (05/L-085¹³): Article 49 sets out the protection of consumers in need, requiring the Ministry of Social Welfare to develop a program in cooperation with the Ministry of Energy, Ministry of Finance, and other stakeholders. This program must define criteria for identifying vulnerable consumers, including income and assets, with provisions for seasonal restrictions on electricity consumption (300 kWh/month for families with up to four members). Financial support is funded by government sources and not through cross-subsidies via tariffs.

The General Conditions of Energy Supply Rule¹⁴ (2017): Article 20 requires suppliers to provide universal service and assist vulnerable consumers to avoid disconnection due to unpaid bills. Article 24 requires the Distribution System Operator (DSO) to establish mechanisms to protect end consumers in remote areas.

The Disconnection and Reconnection Rule¹⁵ (2017): Article 7 requires suppliers to create mechanisms, in consultation with the regulator, to prevent the disconnection of vulnerable consumers due to unpaid bills.

The Law on the Social Assistance Scheme¹⁶ (2003/15) and its amendments provide financial support for households based on eligibility criteria. Additionally, the Law on the Status and Rights of the KLA Martyrs and Veterans (04/L-054) offers reduced electricity tariffs for personal use under specific conditions related to economic hardship and social assistance criteria.

¹² https://www.ero-ks.org/zrre/sites/default/files/Legjislacioni/Ligjet/LIGJI_PER_RREGULLATORIN_E_ENERGJISE.pdf

¹³ https://www.ero-ks.org/zrre/sites/default/files/Legjislacioni/Ligjet/LIGJI_PER_ENERGJINE_ELEKTRIKE...pdf

¹⁴ https://ero-ks.org/2017/Rregullat/ZRRE_Nr%20_12_2017_Rregulla_per_kushtet_pergjithshme_sektorin_energjise.pdf

¹⁵ https://www.ero-ks.org/zrre/sites/default/files/Legjislacioni/Rregullat/ZRRE_Nr.%2009_Rregulla_per_shky%C3%A7jen_rik_y%C3%A7jen_konsumatoreve_sektorin_energjise.....pdf

¹⁶ <https://gzk.rks-gov.net/ActDocumentDetail.aspx?ActID=2460>

Kosovo's social programs for energy-vulnerable consumers should be expanded to cover all those at risk of energy poverty. Developing a robust, data-driven strategy will help Kosovo effectively address this growing challenge, as the continued liberalization of the energy market requires a careful balance between economic growth and the protection of the most vulnerable citizens.

Kosovo currently lacks a legal definition of energy poverty and a comprehensive plan to address it. The absence of data on energy poverty and vulnerable consumers hinders the accuracy of problem assessment. Filling these gaps is essential, especially as energy investments and market liberalization may lead to significant price increases in the future.

Recent energy crises in Europe highlighted the need for a comprehensive scheme to protect vulnerable consumers. The current support system in Kosovo provides financial assistance (reduced energy bills) for two small categories of citizens: social assistance beneficiaries and war-related benefit recipients. These restrictive criteria exclude many citizens potentially at risk of energy poverty.

The Government of Kosovo has offered subsidies to mitigate rising energy prices. However, due to the lack of a comprehensive register of vulnerable consumers, these subsidies have been applied as a general reduction for all energy consumers instead of being targeted¹⁷.

¹⁷ https://www.energy-community.org/dam/jcr:e6badfbe-313d-4ebc-a450-416dcbd5499/20230714_Final%20Version_First%20Draft%20NECP%202025-2030%20of%20Kosovo.pdf

3. Transition of the power generation sector in Kosovo

3.1 Current situation

Kosovo has historically relied on lignite for electricity generation, which has ensured energy supply security but has also led to air pollution, environmental degradation, and greenhouse gas emissions. The energy transition presents an opportunity to shift towards cleaner and more sustainable sources, contributing to the fight against climate change. Coal combustion is a major contributor to air pollution, adversely affecting public health. Shifting to renewable energy sources would improve air quality and reduce respiratory and cardiovascular diseases. Furthermore, reliance on coal jeopardizes energy supply security. Transitioning to renewable sources, such as solar and wind energy, would diversify energy production, making the system more resilient to supply disruptions and fuel price fluctuations¹⁸.

In Kosovo, the current total operational capacity for electricity generation is 1,236 MW¹⁹. The dominant share of this capacity, comprising 960 MW or 77.7%, comes from lignite-fueled thermal power plants. The remaining capacity consists of renewable energy sources, including hydropower, wind power plants, and photovoltaic panels. It is noteworthy that two units of the Kosovo A power plant are currently non-operational.

Tab.1 Generation Capacities in Power System of Kosovo

Unit power	Unit capacity (MW)	
	Installed	Neto
TPP Kosova A1	65	Out of operation
TPP Kosova A2	125	Out of operation
TPP Kosova A3	200	144
TPP Kosova A4	200	144
TPP Kosova A5	210	144
TPP Kosova B1	339	264
TPP Kosova B2	339	264
Total TPP	1288	960
Hydro power plant	132	128
Wind	137	137
Photovoltaic	10	10
PV self-consumption ²⁰	20.6	20.6
Total RES	300	296
Total	1588	1256

¹⁸ https://indep.info/wp-content/uploads/2024/02/Indeksi_Tranzicionit.pdf

¹⁹ <https://www.ero-ks.org/zrre/sq/publikimet/raportet-vjetore>

²⁰ <https://www.ero-ks.org/zrre/sq/komunikate-41?q=en/press-release-32>

During the period 2011-2023, Kosovo has been entirely dependent on electricity generation from thermal power plants, although this production has significantly declined in recent years. Thermal power plants have dominated energy production, peaking at 5,719 GWh²¹ in 2014. However, in 2023, energy production from these units fell to 4,931 GWh²², representing a decrease of over 15% compared to 2021. This decline suggests challenges in ensuring sustainable energy supply from traditional sources.

Tab.2 Electricity availability and reference participation for the years 2011-2023

	2011-2022(GWh)	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
A	Thermal power plants	5,062	5,218	5,719	4,742	5,361	5,601	5,121	5,008	5,403	5,983	5,770	5,678	4,931
B	RES	105	96	143	102	142	235	179	303	314	318	437	637	768
C	Import	816	625	522	966	715	534	1,203	825	928	839	1,311	761	1,248
D	Export	371	473	857	475	628	1,121	880	677	905	1,283	835	787	407
E	Net import/export	445	152	(335)	491	87	(587)	323	148	24	(444)	477	(26)	841
F	Total available	5,612	5,466	5,527	5,335	5,590	5,249	5,623	5,459	5,741	5,857	6,684	6,289	6,539
	B/F	1.9%	1.8%	2.6%	1.9%	2.5%	4.5%	3.2%	5.6%	5.5%	5.4%	6.5%	10.1%	11.7%
	E/F	7.9%	2.8%	-6.1%	9.2%	1.6%	-11.2%	5.7%	2.7%	0.4%	-7.6%	7.1%	-0.4%	12.9%

In 2023, the net balance of imports and exports shows a significant dependence on imports, with a deficit of 841 GWh, one of the highest levels recorded during the analyzed period. This highlights the need for a sustainable strategy to reduce dependence on imports and increase domestic production capacities.

Total energy available for consumption has experienced steady growth in recent years, reaching 6,539 GWh in 2023, a more than 4% increase compared to 2021. This increase in available energy is partially supported by higher imports, but also reflects the need for diversification of domestic production sources.

The ratio between RES and total available energy has shown a continuous improvement trend, reaching 11.7% in 2023 compared to 1.8% in 2011. However, it remains low to meet the growing demand for sustainable and clean energy. On the other hand, the net export/import balance ratio against total energy available reflects the country's dependency on imports, with 12.9% of the total electricity in 2023 coming from imports.

²¹ https://ero-ks.org/Annual%20Report/2014/Raporti_Vjetor_2014_ZRRE.pdf

²² https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Raportet%20Vjetor/Raporti%20Vjetor%202023_ZRRE.pdf

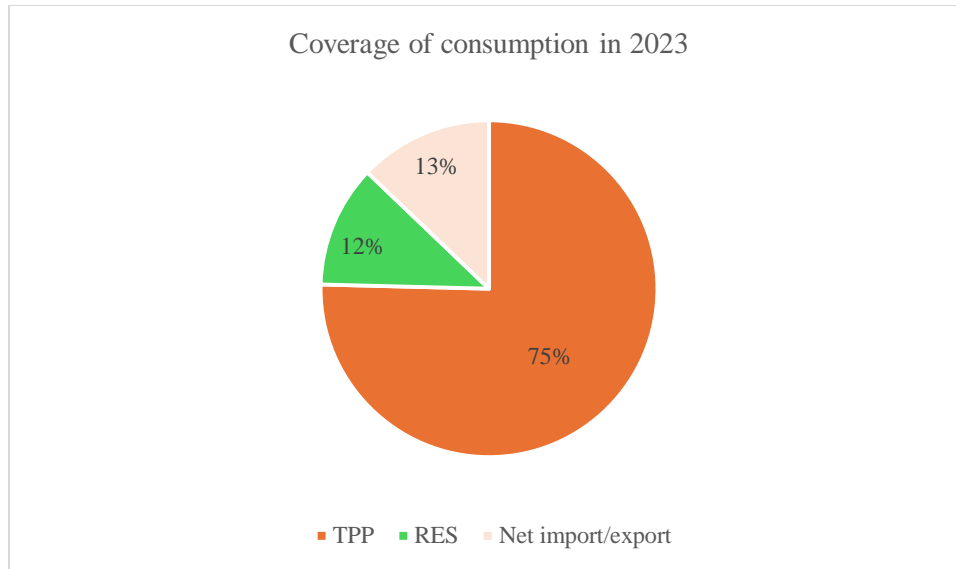


Fig 1. Coverage of consumption by energy source

Kosovo faces the ongoing challenge of meeting its electricity demand due to the decline in production from thermal power plants and increasing reliance on imports. Meanwhile, the growing contribution of RES (Renewable Energy Sources) is a positive development, but much remains to be done to achieve a more sustainable and independent energy system.

In the context of electricity market liberalization, the high dependency on thermal power plants is also problematic, and the focus on this energy source is still very high, indicating the need for diversification of energy sources for greater supply security and a more sustainable system. To demonstrate this concentration, we have used the HHI formula: $HHI = \sum (s_i)^2$. Let's calculate for the case of consumption in Kosovo: $HHI^{23} = (75)^2 + (12)^2 + (13)^2 = 5625 + 144 + 169 = 5938$.

This indicates a high concentration, where KEK alone contributes 5625 to the HHI index. According to the U.S. Department of Justice, a market with an HHI above 1,800 is considered highly concentrated. Thus, the HHI in Kosovo is far from a competitive market (which would have a value near zero) and much closer to a monopolized market (with a maximum value of 10,000).

Therefore, with 75% of the consumption covered by thermal power plants (with a selling price of around 30 €/MWh at FSHU, extremely low compared to market prices), the transition to RES is challenging. This transition requires significant investments in infrastructure, addressing energy poverty, and building new capacities for clean energy. Vulnerable households may feel burdened by higher energy costs during this transition. To address these challenges, subsidy programs need to be created to assist the most vulnerable consumers. Hence, in the following chapters, we will address this issue.

²³ [HerfindahlHirschmanIndex.pdf \(nematrian.com\)](#)

3.2 The Transition of electricity sector according to strategic plans and challenges for RES Implementation

Kosovo, as a signatory of the Energy Community Treaty, has committed to the decarbonization of the electricity sector, which includes setting mandatory targets for increasing the share of renewable energy in its final energy consumption. In line with these commitments, the Kosovo Energy Strategy 2022-2031, adopted in 2023, has set ambitious objectives aimed at promoting renewable energy and ensuring energy security and sustainability for the country. This strategy presents a clear roadmap for the transition towards a more sustainable and efficient energy future.

The goal of achieving 35% of electricity consumption from renewable sources by 2031 implies a significant shift from traditional coal-based production towards cleaner and more sustainable sources. The objectives according to energy sources are as follows: 600 MW of wind energy capacity, 600 MW of solar photovoltaic capacity, 100 MW for self-consumption, and 20 MW from biomass, aiming for a total capacity of 1,600 MW by 2031, of which 1,320 MW will be new capacities.

This growth requires a substantial acceleration in the development of new renewable energy capacities. To achieve the strategic objective of a 490 MW capacity by 2025 and 1,600 MW by 2031, strong engagement from all stakeholders and a proactive approach to implementing the self-consumption regulation, as well as the development of energy storage capacities through batteries, is needed, with a target of 170 MW installation by 2031²⁴.

²⁴ me.rks-gov.net/wp-content/uploads/2023/04/Shqip-Strategjia-e-Energjise-e-Republikes-se-Kosoves-2022-2031.pdf

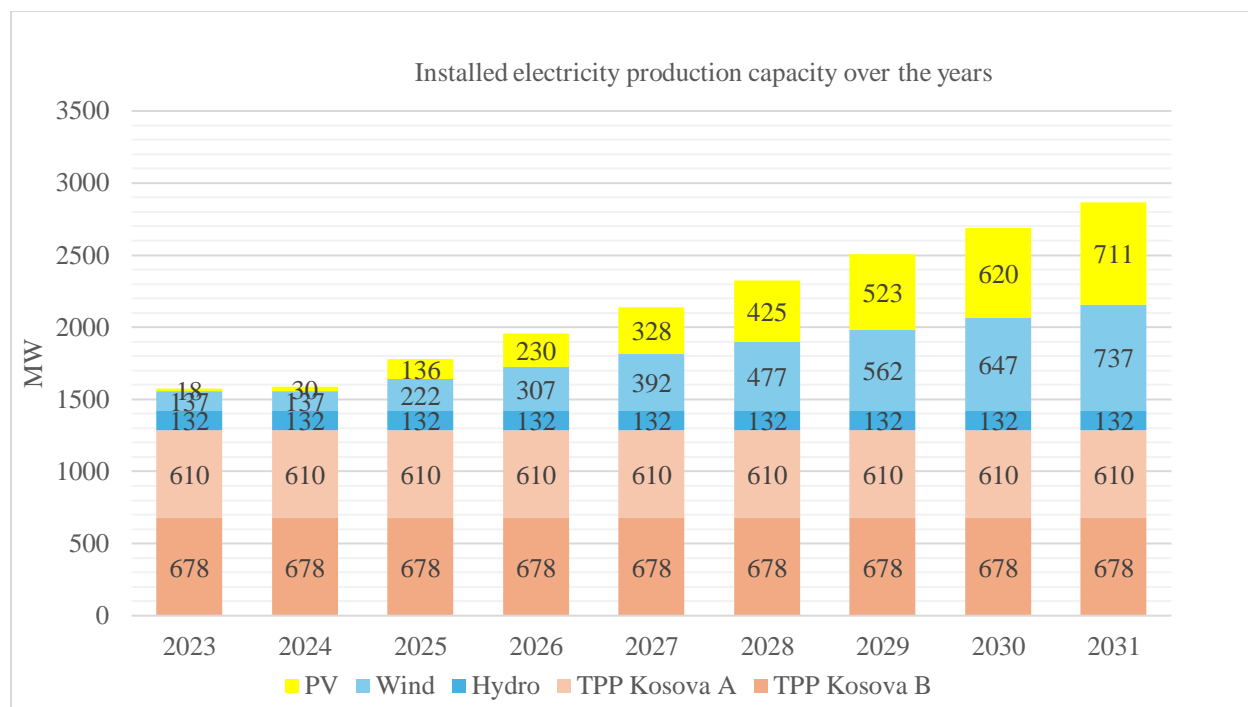


Fig.2 Installed electricity production capacity over the years

To achieve the target of 490 MW of total RES capacity by the end of 2025, approximately 200 MW of new RES capacity should be commissioned, while for the period 2026-2031, an average of 180 MW should be installed each year to reach the final strategic target of 1600 MW of installed RES capacity by 2031.

The full decarbonization of electricity production will require a long-term strategy that ensures the gradual replacement of lignite-based capacities with renewable energy sources. In this regard, it is recommended that by 2040²⁵, 70% of electricity consumption should be covered by renewable energy sources, and the goal of covering 100% of consumption with RES should be achieved by 2050. To ensure a successful and sustainable transition, it is essential for the government to develop a detailed long-term strategy that supports these ambitious objectives, including specific projects to increase the share of renewable energy in consumption and the final steps towards phasing out lignite capacities.

Despite the demand for investments in renewable energy sources and the promising potential, several bureaucratic challenges at the central and municipal levels have been identified, which are hindering the progress of projects. One of the main issues is the lack of coordination between the Ministry of Environment, Spatial Planning and Infrastructure and the municipalities of Kosovo. Solar projects can only be built within municipalities if they are included in the Municipal Development Plan, which is revised every eight years. This long period creates delays and obstacles for new projects. Another challenge is the delay in the implementation of the first solar energy auction. It opened on May 12,

²⁵ The targets for 2040 and 2050 are the estimates by author

2023²⁶, with the initial deadline for submission of bids set for August 15, 2023. However, this deadline was postponed several times, first to September 30, 2023, then to October 16, 2023, and later to January 31, 2024. The winner was announced on March 29, 2024, with a price of 48.88 €/MWh, and the construction agreement was signed on May 31, 2024²⁷ (one year after the announcement). However, by the end of 2024, there has still been no official announcement regarding the start of construction. These delays jeopardize the implementation of the strategy and energy supply security.

To achieve RES targets, the following actions are necessary:

- Review of the factors leading to the auction delays and improvement of the process.
- Strict adherence to the deadlines set in the 2022-2025 Strategy to avoid deviations.
- Creation of a monitoring system to ensure progress and address obstacles.
- Strengthening institutional capacities for organizing auctions and managing projects.
- Development of a risk mitigation strategy that could delay RES projects.
- Attracting investors through clear regulatory frameworks and competitive auctions.
- Raising public awareness of the benefits of renewable energy to facilitate project implementation.

²⁶ <https://me.rks-gov.net/blog/shpallet-ankandi-i-pare-per-parkun-me-energji-solare-me-kapacitet-prej-100-mw/>

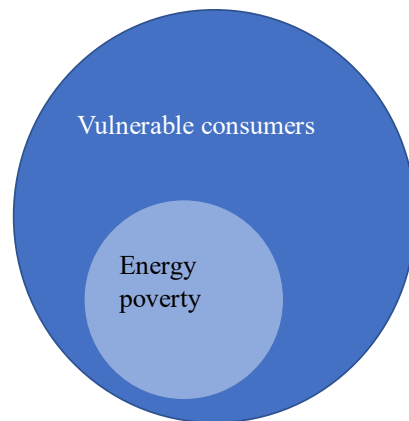
²⁷ <https://me.rks-gov.net/blog/nenshkruhet-marveshja-per-zhvillimin-e-projektit-te-ankandit-te-pare-solar-prej-100-mw/>

4 Definition of Energy Poverty and Vulnerable Consumers

The distinction between energy vulnerability and energy poverty is crucial to understand how these issues are addressed in society.

Energy poverty specifically refers to those who already have difficulty securing the necessary energy to live. Families that are energy poor are those who cannot afford to pay energy bills or do not have access to the energy needed to maintain an acceptable standard of living. *Vulnerable consumers* encompass a broader group of people who may be at risk of becoming energy poor. These consumers may face issues such as low income, poor health, disabilities, and other vulnerable categories. Therefore, energy vulnerability refers to those at risk of facing energy poverty, even if they are not yet in that state.

Thus, energy vulnerability is a potential state of risk, while energy poverty is a current state of difficulty. The use of the term "energy poverty" helps identify those who need immediate and specific assistance, while vulnerability often refers to broader social issues.



*Fig. 3 Explanation of vulnerable consumers and energy poverty*²⁸

Energy poverty is defined as the inability to secure sufficient energy services in the home and includes three main aspects: energy security, adequate energy levels, and energy services²⁹:

- *Energy Security* means that families may have difficulty securing energy, either due to an inability to pay or due to a lack of energy infrastructure. In developed countries, the main issue is affordability, while in developing regions, the lack of infrastructure is more common. In Southeast Europe, these two problems often overlap, with low incomes and underdeveloped energy infrastructure such as the electrical grid, district heating, and gasification.
- *Adequate Energy Levels* include both material and social needs. The material minimum refers to healthy indoor temperatures (usually 21°C in living rooms and 18°C in bedrooms). The social minimum relates

²⁸ https://www.energy-community.org/dam/jcr:f201febd-3281-4a1f-94f9-23c3fce4bbf0/DOOREIHP_poverty_122021.pdf

²⁹ https://www.energy-community.org/dam/jcr:f201febd-3281-4a1f-94f9-23c3fce4bbf0/DOOREIHP_poverty_122021.pdf

to families' ability to adhere to social norms, such as lighting and appliance use, as lack of energy negatively impacts well-being and social participation.

- *Energy Services* include heating, cooling, hot water, lighting, and appliance operation. The efficiency of these services depends on the home's internal infrastructure, such as building insulation and heating systems.

While in the UK, energy poverty is referred to as "fuel poverty," mainly focused on affordability, Kosovo requires a broader approach due to infrastructure issues. The EU recognizes this and, through its legislation and initiatives, provides guidelines for measuring and addressing energy poverty, emphasizing that it goes beyond low income and includes housing conditions, energy efficiency, and infrastructure.

An accepted definition of energy poverty remains unclear and debated. Early research in the EU focused on defining energy poverty, often using the term "fuel poverty." Energy poverty in developing or underdeveloped regions, where poor infrastructure and low incomes limit access to energy, forces families to rely on biomass, which is linked to health risks.

Tab. 3 Energy Poverty Definitions in Several EU Countries³⁰

Country	Definition	Measurement Indicator
Slovakia	Energy poverty occurs when energy expenses (electricity, gas, heating, hot water) account for a significant portion of household income.	N/A
France	Difficulty in securing sufficient energy for basic needs due to insufficient resources or poor housing conditions.	How much energy is paid in comparison to a family's income. The idea is that energy expenses should not exceed a certain percentage of income. Low Income and High Energy Costs: This indicator identifies families with low income who are paying excessively for energy. Thermal comfort indicator: This measures how well people feel in their homes in terms of temperature and warmth.
Ireland	Inability to afford essential energy services.	10% threshold
Belgium	A high portion of income is spent on energy, or if spending is abnormally low.	If their energy expenses exceed twice the average energy expenses of similar families, or if they spend abnormally little on energy services compared to similar families.

³⁰ [Gender perspective on access to energy in the EU](#)

England	Fuel poverty refers to families who have difficulty paying for energy. This occurs when their income is low, below the poverty line, considering both energy costs and the fact that energy costs are higher than what families with the same income would typically pay.	If a family has low income and pays too much for energy, they are considered fuel poor. Another indicator is the fuel poverty gap, which measures the difference between what a family should pay for energy and what they can actually afford. Income is calculated after subtracting housing costs (such as rent or mortgage) and compared with average income. If a family's income is less than 60% of the average net income, they are considered fuel poor.
Austria	Low income and above-average energy costs.	The LIHC (Low Income High Costs) indicator is used to identify families with low income who spend a lot on energy. Specifically, a family is considered energy poor if their energy expenses are between 140% and 167% of the average energy expenses of similar families.
Cyprus	Consumers with low income cannot afford electricity expenses.	N/A
Scotland	Spending over 10% of income to maintain the recommended heating temperature.	WHO standards: minimum temperature of 23°C in the living room, 18°C in other rooms.
Wales	Spending over 10% of income on energy; over 20% indicates severe energy poverty.	10% threshold to meet WHO heating standards.
Northern Ireland	Spending over 10% of income to maintain acceptable indoor temperatures.	10% threshold to meet WHO heating standards.

4.1 Energy poverty indicators

Energy poverty is influenced by several key factors, such as high energy costs, lack of energy efficiency, and low income. These contribute to the difficulty families face in meeting their basic energy needs, leading to consequences such as the inability to secure sufficient heating, the accumulation of energy debts, and poor housing quality. To mitigate this phenomenon, policies should focus on subsidies for vulnerable families, improving energy efficiency, and better regulation of energy markets, using indicators to monitor progress.

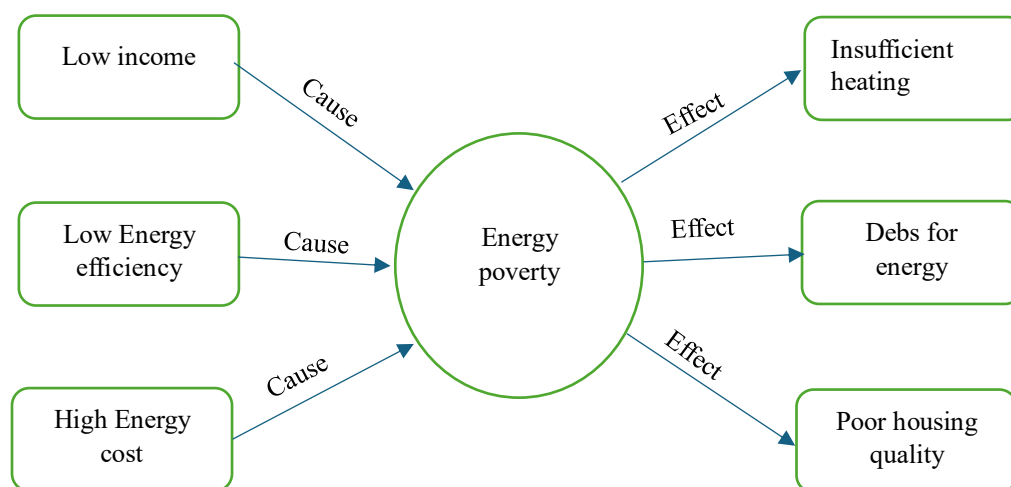


Fig 4. Causes and effects of energy poverty³¹

Energy poverty is a critical issue across Europe, and the European Union has developed various methodologies to monitor and address this challenge. The Energy Poverty Advisory Hub has developed an important methodological guide, which outlines key and secondary indicators to measure energy poverty across the EU.

The four main indicators include:³²

1. Energy bill arrears;
2. Low and high absolute energy expenditures;
3. High energy expenditures as a share of income;
4. Inability to keep homes sufficiently warm.

According to the EPOV analysis in 2020, energy poverty measured through energy bill arrears and the inability to keep homes warm is particularly widespread in Eastern, Central, and Southern Europe, with Bulgaria and Greece exhibiting the highest levels. On the other hand, when energy poverty is measured using low and high energy expenditure indicators, it tends to be higher in Northern and Western Europe. In addition to these key indicators, 19 secondary indicators have been developed to provide a broader context for energy poverty. These include factors such as energy prices, the risk of poverty or social exclusion, energy expenditure across different income groups, housing quality, and seasonal mortality rates. These indicators were updated in October 2022 to improve their applicability.

To complement these efforts, the European Commission's 2020 recommendation on energy poverty describes other suggested indicators. Most of them are based on Eurostat data, except for one data point

³¹ <https://www.sciencedirect.com/science/article/pii/S2214629624000112>

³² [https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733583/EPRS_BRI\(2022\)733583_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733583/EPRS_BRI(2022)733583_EN.pdf)

from an external database. The Commission encourages Member States to use these indicators in their assessments of energy poverty, offering further guidance on their interpretation. The recommended indicators focus on both energy affordability and supplementary data, including:

- The share of the population unable to keep their homes sufficiently warm or facing energy bill arrears, especially among those at risk of poverty;
- Energy expenditure for households relative to income;
- Energy prices for household consumers in consumption groups;
- Housing conditions, such as the presence of damp or decay.

There are methodologies used to measure energy poverty. The key ones are:³³³⁴

1. Measuring household energy services (e.g., heating or cooling), although this method is expensive and mainly limited to small studies;
2. Assessing household energy expenditure relative to absolute or relative thresholds, using measures such as energy burden or the M/2 and 2M indicators, which are widely used by national statistical agencies and the EU Energy Poverty Observatory. For example, the M/2 indicator refers to households with income below half the national average that spend heavily on energy, making them vulnerable to energy poverty. Meanwhile, 2M refers to households spending more than twice the national average on energy, categorizing them as also in energy poverty.
3. Identifying objective symptoms of energy poverty, such as unpaid energy bills or poor housing conditions.
4. Collecting subjective data on individuals' perceptions of their energy situation, such as their ability to keep their homes warm, with this data often gathered through EU-SILC surveys.

For Southeastern Europe, the most suitable indicators seem to be the inability to keep homes warm, inability to pay energy bills, and poor housing conditions. Expenditure-based measures, such as the 2M indicator, are also useful but should be supplemented with other data to provide a fuller picture.

To effectively monitor energy poverty, a set of indicators is proposed. These indicators are based on publicly available data, enabling international comparisons. They include measurements from EU-SILC (European Union Statistics on Income and Living Conditions) and HBS (Household Budget Surveys), although not all countries in Southeastern Europe have access to EU-SILC data. In such cases, secondary indicators, which track factors such as:³⁵

- The level of electricity prices for households [source: EUROSTAT, ERO];
- The average net monthly wage [source: National Statistics Office];
- Annual unemployment rates by gender and overall [source: World Bank, ASK];

³³ https://www.energy-community.org/dam/jcr:56632fbf-baf6-49c5-ad23-d997b552e1e6/PG2022-02-ECS_poverty-082022.pdf

³⁴ https://www.energy-community.org/dam/jcr:f201fef9-3281-4a1f-94f9-23c3fce4bbf0/DOOREIHP_poverty_122021.pdf

³⁵ <https://www.energy-community.org/regionalinitiatives/Transition/poverty/study.html>

- The share of the population living on extreme poverty (USD per day) [source: World Bank, ASK];

These data provide insight into the underlying causes and can help track changes over time.

4.2 Defining energy poverty in Kosovo

Energy poverty has many causes, making it difficult to solve with a single policy measure. Most Energy Community countries, including Kosovo, use social support systems to assist low-income families, but this approach underestimates the true extent of energy poverty, as it is caused by various factors, not just income. The current definition in Kosovo primarily targets individuals with health problems or low incomes, leaving out factors such as energy efficiency in homes, gender, and energy needs. As a result, some energy-poor families are not eligible for support. Therefore, it is proposed that Kosovo adopt a broader definition of energy poverty that includes as many consumers and different factors as possible.

The Energy Community Secretariat in its study has provided a definition for energy-poor consumers that can be implemented in Kosovo's legislation:

"An energy-poor consumer is one who cannot secure heating, cooling, lighting, and sufficient energy for essential devices necessary for a good standard of living and health³⁶."

This definition is broad enough to cover all causes of energy poverty and is flexible enough to adapt to Kosovo's circumstances, considering changes in the market, energy prices, and income levels over time.

Energy poverty in Kosovo can be measured in two ways: on a broad (aggregate) scale and at the household (individual) level. On a broad scale, this means calculating how many families in a country cannot afford the energy necessary for living, based on statistical data. At the household level, it is measured by how much of their income a specific family spends on energy. To better assist these families, other indicators should be used to help more accurately identify their needs.

4.2.1 Indicators influencing energy poverty in Kosovo

As mentioned above, energy poverty is driven by many factors such as low income, lack of energy efficiency in buildings, climate, availability of energy resources, and energy prices. Therefore, the main drivers of energy poverty can be considered as: Macroeconomic Development Indicators, Energy Consumption, Energy Availability, Energy Prices, and Energy Efficiency Indicators in Buildings, which are explained in turn as follows.

4.2.1.1 Macroeconomic development indicators

Macroeconomic development affects overall poverty (including income and energy poverty). As a country develops, the number of citizens who are able to meet their consumption needs, including energy, increases. To assess overall macroeconomic development, the following indicators are used: Gross Domestic Product (GDP) per capita, the unemployment rate, average net wages, and the number of households living on less than \$1.90 per day.

³⁶ <https://www.energy-community.org/regionalinitiatives/Transition/poverty/study.html>

Gross Domestic Product

Kosovo has the lowest GDP per capita in the region, approximately 25% lower than Bosnia and Herzegovina and North Macedonia, 35% lower than Albania, and nearly 50% lower than Serbia and Montenegro.³⁷

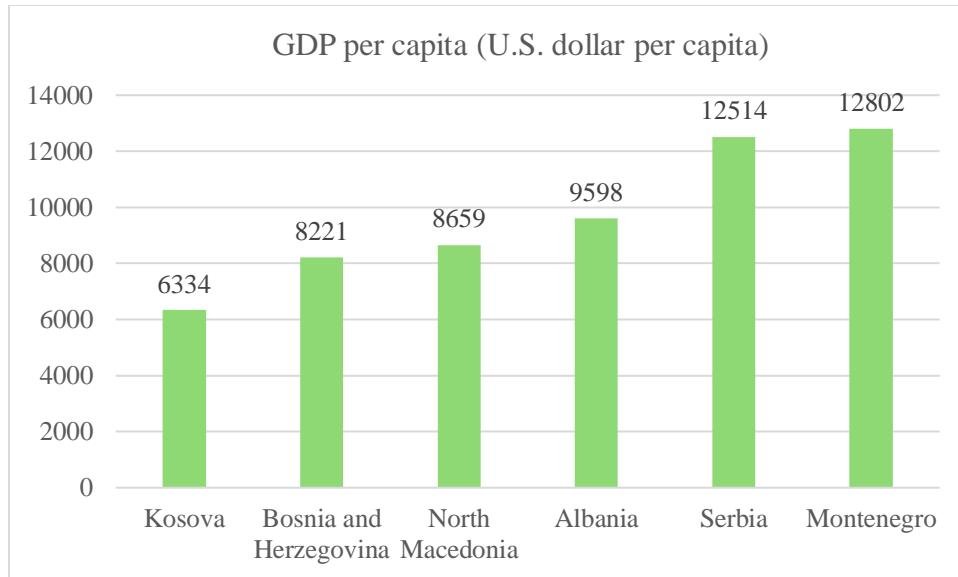


Fig. 5 GDP per capita in the region

A low GDP per capita is a significant indicator of energy poverty, as individuals and families have less income to afford energy costs, including household heating, stable electricity supply, and other essential energy expenditures. This situation limits households' capacity to invest in sustainable and efficient energy technologies, making them dependent on more expensive and often more polluting energy sources. With limited income, households face challenges in adopting new clean energy technologies, such as solar panels or improved thermal insulation for buildings, which help reduce energy costs in the long term.

In general, a low GDP per capita, as is the case in Kosovo, implies lower income for citizens and greater challenges for the energy transition due to financial constraints at both the individual level and in national infrastructure. This directly affects households' energy affordability and security, thereby increasing the rate of energy poverty in the country.

Unemployment Rate and Poverty Rate of the Population:

Data from the World Bank's³⁸ Western Balkans Economic Report highlights the social and economic challenges in the region, where poverty and unemployment remain key factors impacting the well-being of the population, particularly in coping with energy costs. Kosovo shows a significant percentage of the

³⁷ <https://www.imf.org/external/datamapper/NGDPDPC@WEO/UKR/EEQ/EUQ>

³⁸

<https://documents1.worldbank.org/curated/en/099101424043012347/pdf/P5067421db658a06b1a82c1811f0301d818.pdf>

population living in poverty (21.4%) and an unemployment rate of 10.9%, reflecting a fragile socio-economic situation.

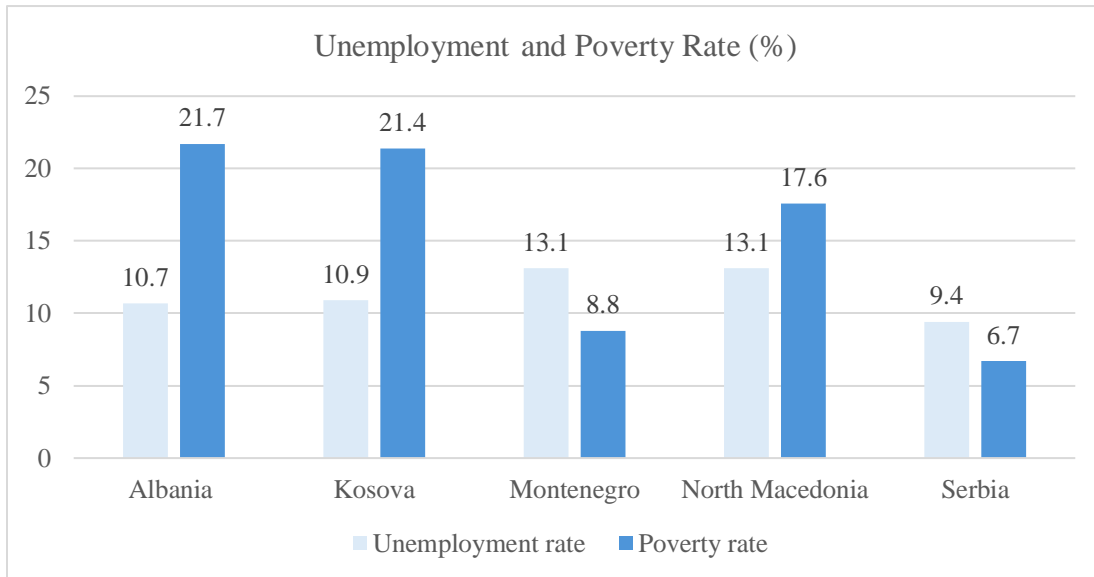


Fig.6 Unemployment and Poverty Rate in Kosovo and Regional Countries

In Kosovo, 21% of the population lives in poverty, which has profound implications for improving quality of life and social well-being. This high poverty rate affects not only economic aspects but also impacts energy access, creating energy poverty that poses increased challenges for many families.

Most people living in poverty face major difficulties in paying for electricity and heating, making it hard to meet basic needs. During winter, many families are forced to rely on alternative heating sources, such as wood or coal, which are not only more expensive but also pose health and environmental risks.

This situation creates a challenging cycle: poor families often cannot afford to invest in more energy-efficient technologies, such as home insulation or low-energy appliances. This results in high energy consumption and, consequently, higher bills, increasing energy poverty. In a country where many people struggle to survive, energy expenses often take up a significant portion of the family budget.

Average wage:

According to the Kosovo Agency of Statistics³⁹, the average wage in Kosovo in 2023 is €506, making it the country with the lowest wage in the region⁴⁰, reflecting the daily challenges faced by hundreds of thousands of Kosovar families.

³⁹ <https://ask.rks-gov.net/Releases/Details/8353>

⁴⁰ https://en.wikipedia.org/wiki/List_of_European_countries_by_average_wage

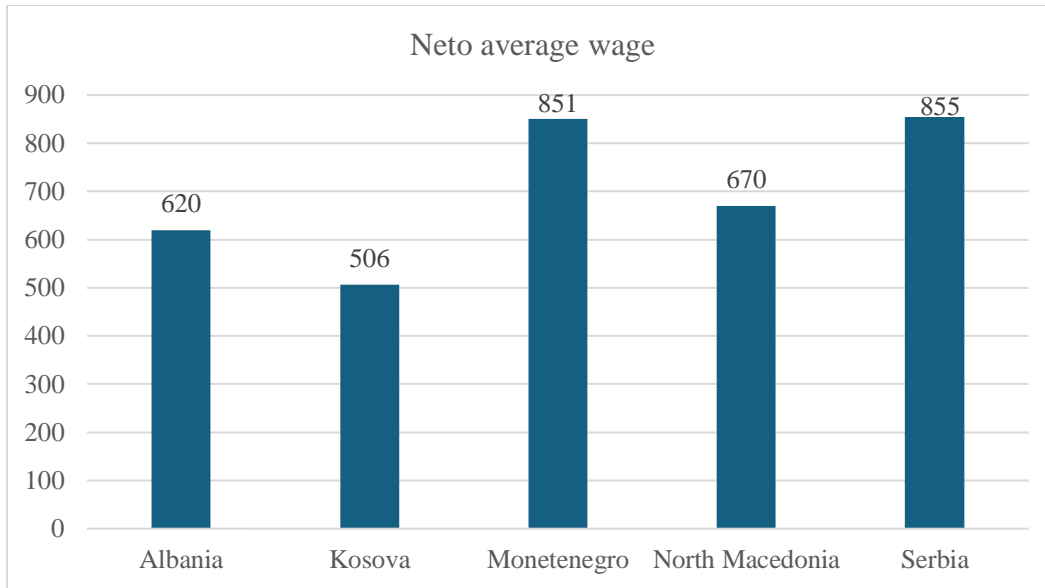


Fig. 7 Average wage in the Region

As seen in the figure above, purchasing power in Kosovo is lower, given that the average salary is 68% lower than in Montenegro and Serbia, 32% lower than in North Macedonia, and 22% lower than in Albania. This low wage has direct consequences on energy poverty. During winter, many families cannot afford the necessary energy for heating, leaving them to face poor living conditions. Energy use becomes a luxury, and families are often forced to reduce lighting and heating to keep expenses under control, which further deepens economic and social issues in the country.

This insufficient income worsens the economic situation. A large portion of income is spent on energy, leaving little room for other needs, such as food and healthcare. Such a cycle of poverty is challenging to break, and energy debts often become a heavy burden on these families.

Moreover, dealing with energy debts creates social tensions and increases economic stress. Many individuals feel trapped in a situation where they have no means to improve their living conditions.

4.2.1.2 Energy consumption indicators

Primary and residential energy consumption are important elements and indirectly determinants of energy poverty in Kosovo. The low per capita consumption level indicates a lack of purchasing power and the inability of many families to meet basic needs for heating, lighting, and electrical appliances.

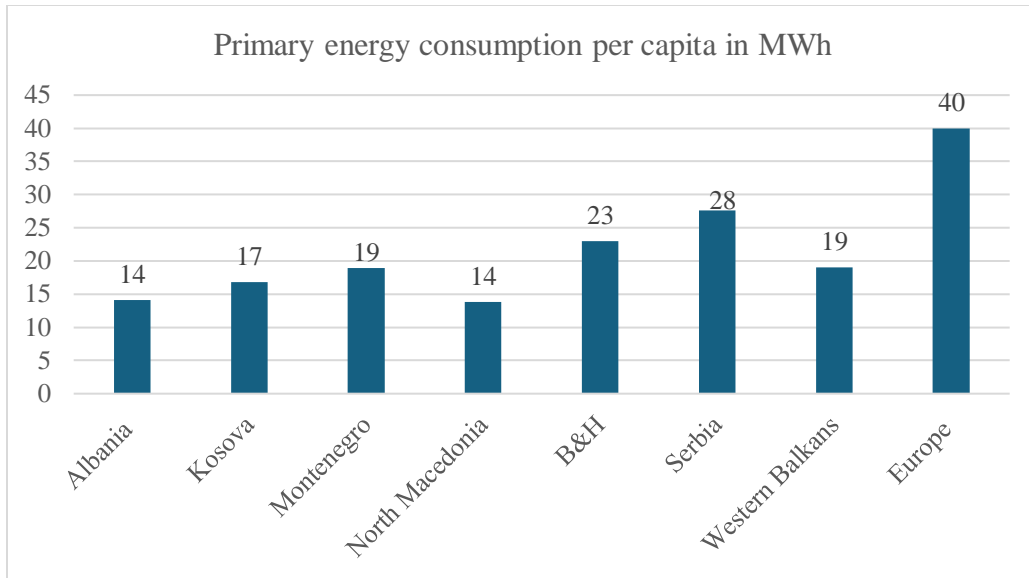


Fig. 8 Primary energy consumption

With a primary consumption of only 17 MWh⁴¹ per capita, compared to the European average of 40 MWh, low primary consumption per capita in developing countries indicates that the country lacks sufficient production capacity or energy source diversification, as is the case with Kosovo. This limitation restricts energy usage and reduces opportunities for well-being. This constraint is often linked to inadequate infrastructure and a lack of investment in efficient and sustainable energy sources.

Regarding residential consumption per capita in Kosovo, it is around 367 kgoe⁴², which is lower than the European average of 542 kgoe. This clearly implies that many families are forced to limit their energy use due to high costs.

⁴¹ <https://ourworldindata.org/energy-production-consumption>

⁴² https://ec.europa.eu/eurostat/databrowser/view/sdg_07_20/default/line?lang=en

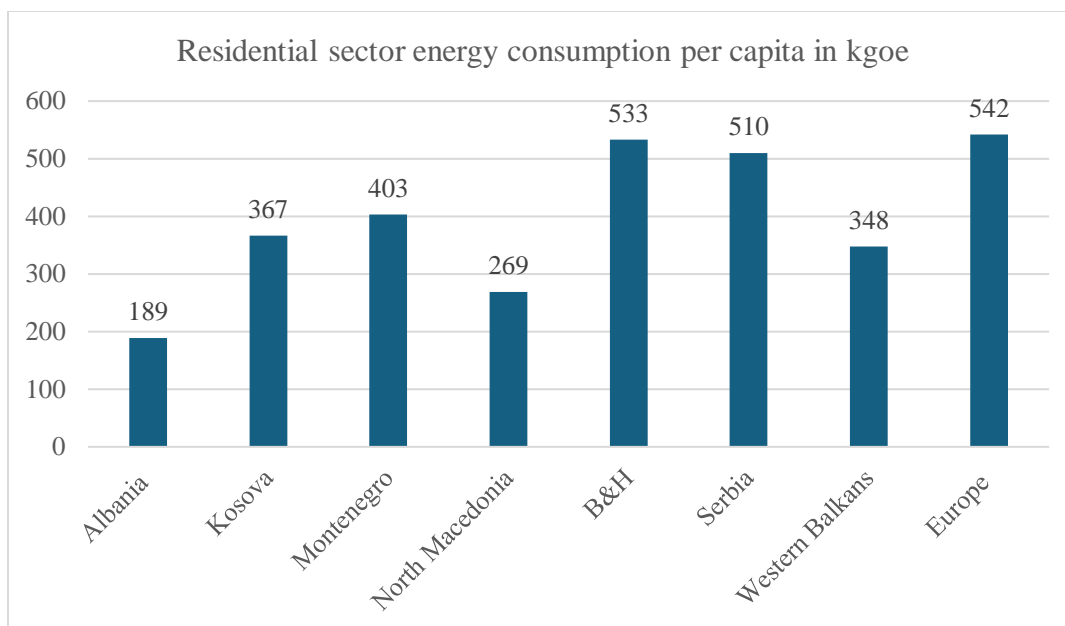


Fig. 9 Residential sector energy consumption per capita

4.2.1.3 Energy availability indicators

In Kosovo, electricity coverage is 100%⁴³, ensuring that every household and business in the country has access to the energy grid. However, Kosovo remains a net importer of electricity, with a significant portion (more than 10%) of its needs being met through imports, particularly during peak periods in winter. This reliance on expensive energy imports increases pressure on prices and, as a result, worsens energy poverty, making it difficult for many families to afford energy costs.

As for natural gas, coverage is zero, as Kosovo lacks infrastructure for gas supply. This absence of gas limits the choices available to citizens and businesses for energy sources, making them reliant on wood, coal, and electricity for heating—sources that are often less efficient and more costly to use sustainably.

District heating, a more efficient heating solution, covers only about 3-5%⁴⁴ of the population, primarily concentrated in the cities of Pristina and Gjakova. The lack of district heating means that most of the population faces high heating costs and high air pollution due to alternative sources like wood and coal. Consequently, for many families, energy security remains an unattainable luxury, and energy poverty is a widespread problem that directly affects their quality of life during the cold winter months.

4.2.1.4 Energy price indicators

Energy prices are a key factor influencing energy poverty, as they determine how affordable energy is for consumers. In Figure 10, we can see that Kosovo has one of the lowest electricity prices in the region for

⁴³ <https://data.worldbank.org/indicator/EG.ELC.ACCS.UR.ZS?locations=XK&view=chart>

⁴⁴ https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Raportet%20Vjetor/Raporti%20Vjetor%202023_ZRRE.pdf

household consumers, at 6.50 cents⁴⁵ per kWh. This rate is significantly lower than the Western Balkan average of 8.21 cents per kWh and even lower compared to the European average of 21.87 cents per kWh.

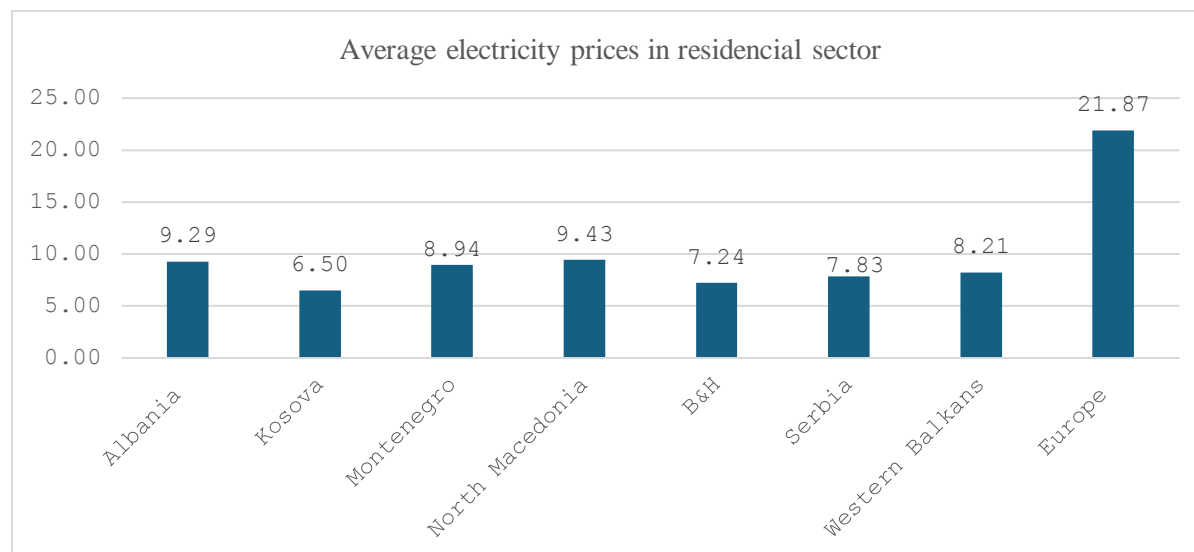


Fig 10. Average electricity prices in residential sector €/cent/kWh

The low energy cost in Kosovo temporarily alleviates financial pressure on families, but this advantage may be short-lived as energy produced by coal-fired power plants is expected to change gradually. The Energy Strategy envisions a gradual closure of these power plants, which currently cover about 75% of domestic consumption⁴⁶. These plants are expected to be replaced by renewable energy sources (RES), which aim to cover about 35%⁴⁷ of consumption by 2031, with the goal of achieving full decarbonization by 2050. However, there is still a lack of a long-term strategy to support this goal. Kosovo also aims to fully integrate into the European energy market, which will lead to price normalization with those of the EU.

During the energy transition, the replacement of existing power plants with new renewable energy capacities, which have higher costs, is expected to impact energy poverty, making energy more expensive for consumers. Additionally, the introduction of a carbon tax is expected to increase pressure on current electricity prices. The current low energy price in Kosovo, on the one hand, is seen as a relief for citizens, but on the other hand, this price hinders the green transition, as it is not competitive with the cost of production from renewable energy sources.

In the EU, higher energy prices reflect greater purchasing power and the opportunity for investments in advanced energy efficiency technologies. Meanwhile, in Kosovo, the low energy price presents a challenge

⁴⁵ https://ec.europa.eu/eurostat/databrowser/view/nrg_pc_204/default/table?lang=en

⁴⁶ https://www.ero-ks.org/zrre/sites/default/files/Publikimet/Raportet%20Vjetor/Raporti%20Vjetor%202023_ZRRE.pdf

⁴⁷ <https://me.rks-gov.net/wp-content/uploads/2023/04/Shqip-Strategjia-e-Energjise-e-Republikes-se-Kosoves-2022-2031.pdf>

for the development and modernization of the energy sector, as it limits opportunities for investment in new and more sustainable energy sources.

4.2.1.5 Energy efficiency indicators in buildings

The building stock in Kosovo includes about 300,000 buildings with a total area of 47.12 million square meters. Residential buildings make up 73% of this stock, while commercial and public buildings account for 20% and 7%, respectively⁴⁸.

In the context of energy poverty, energy efficiency indicators in buildings are crucial to understanding the current situation in Kosovo. Energy intensity values ranging from 100-150 kWh/m²/year⁴⁹ are usually seen as preferred standards for achieving optimal efficiency. However, high energy intensity indicates that most buildings in Kosovo, including residential, commercial, and public ones, are inefficient, contributing to energy poverty. Certainly, due to the consumption profile, the residential, commercial, and public sectors in Kosovo have different energy intensities, all exceeding the energy efficiency standards. The residential sector, with an energy intensity of 278 kWh/m²/year⁵⁰, leads to energy costs of 300 million euros. The commercial sector, with the highest energy intensity of 515 kWh/m²/year, incurs costs of 149 million euros. The public sector, although with a lower energy intensity of 436 kWh/m²/year, has an annual cost of 23 million euros.

Most of these buildings have low energy efficiency standards, with poor insulation and inefficient heating and cooling systems. This situation leads to high energy consumption, resulting in high bills for families and businesses, highlighting the significance of energy poverty. This also increases dependence on external energy sources, further straining the country's economy.

Energy intensity in Kosovo is 25% higher than the Western Balkan average and nearly three times the EU average, illustrating the use of inefficient technologies that increase energy consumption and costs. Buildings account for 40% of the total energy consumption in the country (around 600 ktoe, of which about 60% is wood, 35% is electricity, and the rest is district heating, oil, and lignite), making investment in energy efficiency (EE) in the building sector crucial for improving living conditions and reducing energy poverty by 2050, in line with EU standards.

These data emphasize the urgent need for improving energy efficiency in the building sector as a critical step in addressing energy poverty and ensuring a more sustainable future for the citizens of Kosovo.

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www.worldbank.org/content/dam/Worldbank/Feature%20Story/ECA/kosovo/Kosovo%20Eptisa%20Final%20Report_2013.04.13.pdf

⁴⁹ The guidelines and documents supporting Directive 2010/31/EU as well as the ASHRAE Standard 90.1.

⁵⁰ Draft Building Renovation Strategy

5 Policies and measures to address energy poverty during the energy transition

Energy transition policies can help reduce energy poverty through investments in energy efficiency and renewable energy, lowering costs for consumers. However, these policies could worsen energy poverty if the increase in energy prices from cleaner sources is not accompanied by adequate support for vulnerable groups.

To ensure that vulnerable groups benefit from the transition, targeted measures must be in place to ease the financial burden on them, such as subsidies for clean energy, investments in energy efficiency for low-income households, and protection against disconnection from energy sources during difficult economic or climatic periods. Currently, the protection of these groups remains insufficient in some cases, requiring policy adjustments to ensure the benefits of the transition reach the most vulnerable.

The energy transition in Kosovo is a complex process with deep implications for energy poverty. Currently, the country relies heavily on old thermal power plants, which meet around 75% of the electricity demand. With a production cost of approximately 30 €/MWh, which is low due to the depreciation of these systems, this reliance helps maintain low prices. However, it comes with significant challenges for sustainability and energy security.

The 2022-2031 Energy Strategy outlines preparations for implementing a carbon price by 2025, which will gradually increase with the goal of integrating into the EU Emissions Trading System by 2031. This will lead to a significant rise in wholesale prices, exacerbating energy poverty. The strategy also foresees the gradual closure of existing thermal power plants and their replacement with renewable energy sources, which have higher initial costs. This transition is crucial for achieving national sustainability goals, but it could cause energy prices to rise in the initial phase, worsening the situation for the most vulnerable segments of the population.

An essential aspect of the energy transition is energy efficiency in buildings. As previously mentioned, most buildings in Kosovo are characterized by low energy efficiency, presenting another challenge. With poor insulation and inefficient heating and cooling systems, consumers face high energy bills, further worsening the energy poverty situation. This difficult cycle creates a reality where many families and businesses cannot access the energy needed for living and development.

Energy transition policies play a crucial role in this process. They must be designed to protect vulnerable groups and ensure that the benefits of the transition are distributed equitably. Protecting low-income groups through subsidies and programs for investing in renewable energy sources and improving energy efficiency is essential.

Thus, the energy transition in Kosovo is a necessary step to improve the energy situation, but it requires a strategic approach that addresses energy poverty. Investments in energy efficiency and support for those most affected are essential to guarantee a more sustainable and just future for all citizens of Kosovo.

5.1 Measures for addressing energy poverty

Energy poverty, a complex issue caused by low incomes, rising energy prices, and inefficient housing, traps families in a cycle of high energy expenses and inadequate comfort. European governments have used short-term subsidies and energy efficiency improvements in buildings as long-term solutions, with various policy choices depending on their economic capacity and energy priorities.

European governments have provided direct energy subsidies, particularly during difficult economic periods or when energy prices increase significantly. Wealthier countries are generally more able to allocate more resources for these programs. For instance, Italy spends less than 0.2% of its GDP on housing subsidies, while the European average is 0.6%⁵¹. Countries with greater resources typically have lower levels of energy poverty.

A more sustainable approach focuses on improving energy efficiency to reduce reliance on subsidies. Poor insulation and inefficient energy equipment, common in many homes, lead to energy loss. Since 1995, Europe has continuously increased the impact of energy efficiency policies, reflecting a broader commitment to housing standards and regulatory improvements. Countries have implemented policies through financial incentives, public awareness campaigns, and stricter building regulations.

Data from 2005 onwards show varying impacts of subsidies and efficiency improvements. Countries with high efficiency and sustainable subsidies saw a significant reduction in energy poverty. In contrast, countries with only high subsidies often saw stagnation or an increase in energy poverty, as subsidies alone were insufficient without efficiency measures. Some countries, like Greece and Italy, experienced an increase in energy poverty due to economic crises, despite efforts with subsidies. Meanwhile, strong economic growth in countries with minimal political changes also helped reduce energy poverty⁵².

As for Kosovo, vulnerable consumers are recognized in the primary legislation, but significant support measures are limited, with sporadic direct financial assistance for some vulnerable groups. Families face low energy efficiency, limited comfort, and high heating demands, alongside lower incomes compared to neighboring countries. To address this, both short-term⁵³ and long-term measures are needed, especially for those with low incomes and high heating needs.

⁵¹ https://coebank.org/media/documents/CEB_Study_Energy_Poverty_in_Europe.pdf

⁵² https://coebank.org/media/documents/CEB_Study_Energy_Poverty_in_Europe.pdf

⁵³ <https://www.energy-community.org/dam/jcr:76a5dade-9947-49b7-9175-715792d68b06/Branislava%20Marseni%20and%20Marta%20Schulte-Fischedick,%20Policy%20Guidelines%20on%20Identifying%20and%20Addressing%20Energy%20Poverty%20in%20the%20EnC%20Contracting%20Parties.pdf>

Short-term measures:⁵⁴

Short-term measures include actions to prevent disconnection from the grid and direct financial support. Disconnection prevention requires minimal financial resources but provides support for vulnerable consumers. These measures do not exempt them from paying bills, but they allow payment deferrals in cases of financial hardship. Winter protection is particularly effective and should be implemented as a minimum, while vulnerable groups should never be disconnected from the grid.

Direct financial support can be provided through relevant budgets. This may include reductions in monthly bills or providing free kWh for beneficiaries, as is the case in Kosovo, where up to 300 kWh per month is paid for vulnerable consumers. Financial assistance can also be offered for fuel or energy expenses. These measures help alleviate the energy burden for vulnerable families. However, they create a continuous burden on the budget and demotivate energy savings. The implementation of social tariffs should focus only on vulnerable groups, as regulating prices for all households reduces competition and hinders energy efficiency. The limited implementation of social tariffs has lower negative impacts, but the source of funding for the differences between market prices and regulated prices should be defined.

Long-term measures:⁵⁵

To address energy poverty in Kosovo in a sustainable and inclusive manner, a systematic and well-planned approach is required. A dedicated plan for this purpose will include the creation of a Comprehensive Energy Poverty Program, which will focus on improving energy efficiency in buildings and providing specific support for the most vulnerable families. This will include measures that directly impact the reduction of energy consumption, thus improving living conditions for these families. Such measures aim to reduce energy consumption in households through improved energy efficiency in buildings and equipment. These measures address the causes of energy poverty. The challenge is that many energy-poor families consume less energy than is required for an acceptable level of services. Typical efficiency policies require proof of energy savings or reductions, which makes public efficiency schemes less accessible for families already consuming little energy.

According to the Energy Community study, 40%⁵⁶ of households in Kosovo cannot maintain adequate heating in their homes, the highest figure in the region. Additionally, the draft strategy for buildings indicates that the residential sector in Kosovo has an energy intensity of 278 kWh/m²/year, which is quite high. This data indicates the urgent need for investments to increase energy efficiency, first for vulnerable consumers, then for all those in the energy poverty category (once defined by legislation), aiming to improve heating conditions and reduce energy costs. Therefore, the main focus should be on improving the

⁵⁴ https://www.energy-community.org/dam/jcr:56632fbf-baf6-49c5-ad23-d997b552e1e6/PG2022-02-ECS_poverty-082022.pdf

⁵⁵ https://www.energy-community.org/dam/jcr:56632fbf-baf6-49c5-ad23-d997b552e1e6/PG2022-02-ECS_poverty-082022.pdf

⁵⁶ https://www.energy-community.org/dam/jcr:56632fbf-baf6-49c5-ad23-d997b552e1e6/PG2022-02-ECS_poverty-082022.pdf

insulation of building envelopes; the program will reduce the demand for heating and cooling energy, which will significantly lower energy costs for families facing energy poverty.

Additionally, a program for replacing old and inefficient appliances used by many vulnerable families with efficient ones should be implemented. By offering these families the opportunity to save energy, it will have a positive impact on comfort and quality of life in these households.

Another important component is the Improvement of Heating Systems in Households, where the focus is on improving the efficiency and modernization of heating systems. The program should aim to expand access to efficient heating systems for families, promoting the use of sustainable resources as alternatives to traditional fuels.

To further reduce energy poverty and promote long-term sustainability, the program will also include Support for Renewable Energy Sources. By introducing incentives for installing photovoltaic panels and solar collectors, vulnerable families will have the opportunity to further reduce their dependence on traditional energy sources, creating a more affordable and sustainable approach to energy resources.

These measures will not only help improve comfort and quality of life for the most vulnerable families but will also contribute to the long-term reduction of energy poverty by addressing the structural causes of this problem and providing sustainable solutions for the future.

Tab 4. Long-term measures included below:

Program	Duration	Objective and Description
Energy Poverty Mitigation Program	2025 onwards	Development and implementation of a program covering vulnerable groups with home assistance from qualified staff for energy status assessment and help with applying for grants.
Thermal Insulation of Buildings	2025 onwards	Thermal insulation of buildings and replacement of windows/doors for energy savings and improvement of living quality. Benefits include energy savings, reduction of CO2 emissions, and increased property value.
Replacement of Household Appliances (New for Old Scheme)	2025 onwards	Replacing old, inefficient appliances with new, energy-saving devices to reduce energy costs and improve quality of life. Beneficiaries must surrender old appliances to prevent increased energy consumption.
Improvement of Home Heating	2025 onwards	Improving heating systems to maintain warmth in homes, with three options: 1) improvement of the existing system, 2) modernization to a

Systems (HSI)		central heating system, 3) transition to renewable sources such as biomass and heat pumps.
Energy Efficiency Measures and Savings Advice (EEEA)	2025 onwards	Education and advice on energy efficiency with simple measures and audits, such as window and door insulation, LED lighting, and energy-saving appliances. - Simple measures, - Simple audits, and energy-saving education.

5.2 Contribution of local and international institutions in alleviating energy poverty

The contribution of local institutions and financial organizations in alleviating energy poverty in Kosovo is crucial for improving living conditions and ensuring a sustainable transition to a more affordable and efficient energy sector. In recent years, some partial actions have been taken, but they have not been sufficient. In January 2024, financially supported by the European Union, the pilot project for 40,620⁵⁷ vulnerable families who qualified in the first group started, with direct subsidies for electricity bills. In October⁵⁸ of this year, the call for applications for vulnerable consumers for direct electricity bill subsidies was reopened.

In Kosovo, several key projects have been implemented to improve energy efficiency and the use of renewable energy sources. The SEEK⁵⁹ program, with support from the MCC, invested €17.6 million in energy efficiency in 1,000 individual buildings and 20 multi-apartment buildings. The EU-IPA program concluded in 2016, improving 65 schools with an investment of €15.6 million⁶⁰. The KoSEP project, funded by the EBRD and the EU, is worth €24.1 million for the residential and business sectors. The Kosovo Energy Efficiency and Renewable Energy Project, with €16 million from the World Bank, covers 100 government buildings. Additionally, KEEF⁶¹, under the EU-IPA program, has invested €14.5 million in 86 public buildings and has offered a grant scheme for residential buildings, with 45% support that has reached €22.22 million.

The Ministry of Economy⁶² has also distributed subsidies for efficient equipment, such as heat pumps, efficient air conditioners, biomass boilers (wood, pellets, briquettes), and individual biomass stoves, which were open until October 2024.

⁵⁷ <https://klankosova.tv/fillon-subvencionimi-i-energjiise-elektrike-per-familjet-e-cenueshme/>
⁵⁸ <https://telegrafi.com/hapet-aplikimi-per-subvencionimin-e-energjiise-elektrike-per-familjet-e-cenueshme/>
⁵⁹ <https://millenniumkosovo.org/wp-content/uploads/2022/10/MFK-Challenger-YR-07-WEB.pdf>
⁶⁰ Options for Financing Energy Efficiency in Public Buildings
⁶¹ <https://fkee-rks.net/download/raporti-vjetor-fkee-per-vitin-2023/?wpdmdl=4113&refresh=66d6f4141b19f1725363220>
⁶² <https://me.rks-gov.net/wp-content/uploads/2024/09/Thirrje-publike-Investimi-ne-pajisje-ngrohese-eficiente-2-elektoruar-12.09.2024.pdf>

Through these measures, local and financial institutions contribute to improving the daily lives of citizens and a more sustainable and fair energy transition in Kosovo.

6. RECOMMENDATIONS

1. **Development of the energy support program:** In line with the energy strategy, a program should be created that links energy support with the reformed social assistance scheme, shifting to a poverty-based approach to improve the effectiveness of aid.
2. **Definition of energy poverty in primary legislation:** Kosovo currently lacks a legal definition of energy poverty, which hinders the preparation of a comprehensive plan to address it. It is recommended to include a definition of energy poverty in primary legislation to address this issue more accurately. The recommended definition is as follows: An energy-poor consumer is one who cannot provide heating, cooling, lighting, and sufficient energy for appliances that are essential for a good and healthy standard of living. This definition encompasses all aspects of energy poverty and is tailored to Kosovo's circumstances, considering market changes and energy prices.
3. **Development of a vulnerable consumer registry:** Although the government has provided subsidies to mitigate the rise in energy prices, the lack of a comprehensive registry for vulnerable consumers has led to subsidies being distributed as discounts for all energy consumers. This approach does not encourage energy savings, so it is recommended to develop a registry for vulnerable consumers to direct assistance to those who need it the most.
4. **Addressing the transition to RES:** Currently, the 75% coverage of consumption by low-priced thermal power plants makes the transition to renewable sources challenging. To achieve this shift, significant investments in infrastructure and the construction of new clean energy capacity are required. Vulnerable families will face higher costs during this transition; therefore, continuous subsidy programs are recommended to help include vulnerable consumers in the process.
5. **Use of indicators for measuring energy poverty:** The most suitable indicators for measuring energy poverty include the inability to keep homes warm, the inability to pay energy bills, and poor housing conditions. Expenditure-based measures, such as M2 indicators, are also useful but should be supplemented with other data for a more comprehensive view.
6. **Analysis of energy poverty factors:** It is recommended to analyze the factors influencing energy poverty in Kosovo, including macroeconomic developments, energy consumption, energy availability, prices, and energy efficiency indicators in buildings.
7. **Periodic monitoring by the statistical agency:** The Statistical Agency should regularly calculate energy poverty indicators according to EU guidelines and collect detailed data for a more accurate identification of affected households.
8. **National and local assessment:** The national assessment of energy poverty should be accompanied by a local assessment to help tailor measures and achieve a more targeted effect.
9. **Short-Term measures for vulnerable families:** Due to the increase in energy prices, short-term measures are essential to ease the financial situation of affected families. These measures should focus solely on vulnerable and low-income populations to preserve the process of market liberalization and the energy transition.

10. **Policies for reducing energy poverty in the NECP:** Policies and measures to reduce energy poverty should be included in the National Energy and Climate Plan (NECP). Policies promoting energy efficiency, such as investments in buildings as long-term plans, have shown positive results in reducing energy poverty in EU countries, and this is missing in the current NECP draft.

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